MARN

Ministerio de Medio Ambiente y Recursos Naturales

(Ministry of the Environment and Natural Resources)

Paquete de Preparación REDD+ MbA de El Salvador para el Fondo Cooperativo del Carbono Forestal

(The El Salvador REDD+ AbM Readiness Package for the Forest Carbon Partnership Facility)

Table of Contents

Summary of the Readiness Process for the REDD+ National Strategy according to the Adaption-based Mitigation Approach: Restoration of Ecosystems and Landscapes (REDD+ AbM: REP)

I. Description:

El Salvador is firmly committed to fulfilling a substantive and equitable global agreement to address the threat of climate change, making its greatest efforts in terms of adaptation and mitigation, prioritizing those actions and contributions that bring about shared socioeconomic benefits and promoting its own approach and strategic orientation adapted to the interests of society. For this, it is development strategies and instruments to revitalize and carry out the institutional proposals.

For El Salvador, it is urgent to begin actions that allow it to adapt to climate change, reducing the environmental degradation of the ecosystems existing in most of its territory and which leaves its population in a highly vulnerable position. This country has the highest population density in the hemisphere, after Haiti, and a highly deforested land, which increases the scope of impact of extreme climate events; placing nearly 90% of the population at risk, 95% of national territory and 90% of the Gross Domestic Product (GDP).

Restoring its degraded or deforested ecosystems to return the main ecosystem functions and benefits provided by the natural resources is one of the Country's priorities to face the effects of climate change.

To address situation, the government of El Salvador is developing in the forest and land use sector, a process to construct and implement the REDD+ National Strategy, Adaptation-based Mitigation -AbM-: Restoration of Ecosystems and Landscapes, which has been developed within the REDD+ international framework to reduce deforestation and forest degradation as one of the arrangements to mitigate climate change.

Under this framework, El Salvador assumes the restoration of ecosystems and landscapes as an arrangement that facilitates the land resilience, protects livelihoods, optimizes production, improves the protection and proper use of natural resources and generates economic opportunities in rural zones, in a different and innovative way to avoid greenhouse gas emissions, while at the same time reducing vulnerability and promoting adaptation to the effects of climate change.

This approach has been proposed to carry through with the constitutional, legal and strategic declarations made in terms of the protection and conservation of the environment and natural resources as a source of development and wellbeing for the Salvadoran people.

The REDD+ AbM Strategy: Restoration of Ecosystems and Landscapes, has been supported by the REDD+ readiness process of the Forest Carbon Partnership Facility, managed by the World Bank and several cooperation organizations and agencies in the country. This process has a broad governance platform where multiple stakeholders participate in order to guarantee participation and consultation for the different lines and activities proposed as REDD+ Strategy Options.

1.1. Table Summary of Self-Evaluation

The table presents the result of the self-assessment of the Mid Term Evaluation (MTR) and the current self-evaluation of the REDD + preparation process

No.	Criteria	Indicador	
Component 1: Organization and consuktation for the prepration period		**MTR**	**ACTUAL/PACKAGE**
Subcomponent 1a: National management mechanisms of the REDD + MbA program for the National Strategy for the Restoration of Ecosystems and Landscapes (EN-REP)			
1.	Accountability and Transparency		
2.	Operating mandate and budget		
3.	Mechanisms for multisectoral coordination and intersectoral collaboration		
4.	Capacity for Technical supervision		
5.	Capacity for Financial Administration		
6.	Mechanisms for knowledge exchange and compensation for claims		
Subcomponent 1b: consultation, participation y social difusion			
7.	Participation and intervention of the principla stalkholders		
8.	Consultation processes		
9.	Knowledge exchange and access to information		
10.	Execution and public disclosure of the results for the consultations.		
Component 2: formulation of a REDD+ Strategy			
Subcomponent: 2a. Evalutaion on Land-use, and causes for changes in land-use, forest sector laws, politics and administration.			
11.	Evalation and Analysis		
12.	Establishing Priority Factors that cause direct and indirect barriers to the increase in researves of carbon in forests		
13.	Relationship between causes/barriers and activities related to REDD+MbA.		
14.	Action Plans made to analyze Access and Rights asscoiated with Natural Reources, land rights and administration		
15.	Implications laws and policies have on forests		
Subcomponent: 2b. Options for REDD+ Strategies			
16.	Establishing Priority Options for REDD+MbA strategies		
17.	Evaluación de la viability		
18.	Implications strategy options have on sectoral policies that already exist		
Subcomponent: 2c. Execution Framework			
19.	Adoption e implementation for legislations/ rules		
20.	Guidelines for implementation		
21.	Bnefit-sharing mechanisms		
22.	National registry of REDD + MbA and activities of the REDD + monitoring system		
Subcomponent: 2d. Social and Environmental Impacts			
23.	Analysis of issues related to social and environmental safeguards		
24.	Design of the REDD + MbA strategy with respect to impacts		
25.	Framework for environmnetal and social administration		
Component 3 reference levels for emissions.			
26.	Showing adequate methodology		
27.	Hstorical data, adjusted to national circumstances		
28.	Technical viability with a methodological focus, congruent to the overall direction of CMNUCC/ Intergovernmental Group of Experts on Climate Change		
Componente 4 sistema de evaluación sugerido en el marco de evaluación del paquete de preparación			
Subcomponent: 4a. national forest monitoring system			
29.	Documentation of the tracking approach		
30.	Demonstration of early system execution		
31.	Mechanisms and institutional capacities		
Subcomponent: 4b. Information system for multiple benefits, other Impacts, management and safeguards			
32.	Identification of relevant aspects not related to carbon and social and environmental issues		
33.	Monitoring, reporting and information exchange		
34.	Mechanisms and institutional capacities		

1. Component 1. Readiness Organization and Consultation

1.2. Subcomponent 1.A National REDD+ AbM Management Arrangements

Coordination Arrangements:

For El Salvador, it has been fundamental that the Strategy readiness process be based on a broad, legitimate and representative participation and consultation process. Under this premise, multiple stakeholders have been invited to participate in the formulation of the R-PP from the start, including the public sector, community organizations, indigenous communities, forest owners, universities, academia and research centers, agricultural production sector, NGOs, forest beneficiaries, professionals, and international cooperation. Based on this participation and the definition of the readiness roadmap, significant strides have been made in the integration and formalization of the Strategy's coordination arrangements.

Considering that the REDD+ AbM Strategy is one of the instruments for meeting national and international commitments to climate change, the existing institutional basis has served to establish the coordination arrangements of this strategy; in order to coordinate the political, technical and social levels. The Ministry of Environment and Natural Resources (MARN) is the Government entity responsible for leading and facilitating the REDD+ readiness process. The coordination arrangements operate based on the following structures:

a. The Environmental Sustainability and Vulnerability Governance Cabinet

   This cabinet was created by the Government of El Salvador and is considered the maximum political-institutional entity in the country for the Strategy, considering that it was created to coordinate actions to prevent, mitigate and eradicate the national territory's vulnerability to natural and human phenomena. It is coordinated by the Ministry of the Environment and Natural Resources and composed of other ministries and presidents of autonomous institutions: Ministries of Territorial Governance and Development, National Defense, Public Works, Transportation, Housing and Urban Development and the Presidential Secretary for Vulnerability Affairs.
   It is in this cabinet where decisions are made in terms of national policies and strategies, including the REDD+ AbM Strategy.
   One of the Salvadoran government's actions is to develop spaces for dialogue and the construction of broad national agreements to overcome the great challenges faced by the country. For this, new democratic dialogue spaces have been created, entitled "Governability Councils"; and within this framework, the National Environmental Sustainability and Vulnerability Council (CONASAV) has been created.

b. The National Environmental Sustainability and Vulnerability Council (CONASAV)

   CONASAV is a consultation, dialogue and integrated negotiation space for a number of different actors, so that they may reach agreements and national commitments regarding the country's development priorities in terms of environmental sustainability and vulnerability. It has a broad,

plural and permanent composition as well as the autonomy to meet its objectives and carry out its functions. Its constitution is backed by a Presidential Decree signed on February 3, 2016, by the President of the Republic and the Minister of the Environment and Natural Resources. The REDD+ Strategy has been discussed within this platform, and the specific intersectoral consultation platform, the Restoration of Ecosystems and Landscapes Round Table, was created for specific monitoring of the strategy.

c. Restoration of Ecosystems and Landscapes Round Table:
The intersectoral consultation platform which acts as an operative space for national consultation and actions aimed at the restoration of ecosystems and landscapes. It includes the participation of multiple stakeholders and has also allowed for dialogue at the subnational level through subnational platforms coordinated with the round table.
Under this structure, at least 63 consultation and dialogue activities have been carried out in relation to the REDD+ AbM Strategy.
Moreover, this coordination dynamic has allowed for the formation and convocation of specific sectoral groups for dialogue, primarily in the coffee, sugarcane and cocoa production sector.

d. National Indigenous Round Table on the Environment (MNIMA)
The MARN, through Agreement No.23 of 2014, established the National Indigenous Round Table on the Environment (MNIMA) in order to establish a coordination arrangement and ongoing dialogue between the organizational structures of the Indigenous community in El Salvador and the MARN.

The MNIMA is composed of leaders from the different indigenous communities and organizations chosen in assembly by the indigenous people themselves. The MARN acts as the Executive Secretary of the Round Table and helps with the logistics of its operation, while also monitoring the coordination and dialogue activities.

The objective of the MNIMA of El Salvador is to provide a space for active participation and involvement to promote the incorporation of the indigenous cosmovision in the formulation and implementation of environmental policies, strategies, programs and projects.

e. Local Advisory Committees on Protected Natural Areas (COAL)
These committees have the objective of being the main participation and coordination instrument between the protected natural area and its surrounding social space.

The local advisory committees are composed of a representative of the Department of Protected Natural Areas, a representative of the surrounding communities, a representative of the respective Municipal Councils, a representative of the legally established NGOs that work on the topic of natural areas, and a representative of the legally constituted communal development associations

f. Local Plan for Sustainable Use (PLAS)

The objective is to effectively carry out the inclusive conservation and restoration of mangroves based on a local governance structure. The PLAS is led by a Socio-Environmental Development Committee, composed of representatives of each community included in the PLAS, a representative from MARN, the respective municipality or municipalities, and any NGO working in the PLAS zone.

g. RAMSAR Local Committee

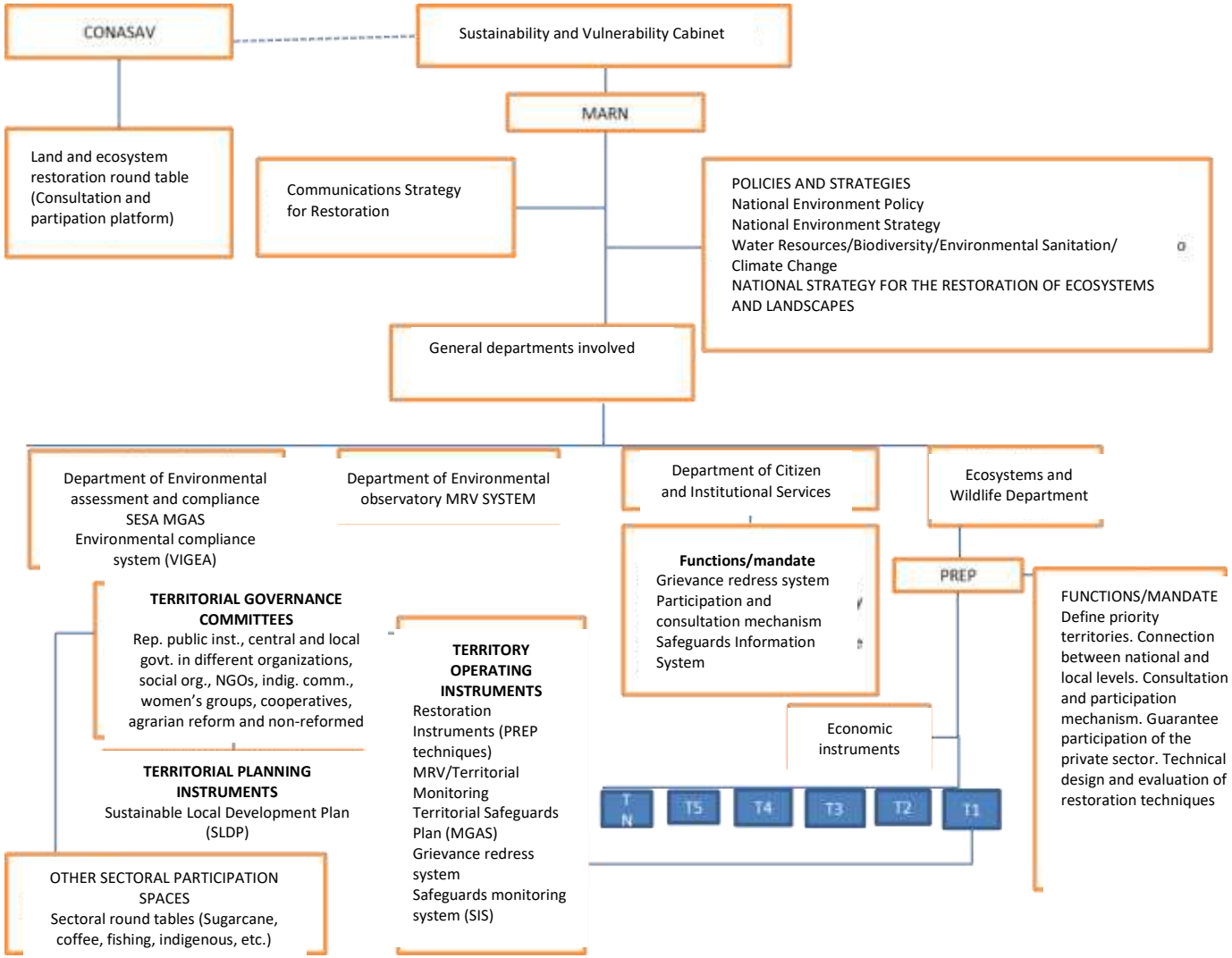
It is meant to be a local governance arrangement for the conservation and management of wetlands declared to be of international interest (RAMSAR). It is composed of local representatives just like the COAL.

h. Biosphere Reserve Local Committee

This has the objective of contributing to the conservation, sustainable development and logistical support to guarantee fulfillment of the commitments assumed with the Man and Biosphere Program (UNESCO), as well as developing social accountability.

It is led by a Governing Board, and in some cases it may have an Executive Management, if deemed appropriate by the Local Committee. Its governance structure is more open.

The Ministry of the Environment and Natural Resources as a process facilitator has obtained the support and performance of each entity described in order to coordinate the Strategy readiness process, as well as to identify and implement specific actions to demonstrate the progress made in this process.



Governance Structure - REDD+ AbM Strategy - Restoration of Ecosystems and Landscapes

The REDD+ AbM dialogue and participation process

The abovementioned coordination structure, for the formulation and implementation of the REDD+ AbM Strategy, has defined the premise that it be developed under a legitimate process of participation and consultation. This has been developed and consolidated since the beginning of the process when the R-PP was formulated, and then in the subsequent processes: the development of the social and environmental assessment (SESA), the preparation of the Strategy, techniques, REDD+ Strategy Options, safeguards, etc.

This process has been carried out at the national and subnational levels, considering the governance platform and the multiple stakeholders.

At the National level, the dialogue process has been developed since the beginning of the readiness phase, starting with the development of the R-PP and the plan to develop the SESA, and later, when the readiness phase began with the help of FCPF, and for which the governance platform for dialogue continued to be strengthened.

National workshops were held, at first to inform and standardize concepts related to climate change, REDD+, the national adaptation-based mitigation approach and the restoration of ecosystems and landscapes priorities.

In this way, national dialogue has been carried out in the construction of the Strategy, and from important elements such as the National Safeguards Approach which included dissemination of the legal, institutional and compliance frameworks; the first draft of the Safeguards Information System, the development of the Social and Environmental Assessment (SESA), and the Social and Environmental Governance Framework for REDD+. Each case included national validation workshops.

At the subnational level, the dialogue, participation and consultation process was implemented and has served to inform the public and key sectors of each territory about the REDD+ AbM process, the topic of climate change, and the Restoration of Ecosystems and Landscapes Program. At the same time, consultation has been carried out on the concept of forest and the 49 techniques for restoration of ecosystems and landscapes, within the framework of the REDD+ AbM Strategy, based on the Marrakesh agreements.

Within this dialogue and consultation process, 63 activities have been held with the participation of 206 relevant entities at the national and territorial level; 33 workshops for information and early dialogue on the Strategy; and 30 dialogue and consultation activities on its construction process. Indigenous groups have been invited to participate in three consultation workshops to analyze the strategic options and guarantee the participation of the country's indigenous communities.

The 63 activities have seen the participation of 2,204 people, 34% of whom have been women. This dialogue allowed for ratification of the commitment of national and territorial actors to participate in the dialogue and consultation process to: a) construct the National Strategy for Restoration of Ecosystem and Landscapes, b) Develop the second phase of SESA, c) construct the Environmental and Social Governance Framework ("ESGF") and d) the Safeguards Information System ("SIS").

It also allowed for the constitution of the Safeguards Facilitator Team ("SFT") and the National Safeguards Committee "NSC"; with whom the training process was carried out on safeguards common terms and components, as well as the roadmap for work in the territories. This dialogue and participation process has been complemented and supported by the key communication elements for this.

The continuity of this dialogue process has been considered in order to communicate the details of implementation, the results of technical measurements and the safeguards. The respective MRV and Safeguards instruments shall consider the most appropriate mechanisms for this communication.

The accountability that backs this dialogue and participation process is part of State policy, such that a lot of attention has been given to aligning the existing mechanisms that guarantee transparency and the access to public information. For this, the State has the Access to Public Information Law and a National Secretary of Participation, Transparency and Anti-corruption. This system also includes the Grievance Mechanism to be presented in another chapter.

Operating mandate and technical supervision of the strategy

To develop and implement the REDD+ AbM Strategy in El Salvador, the government has designated the Ministry of the Environment and Natural Resources. The structure of political, technical and social coordination described in the previous chapter gives support to this process. The Sustainability Cabinet's role, as well as that of CONASAV, has strengthened the operating mandate assigned to MARN as a focal point before the UNFCCC.

The Strategy involves different soil uses and, in this sense, the Ministry of Agriculture (MAG) plays a fundamental part in coordinating the strategic and operative actions. And the municipal governments have also begun to get involved.

The MARN and the MAG have an institutional structure and technical teams that have been commissioned to fulfill the Strategy readiness mandate and to monitor supervision and technical implementation. It is very important to strengthen these technical units to guarantee an effective implementation of the Strategy.

The main technical units involved are, on the side of MARN, the Ecosystems and Wildlife Department, which includes the Restoration of Ecosystems and Landscapes Program (PREP); the Citizen and Institutional Services Department, which includes technical staff to respond to grievances and which were hired by the REDD+ FCPF project; as well as the MARN Environmental Observatory.

Within the Ministry of Agriculture, there is coordination with the Forest, Basin and Irrigation Unit; as well as the Bureau of Response Information within the Institute of Access to Public Information, which are installed within MARN and MAG.

Funds Management Capacity

El Salvador has made significant efforts to finance the progress to prepare and implement REDD+ AbM Strategy. It has managed both its own funds and State funds, as well as specific financing for the readiness phase provided by FCPF. Likewise, it has capitalized on and aligned cooperation to respond to national interest and circumstances. On the other hand, it has started a strong campaign for public, private and international cooperation management.

On the one hand, Salvador legislation considers a National Environmental Governance System (SINAMA) through which all state institutions must assign part of its budget to the execution of pro-environmental plans and actions. Here lies a great opportunity and challenge for the REDD+ process to facilitate and develop the adequate instruments so that these funds may be directed and used in the best way possible.

Funds management can be described as follows:

- Readiness funds
  The MARN has finalized the investment of funds assigned to REDD+ Readiness by FCPF, with an investment contribution of $3.2 million between 2015 and 2018.

  The technical and financial cooperation provided by the Governments of Germany, the United States, Spain and the United Nations Development Program has also been timely and important.
  Germany's cooperation through the GIZ and the Landscape Program and Regional REDD+ CCAD has helped guide the creation of methodologies for landscape planning, forest inventory and creation of the monitoring system. The financing of pilot initiatives in 2 territories has also contributed to readiness. (Barra de Santiago in Ahuachapán and Cerrón Grande in Cuscatlán).
  On the other hand, the International Union for Conservation of Nature, with US and German financing, contributed to the construction of the Restoration Action Plan, a key component of the Strategy.
  The UNDP has collaborated in the strengthening of CONASAV, as well as providing assistance to implement transitions from conventional agriculture to before agro-forest practices. The support of the national initiative Soy Verde, assisted the Plantatón as part of readiness and implementation.

  The following chart details the investments of FCPF funds.

- Implementation funds
  The Government of El Salvador, through MARN has shown a strong funds management for the implementation of the Strategy, and in general, to reduce the Country's vulnerability to the effects of climate change.
  A series of projects are being implemented which are aimed at water sanitation, water planning and governability, waste management, decontamination of critical areas, basin management, and reduction of irrigation. This includes a portfolio of around $100 million being used for the Country's environmental governance.

At the same time, the MARN has begun to manage financing for the implementation of the REDD+ AbM Strategy, from several financing sources, for example: German Cooperation, Climate Green Fund, as well as joint management with other ministries and cooperation agencies: MAG-MARN; MARN – FAO; MARN AND PUBLIC WORKS.

The Initiative for the Americas Fund (FIAES) is a very important instrument for the implementation of the strategy as it will be used to invest environmental offsets collected by the MARN within the environmental governance process.

Dialogue with the public and private sector has also generated investment initiatives for important sectors in soil use, coffee, sugarcane, cocoa, and others.

Financing managed by the MARN.

Project/Program	Amount (millions)	Entity	Status
Integrated Water, Sanitation and Environment Project SLV056	7.1	Spanish Agency for International Development Cooperation (AECID)	In progress
Water resource governability and management planning program SLV-041-B	12.6	Spanish Agency for International Development Cooperation (AECID)	Complete
National Program for Integral Solid Waste Management in El Salvador (KFW)	$ 19.7	Global Environment Fund (GEF)	In progress
Conservation, Sustainable Use of Biodiversity and Maintenance of Ecosystem Services in Protected Wetlands of International Importance	$ 2.1	Global Environment Fund (GEF)	In progress
Critical Area Decontamination Program.	$29.5 $7.6	Inter-American Development Bank China (Taiwan)	Complete
Improvement of Soil Sources and Conservation in Priority Micro-basins - Rural Water Sanitation Program.	$2.8 $0.55	Spain/ FECASALC-GRT/WS-12281-ES. Inter-American Development Bank	Complete
National Risk Reduction Program.	$17.5	Inter-American Development Bank	Complete

Feedback and grievance redress mechanisms

The Open Government System of El Salvador, as part of its transparency and access to information policy, has developed institutionality that allows it to implement this matter adequately.

By mandate of the Institute of Access to Information, the Bureau of Information and Reporting has been created within the MARN, through which there is open access to public information.

With the Environmental Units of the Municipalities (UAM), inspections for environmental claims can be coordinated for performance within the MARN, in order to gather more specific information on the problems, as this mechanism is part of the monitoring of the grievance system for the REDD+ AbM Strategy.

To enhance these processes and provide better monitoring of citizen participation in the REDD+ AbM Strategy, the MARN is opening up new tools and channels:

The MARN Grievance System

The MARN has a tool that is constantly being improved to monitor claims by the public, and to provide technical assistance and support during the grievance processes performed by the public and which are transferred to new environmental courts that begin to operate as of 2016 in San Salvador and as of 2017 in the eastern and western parts of the Country.

Forms of Communication

Telephone:	Call 919
E-mail:	denuncias@marn.gob.sv
Website:	http://apps.marn.gob.sv/denunciaspublicas
Social Media:	www.facebook.com/marn.gob.sv
Twitter:	@MARN_Oficial_SV
Directly:	At the grievance center

To make the existing mechanisms operative, the MARN has installed an office in three regions of the country, which monitor claims related to elements of the restoration of ecosystems. With the FCPF funds, 3 territorial specialists have been hired to attend to and monitor grievances; as well as to provide guidance in REDD+ readiness process.

To strengthen these mechanisms, FCPF funds have been used to specifically design the Grievance Redress Office for the activities of the REDD+ AbM Strategy.

The proposal includes the office design, operating and functions manual, grievance redress protocol, claims and conflicts related to REDD+ AbM and the proposal of a socio-environmental conflicts observatory.

The development of a pilot exercise for the grievance mechanism has been considered, and will be included as part of the work plan for the second financing by FCPF.

1.3. Subcomponent 1.B Consultation, Participation and Outreach

The consultation and participation process for the preparation and implementation of REDD+ AbM, has been guided by the "Participation and Consultation Plan," a dynamic instrument that includes consultation actions in the readiness phase. The consultation for implementation is specific to each strategy option, although this instrument will serve as a guide.

The MARN Participation and Consultation Mechanism was designed for the consultation and implementation of the REDD+ AbM Strategy Readiness, Restoration of Ecosystems and Landscapes. It

represents the guidelines established for executing a broad and participatory process that involves the sectors tied to environmental issues from agricultural and forest spheres; as well as for developing the consultation process, its phases and form of implementation.

This plan expresses the institutional commitment to implementing a political and strategic framework based on broad citizen participation to guarantee compliance with national and international regulations, to respect the rights of the local and indigenous community and to promote consultation spaces; with the purpose of collecting and incorporating the contributions and positioning of the multiple stakeholders in the National Strategy on Restoration of Ecosystems and Landscapes with an Adaptation-based Mitigation approach.

For implementation, a series of information and dissemination activities and dialogue meetings must first be developed, in order to then design the consultation process with the country's different key and relevant actors tied to the REDD+ AbM Strategy.

In the identification and construction of a map of relevant actors, it was fundamental to consider stakeholders in the REDD+ readiness and implementation process.

The participation methodology is primarily focused on an intersectoral dialogue component, which uses dialogue spaces between different levels of governance (national, subnational and local) to consult, validate, modify and construct sectoral and governmental policies to reduce deforestation and forest degradation, and to restore the ecosystems and landscapes with the goal of generating and using the necessary information for the design of the REDD+ AbM Strategy.

The consultation process has included different sectors, identifying and including legitimate representatives of the indigenous communities, women's organizations, trade unions for producers from the sugarcane, coffee and livestock sectors; communal development associations, agricultural cooperatives, protected area co-managers, farm organizations, universities and other environmentalist organizations with technical experience in the development of projects at the national level, among others.

The governance structure and invitations made by CONASAV have allowed for the inclusion of new groups of stakeholders.

The following chart lists the key stakeholders that have participated in the consultation process of the REDD+ AbM Strategy.

Phase 1. As of December 2012
Government institutions or agencies (11)
Environmentalist organizations and trade unions, for conservation, forest, Protected Natural Areas (30)
Trade union organizations of producers/communities and agricultural NGOs (16)
Associations and Organizations of Indigenous People and Communities (22)
Agricultural production business guilds (20)
Academia and Research (Other) (15)
Phase 2. As of September 2015
Forest Round Tables (6)
Territorial Networks (3)
Indigenous communities (16 organizations)
Universities (2)
Cocoa Alliance (10 thousand farm families)
Cooperative association of coffee producers Ciudad Barrios (850 members)
Confederation of Federations of the Salvadoran Agrarian Reform (7 Cooperative Federations and 11 Agricultural production associations, 11,562 members)
Private sector (coffee and sugarcane agroindustry)
As of January 2017, the Restoration of Ecosystems Round Table of CONASAV, will add to its platform a total of 60 most represented sectors at this time.

Information on all consultations and dialogues at national and subnational level along with dates and focus of discussion is needed to show the progress towards national agreements on REDD + Strategy

In El Salvador, the process of Strategic Environmental and Social Assessment has gone through a series of moments each of them oriented towards the achievement of national agreements linked to the National REDD + MbA Strategy. The process begins in 2013 with the early dialogue, the elaboration of the "stakeholder map", a key factor to be able to continue with the consultation process. Subsequently, the aforementioned process was carried out through workshops that were characterized by a permanent dialogue and consultation, and important milestones in this phase that took place from 2015 to 2017 were: the socialization of the REDD Preparation Project; analysis on impacts of climate change; analysis of drivers of deforestation; socialization of components of the REDD + MbA strategy; socialization and consensus of the REDD Communication Strategy; consultation and analysis of the restoration techniques of ecosystems and landscapes. At this stage, the first draft of the REDD + Strategy, called EN-REP (Ecosystem and Landscape Restoration Strategy), is collectively constructed, and the SESA-MGAS documents (Social and Environmental Assessment System, etc.) are prepared in a participatory manner and validated. ENS (National Safeguards Approach and SIS (Safeguards Information System), a summary of the workshops, participants and results obtained in each stage is presented as follows:

Process of construction of the National REDD+ MbA Strategy, SESA and ENS evaluation in El Salvador

Proceso cronológico	**Base de la consulta**	**Período de consulta**	**Resultados**

Chronological process PRE-CONSULTATION Early dialogue	. ER PIN . R-PP	2013	Plan SESA Mapa inicial de actores Talleres pre consulta Impulsores revisados
CONSULTATION Dialogue and consultation	1) Socialized content of the READINESS project. 2) Socialized and Analyzed the origin and impacts of Climate Change and the causes of environmental degradation in El Salvador. 3) Socialized the Restoration Program of Ecosystems and landscapes, its components and methodology of approach. 4) Socialized the structure and components of the National Strategy for the Restoration of Ecosystems and Landscapes. 5) Socialized and consensual communication strategy. Socialized and consensual. 6) The Participation and Consultation Mechanism is socialized and agreed upon. 7) Consulted and analyzed 16 techniques of restoration of ecosystems and landscapes, on positive, negative impacts and mitigation recommendations in the social, environmental, legal and economic areas, contained in the first draft of the ENREP 8) Consult Forest concept. 9) Socialized the first draft of the EN-REP.	2015-2016-2017	a) Map of actors completed b) Dialogue and Consultations to multiple stakeholders, at the national level and at the territorial level in the 5 priority areas of restoration of ecosystems and landscapes, (Table of Restoration of Ecosystems and territorial platforms, sectors and actors: 1) Public Sector, 2) Indigenous Peoples, 3) Rural Women, 4) Agricultural Production Cooperatives, ADESCOs (local communities), 5) Universities and Research Centers, 6) Environmental NGOs and Sustainable Agriculture, 7) Forestry Sector, 8) Coffee and Sugar Agroindustries, 9) International Cooperation.
ELABORATION OF DOCUMENTS Collective construction	1) Socialized the I and II drafts of the EN-REP 2) Analysis of the 5 Strategic Options, 11 Strategic Guidelines and 56 Strategic Actions, on positive and negative impacts and recommendations for mitigation; of the social, environmental, legal and economic spheres.	2017-2018	a) National Committee of Safeguards CNS, constituted. b) Dialogue and Consultations to multiple stakeholders, at the national level and at the territorial level in the 5 priority areas of restoration of ecosystems and landscapes, (Table of Restoration of Ecosystems and territorial platforms, sectors and actors: 1) Public Sector, 2) Indigenous Peoples, 3) Rural Women, 4)

	3) Socialized Analysis of the frameworks: Legal, Institutional, and Compliance 4) collective construction of SESA-MGAS, ENS-SIS		Agricultural Production Cooperatives, ADESCOs, 5) Universities and Research Centers, 6) Environmental NGOs and Sustainable Agriculture, 7) Forestry Sector, 8) Coffee Agroindustries, and del Azucarera, 9) International cooperation.
VALIDATION OF PRODUCTS Analysis, tuning and validation.	. SESA-MGAS. . ENS-SIS . PAREP (socialization)	2018	National workshop on product socialization with multiple actors and sectors (Table of Restoration of Ecosystems and territorial platforms of the priority areas of conservation.

Source: Prepared by MARN / CARE 2017.

Information exchange and access

To complement the consultation and participation process, the exchange and access to information on the REDD+ readiness process with the details and specificities of El Salvador has been assumed on a broad scale and with concrete actions.

As an instrument to guide this process, the REDD+ process Communications Strategy was created to define specific lines and actions:

The means for communicating and sharing information are many. The first is through the governance platforms at the different levels mentioned above (Cabinet, CONASAV, Restoration Round Table, Subnational Round Tables).

Specific websites have also been created to keep the public up-to-date, and particularly the stakeholders: the REDD+ AbM website, www.AbM.sv describes the progress made in the readiness process, and the website www.restauracion.AbM.sv publishes information related to the construction of the REDD+ AbM Strategy and the different documents and studies generated.

In parallel, as part of the communication guidelines traced for implementation of this strategy, in the news management component, information has been shared with the databases of the institutions that make up the Environmental Sustainability and Vulnerability Cabinet, as well as the rest of the sectors and economic partners that have web platforms and interest in joining this outreach network.

To evaluate the impact of communications and access to information, a National Survey was performed, whose results show the initial perception of the impact of MARN communications as input for the Design of the REDD+ AbM Strategy.

Among the communications strategy guidelines for the REDD+ AbM Strategy are knowledge management and development from the perspective of communications for development and social change, and the project “Networks and Green Classrooms” with the MINED has emerged from this component

Another instrument for information access are the Local Environmental Observer Networks (ROLAs), which are groups composed of local actors and cemented upon the PDLS. This groups are composed of

local leaders, who act as multidisciplinary hubs in a network in each of the intervention zones, and are an important feedback mechanism, acting as both local mechanisms for spreading information within the territories and as channels for the collection and exchange of information.

The REDD + MBA Program adopts a highly participatory and inclusive approach that includes two moments, the first "pro-active" related to the planning and implementation of actions, and the design and implementation of the National Communication Strategy, under which they are kept informed the different actors and spaces and channels of participation are created. A second time includes the timely attention of any complaint or claim through the Office of Complaints and Resolution of Conflicts on Deforestation and Degradation of Forest and Agroforestry Ecosystems, which, seeking an adequate coordination of sustainability within the Observatory of Socio-environmental Conflicts.

Methodology for the planning and implementation of restoration actions and REDD + MbA activities under a highly participatory approach

The methodology adopted for the implementation of local restoration initiatives and REDD + MbA activities follows four stages, which begin with a participatory analysis of vulnerability and environmental degradation in the intervention territory, which includes the identification and prioritization of problems to be addressed; followed by the identification and prioritization of the specific sites to be restored / reforested, and ecosystems to be protected / conserved, linked to ecosystem services that will mitigate the problem and reduce vulnerability; the elaboration of local restoration / reforestation / protection plans that include a proposal for attention to the drivers of deforestation and a plan to monitor the actions and impacts on the territory; Finally, strategic alliances and coordination mechanisms for intervention in the territories are established, agreements and letters of understanding are signed, and logistics activities are established, particularly the nurseries that will provide the seedlings required for the different initiatives.

METODOLOGIA PARA GRAFICAS

Collective construction of the Local Plans of Restoration and Sustainable Environmental Development

For the implementation of deforestation control activities and the restoration of ecosystems and landscapes in the territories / landscapes identified, the Local Plans of Restoration and Sustainable Environmental Development are

collectively constructed following the following steps: mapping of relevant local actors at a territorial level; participatory analysis of the dynamics of environmental degradation; preparation of a local development plan where restoration techniques are prioritized, institutional arrangements are drawn up for implementation and actions and their impacts are monitored. The mapping of actors aims to identify people and organizations that are considered important for the planning, design and implementation of actions to reduce deforestation and landscape restoration. This analysis contains the classification of the actors, identification of roles and functions by actor, as well as the recognition of social relations in the territory. Among the methodologies used for this process is Tool 9 "Actor Mapping" of Capacity Works developed by GIZ; The participatory analysis of the dynamics of environmental degradation and the sustainable local development plan were prepared under the supervision of the Technical Unit PREP using the methodology "Open Standards for the Practice of Conservation". The developed PDLS contain: a) vision, scope and key intervention objects; b) identification of threats, feasibility analysis of key intervention objects and situational analysis; c) objectives, strategies and goals of the intervention, d) monitoring plan; and e) operational plan. For the prioritization of the activities of protection and conservation of forest ecosystems, as well as the prioritization of restoration techniques to be executed in the territory, the document "Restoration Techniques for the PREP of El Salvador" is used and related to the programmed actions in the PDLS in each territory.

The initial financing of the Local Plans is supported, among others, by the Initiative Fund for the Americas of El Salvador (FIAES) that together with the local actors select the key actions to be implemented in the territory; with the defined actions, a public call is made to execute the investment in the key elements of conservation. In this framework, the following eight Strategic Lines have been established: Inclusive Restoration of Ecosystems and Improvement of Connectivity; Sustainable Agriculture and Livestock; Sustainable Fishing and Aquaculture Practices; Sustainable tourism; Integral Management of Wetlands and Water Bodies; Management of Priority Species; Rescue and Conservation of cultural values; Management of Coral Reef. For the monitoring of restoration actions and their impacts, the Geographic Information Visualizer of Environmental Assessment -VIGEA- http://mapas.marn.gob.sv/vigea/login.aspx, which contains the restored areas, is used. type of restoration implemented and ecosystem services restored.

Office of Complaints and Conflict Resolution. As part of the Observatory of Socio-environmental Conflicts, the Office of Complaints and Resolution of Conflicts on Deforestation and Degradation of Forest and Agroforestry Ecosystems has been established, with the aim of putting knowledge and lessons learned at the service of environmental management, through the dissemination of relevant socio-environmental conflict management experiences, strengthening the committed participation of citizens. It seeks to generate strategic information, for an adequate decision making at the different levels and scales of the public and private sectors; improve methodologies and negotiation processes, which allow systematizing, analyzing and managing participatory solutions for environmental problems and conflicts, and provide technical and legal advice to communities and parties in environmental conflict. The work methodology used in the Observatory follows a sequence of steps from the cataloging and analysis of the information of complaints and denunciations, and sent to the corresponding instance for processing; analysis of the situation and degree of involvement of the relevant actors; organization of information by trends and construction of plausible scenarios, based on factors of change, projecting desirable, possible or extreme situations over time; realization of a synthesis and articulation of knowledge, the diagnosis of the scope of the conflict, and dissemination and socialization. The functional system of the Observatory, part of the receipt of information both primary and secondary, which is processed, analyzed and cataloged, generating outputs, which are the essential and valuable work of this Observatory, both for the work of management of the MARN, as for the processes of environmental management in general.

The structure of the Observatory of Socio-environmental Conflicts will depend on the General Directorate of Citizen and Institutional Attention, who, through the Citizen Attention Unit, coordinates the Office of Attention to Complaints and Conflict Complaints, as the base structure, which provides the inputs and information to the Observatory. The structure has two complementary areas, one substantive and one support. The first area is made up of a Scientific Advisory Board and the MARN Environmental Observatory, the first one, made up of MARN specialists and scientists and special guests from other external bodies, contributes and strengthens the analytical and scientific capacity, the second, contributes the capacities technical and technological tools for statistical and cartographic analysis. The second area of support, has two internal instances of MARN, the UAI Information Access

Unit and the Communications Unit, the first, which aims to "guarantee the effective exercise of the right of access to public information to In order to contribute to Institutional Transparency ", it will contribute to facilitate public access to information internally and externally, and the second will support the Observatory in the preparation of reports, bulletins, etc., according to the brand image of the institution and the best presentation of the products. It can be accessed by phone by calling 919; through the Electronic Mail denuncias@marn.gob.sv, or through the Website:
http://apps.marn.gob.sv/DenunciaPublicaNueva/

The REDD + MbA Communication Strategy proposes to reinforce the processes of awareness and education about the value and importance of forest ecosystems for the development and stability of the territories. Develop awareness among relevant stakeholders on how degradation and changes in ecosystems can negatively impact livelihoods, local development and the vulnerability of territories facing climate change. The Strategy will also support intersectoral consultation and dialogue with relevant actors, particularly local communities, indigenous organizations and the private sector, and its implementation will contribute to the establishment of permanent communication and feedback channels.

2. Component 2. REDD+ AbM Strategy Preparation

As part of the United Nations Framework Convention on Climate Change, El Salvador is part of the global forum seeking to find solutions to the main environmental challenges in terms of adaptation to and mitigation of climate change. The conditions of high socio-environmental vulnerability as well as the national circumstances lead the Government to promote options in favor of the public and addition to the global goal, for which the Land Use sector proposes an adaptation-based mitigation approach.

It is urgent for El Salvador to adapt to climate change, and for this, it is proposed that it reduce the risks associated with climate change and reverse the environmental degradation suffered by most of the

territory and the ecosystems as an alternative to adaptation, which also generates economic opportunities that will help improve the wellbeing of the people.

The governance platforms for the Strategy have coincided in the national priority of restoring the ecosystems and landscapes to guarantee sustainable livelihoods, economic opportunities based on the sustainable use of natural resources, creation of jobs, reduction of vulnerability, better food, firewood and water supply and other services, including the reduction of greenhouse gas emissions.

This Adaptation-based Mitigation approach has led to and revitalized the participation of multiple stakeholders, considering that they see concrete opportunities for rural development.

An important lesson given by El Salvador to international dialogue has been the alignment of global initiatives, REDD+ in the framework of the UNFCCC and the Bonn Challenge which seeks to restore the landscape at the global level. This synergy has allowed for significant progress to be made, considering that the collective interest for multiple benefits is favored by the restoration of ecosystems and landscapes while also progressing in adaptation via people and ecosystems, and at the same time reducing GHG emissions.

The Country has begun a serious dialogue and analysis to establish which of the actions will help make further progress in the country's restoration, including legal, policy and technical aspects. To date, the opportunities for restoration are known, which are opportunities in social, technical, environmental and economic terms; as well as the path to take at the beginning.

The following chapter describes the Readiness process of the REDD+ AbM Strategy Restoration of Ecosystems and Landscapes, where one of its main goals is to restore one million hectares by the year 2030.

2.1. Subcomponent 2.A Assessment of Land Use, Land-Use Change Drivers, Forest Law, Policy and Governance

According to MARN's analysis, the current status of the landscape in El Salvador is composed of the following land uses: 15.46% forest cover, 18.16% basic grain crops, 10.57% coffee crops, 3.96% sugarcane crops, 8.08% mosaic of crops with grass, 12.23% mosaic of crops with grass and shrub vegetation and 12.003% natural and cultivated grass.

The degradation of the ecosystems and landscapes in El Salvador comes from the country's agricultural management and practices, including the development pattern, processes of urbanization and settlements.

Figure below shows the main causes of deterioration to the natural resources, divided into three groups:

1. Over-exploitation of the natural resources.
2. Degradation of the natural ecosystems and agricultural ecosystems due to improper or unsustainable management
3. Degradation of the ecosystems due to the impact of external events magnified by the vulnerability and low resilience situation due to anthropic practices.

In practical terms, the causes of deforestation and the degradation in El Salvador are due primarily to the expansion of agricultural ecosystem, particularly crops that require direct sunlight, which represents 65% of the territory; Urban growth which already represented 4.3 of the territory by 2010[1]. Degradation is also caused by forest fires, which according to CENIF data, between 2013 and 2016 burned more than 22,000 hectares, not considering the important impact of logging and clearing.

The above coincides with the public perception. According to the "National survey on the impact of MARN communications as an input for the design of the REDD+ AbM Strategy Restoration of Ecosystems and Landscapes," one of the environmental problems perceived as more harmful is deforestation at 24%, while 61% of people interviewed indicated that they felt they had been highly affected by the forest fires; and 88% of the people interviewed are aware of the risk and impact of climate change reflected in flooding and droughts.

Agricultural activities for crops requiring direct sunlight

In El Salvador, over 82% of farmers, that is, 325 thousand small producers are considered subsistence farmers and have lots of less than three hectares. In general, these lots are located on hills with slopes greater than 15%. Additionally, 96% of the farmers use chemical fertilizers and/or herbicides on their property, while less than 10% perform soil conservation practices (MINEC, 2010).

1 El Salvador, 2010 map of land use.

Between the year 2010 and 2015, the number of agricultural producers grew at a rate of 1.33% (from 406,000 to 433,000 producers), while the population in general grew by 0.6% (PRISMA,2017).

During the last few years, the sugarcane crops have nearly doubled, from 82,000 ha. in 2006 to 108,917 ha. in 2013 (MARN,2011), expanding towards fragile zones near mangroves, particularly in coastal sectors of the Central-East and East regions. During the 2000-2010 period, forest loss totaled 48,280 hectares; which supposes that forests are being converted to new sugarcane areas, primarily in coastal zones.

The extensive livestock feeds on grass covering 263,000 hectares, according to the 2010 land use maps, and represents an important impact on deforestation, although there are no specific data in this regard.

Logging for wood and firewood

In 10.6% of Salvadoran homes, firewood is used as fuel for cooking (MINEC,2016). Although 98.3% of homes in urban areas have access to electricity, 3.5% use firewood for cooking, and this figure goes up to 23.2% in rural areas.

According to images analyzed by MARN, it is estimated that mangrove losses have reached around 60,000 hectares in the last 50 years, and the areas occupied by agricultural systems have been cleared year after year.

Urban growth

El Salvador has been urbanized more quickly than most countries in Central America (World Bank, 2016). The expansion of its cities, particularly secondary cities, is high in comparison to the Latin American and international standard. This has been influenced by the changing demographics, with a high rate of urban migration and a high flow of remittances to local economy which favors the accumulation of people in secondary cities (World Bank, 2016); for example, the city of Santa Ana grew by nearly 14% between 2001 and 2010 (UNDP,2013).

The urban fabric in 2010 already represented 4.3% of national territory, showing evidence of accelerated growth (chart xxx). When comparing the perimeters of the main cities in the years 2002 and 2016, they show an increase of 2,551 hectares, representing a 10% growth in the last 14 years.

Surface Area and Increase in Surface Area of the Main Cities in El Salvador

City	Surface Area (ha)		Increase (ha)
	2002	2016	
San Salvador	16,570.82	18,279.72	1,708.9
Santa Ana	2,784.92	3,183.52	398.6
San Miguel	2,702.71	2,841.23	138.52
Sonsonate	1,002.68	1,225.11	222.43
Metapán	269.60	352.55	82.95
TOTAL	23,330.73	25,882.13	2,551.40

Chart prepared by Vinicio López Quezada REDD+AbM MRV project technical staff. (2017)

Fire and forest fires

During the last six decades in El Salvador, the average temperature increased over 1.3°C and the climate scenarios show additional increases of between 2°C and 3°C, during the next six decades, depending on efforts made at the global level to mitigate global warming, according to the National Climate Change Strategy (2013).[2]

Forest fires and agricultural burning practices are a recurring problem that affects the country's already scarce forest resources and causes the destruction of and severe damage to natural forests, forest plantations and the protected national areas. This problem heightens during the dry season, primarily due to the use of unsustainable agricultural practices such as the uncontrolled burning of crop residue, the burning of pastures, the burning of trash, pruning work and the burning of weeds.

Plagues and diseases

Plague outbreaks are favored by the functional imbalance in the ecosystems, and this cause of environmental degradation is "natural" and not anthropogenic. During the first half of 2016, there was a new outbreak of the southern pine beetle *(Dendroctonus frontalis)* and others, which affected around 326 hectares of pine forest in El Salvador (CONADEH, 2016).

Climate change also influences other plagues and diseases that have repercussions for Salvadoran territory. Changes, displacements or local extinction of populations of pollinating species and biological controllers of plagues and diseases have an impact on agricultural systems which has not yet been measured (FAO,2008).

In sum, the environmental degradation in El Salvador, is the product of a production model that favors over-exploitation of natural resources with agricultural practices (over-farming, burning of crop residue, excess use of agrochemicals such as pesticides, herbicides and chemical fertilizers, and the over-pasturing) which deteriorate the soil, the ecosystems and agroecosystems; as well as an unplanned increase in the

2 National Climate Change Strategy (2013). http://www.marn.gob.sv/wp-content/uploads/Estrategia-Nacional-de-Cambio-Clim%C3%A1tico.pdf

demographic trend which contributes to a growing and disorderly demand of environmental goods and services.

Framework of Policies and Laws related to REDD+

El Salvador has legal frameworks that form a solid basis for the national plans and strategic actions proposed to reduce degradation AND deforestation of the country's forests and forest cover.

The Regulatory framework in El Salvador for activities to protect, study and use forest resources includes the Forest Law (2002) as the main standard, as well as the Environment Law (1998), the Wildlife Conservation Law (modified in 2001), the Protected Natural Areas Law (2005) and the Criminal Code (modified in 2006); which are applied by the MAG, MARN and Attorney General of the Republic, respectively. (chart XXXX)

National regulatory framework related to the REDD+ AbM Strategy

Instrument Name	Objective	Competent Authority	Date of Issue
Forest Law	To establish provisions to enable the increase, management and sustainable use of forest resources and the development of the wood industry	MAG Some functions assigned to the Municipalities	Issued by Legislative Decree No. 852 of May 22, 2002 Published in the Official Gazette number 110 Volume 355 of June 17, 2002
Environment Law	To regulate Environmental Governance. To promote the protection, conservation and recovery of the environment and sustainable use of natural resources. To ensure the application of international laws on this matter ratified by El Salvador	MARN	Issued by Legislative Decree No. 233 of March 2, 1998. Published in the Official Gazette number 79, Volume 339 of May 4, 1998.
Wildlife Conservation Law	The protection, restoration, management, use, and conservation of wildlife. This includes the regulation of activities such as hunting, gathering and sale, as well as other ways this resource is used.	MARN MAG with function of regulating Trade	Reformed by Legislative Decree No. 441 and Published in the Official Gazette number 133, Volume 352 of July 16, 2001
Protected Natural Areas Law	To regulate the establishment of a legal system for the administration, management and increase of Protected Natural Areas.	MARN	Issued by Legislative Decree No. 579 of January 13, 2005, Published in the Official Gazette number 32 Volume 366 of February 15, 2005
Criminal Code	Its fundamental objective is to guide criminal regulations within a guarantee concept, that is highly effective in avoiding social and criminal violence in our country.	Attorney General's Office	Reforms: (31) L.D. No. 957, of February 8, 2006, Published in the Official Gazette No. 28, Volume 370, of February 9, 2006.
Special Regulations for regulating international trade of endangered wildlife species, according to the CITES Convention	To develop the legal provisions for regulating international trade of endangered wildlife species according to the Convention on the International Trade of Endangered Species	MAG Administrative Authority MARN Scientific Authority	Executive Decree 35 of April 15, 2009 Official Gazette 383 of May 18, 2009.

During the REDD+ readiness process, the legal framework for the implementation of Safeguards has also been analyzed, considering that this process requires an appropriate legal framework that is aligned with the Strategy's common objectives, which guarantees the fulfillment of the social and environmental safeguards in favor of people and ecosystems.

This analysis required the identification of the applicable national regulations and international regulations relevant to El Salvador that specify the scope of the safeguards and provide a national interpretation of the same.
Suggestions and recommendations were identified for each safeguard, in order to address gaps and consolidate its application and effective protection.

In general terms, the analysis concludes that the Salvadoran legal framework is coherent and compatible with the principles considered in the REDD+ Safeguards established in the Cancun Agreements of UNFCCC, that is, no radical modifications are required for it to address and adhere to the Safeguards. Nevertheless, there are some specific aspects of the country's legal framework that must be clarified, addressed or clearly established so that El Salvador may effectively carry out the REDD+ Safeguards. The breakdown of

this analysis can be found in the Analysis document for the Salvadoran legal framework related to the goals of the REDD+ safeguards, developed within the framework of the FCPF project.

Additionally in El Salvador, the policies and instruments that relate and contribute to the implementation of the REDD+ AbM Strategy, are primarily linked to the MARN and the MAG. These include the National Environment Policy (2012), National Environment Strategy (Climate Change, Biodiversity, Water Resources, and Environmental Sanitation) (2013), National Climate Change Plan (2015) and National Plan for the Integrated Management of Water Resources (2017). The MAG with its National Forest Policy (2016), the National Forest Strategy (2017), the National Strategy for Water Basin Management (2017) and the National Plan on Climate change and Agroclimate Risk Management for the Agricultural, Forestry, Fishery and Aquatic Sector (2017). See Annex 1 (Policies and Instruments).

2.2. Subcomponent 2.B REDD+ Strategy Options

In the development of its REDD+ AbM Strategy, El Salvador has a strategic framework aimed at sustainable development with an ecosystem perspective, the maintenance of sustainable and resilient landscapes under an environmental land organization model based on potentials and ecological, climatological, meteorological and seismological characteristics, in order to improve people's quality of life, reduce risk and vulnerability, and increase competitiveness in the local, regional and national economy.

To do this, the Strategy proposes restoring and managing forest ecosystems and natural resources so that they maintain their natural richness and recover and increase the provision of key ecosystem services that enable the development of social and productive activities, the reduction of vulnerability and the construction of resilience to effects of climate change and other threats to the land, local communities and general population.

Within this context, national dialogue made progress in the proposal of the Strategy Components ("options," according to FCPF) which are subdivided into Strategic Guidelines and Strategic Actions, respectively.

Components and Guidelines of the REDD+ AbM Strategy.

COMPONENT 1. To align related sectoral policies and laws or those with influence over land use.
Strategic Guideline 1. To integrate the conservation and increase of tree cover and the control of forest ecosystem deforestation and degradation within sectoral policies, coherently and consistently as a strategic component of the national policy to mitigate and adapt to climate change.
Strategic Guideline: To guarantee full and effective participation of all relevant actors in the formulation and implementation of the National Strategy for the Restoration of Ecosystems and Landscapes.
COMPONENT 2. To address the main direct causes of Deforestation and Degradation of forest and agroforest ecosystems
Strategic Guideline: To develop environmental zoning and issue the corresponding land use guidelines to guarantee the protection, restoration and conservation of forest and agroforest ecosystems in El Salvador
Strategic Guideline: To effectively and efficiently prevent and control the occurrence of Forest Fires and mitigate their negative impacts on forest ecosystems and the Salvadoran people.
COMPONENT 3 To Maintain and Manage Forests (forest and agroforest ecosystems) and Increase tree cover in critical areas
Strategic Guideline: To inclusively conserve the natural ecosystems and habitats and protect them by law, through the Declaration of Protected Areas, in order to guarantee the conservation of biodiversity, improve the ecological functions and guarantee the ongoing provision of ecosystem services.
Strategic Guideline: To promote and adopt a coffee culture that is modern, competitive and resilient to climate variability, so as to improve and conserve the coffee agroecosystem as the provider of key ecosystem services for the country.
Strategic Guideline: Inclusive restoration of critical forests and forest ecosystems– mangroves, riparian forests and zones affected by fires
COMPONENT 4 To Design and Implement an Incentives Program and Offsetting Mechanisms;
Strategic Guideline: To promote and strengthen the execution of national funds for the restoration of ecosystems and landscapes
Strategic Guideline: To strengthen the management and negotiation capacities of national opportunities to access and direct international funds for the restoration of ecosystems and landscapes.
Strategic Guideline: To establish private investments for the restoration of ecosystems and landscapes through trade unions and production sectors.
COMPONENT 5 To Design and Implement a System for Social, Economic and Environmental Monitoring of the Restoration of Ecosystems and Landscapes.
Strategic Guideline: To design a monitoring mechanism to measure the effectiveness and impact of the actions implemented by the REDD+ AbM Strategy.

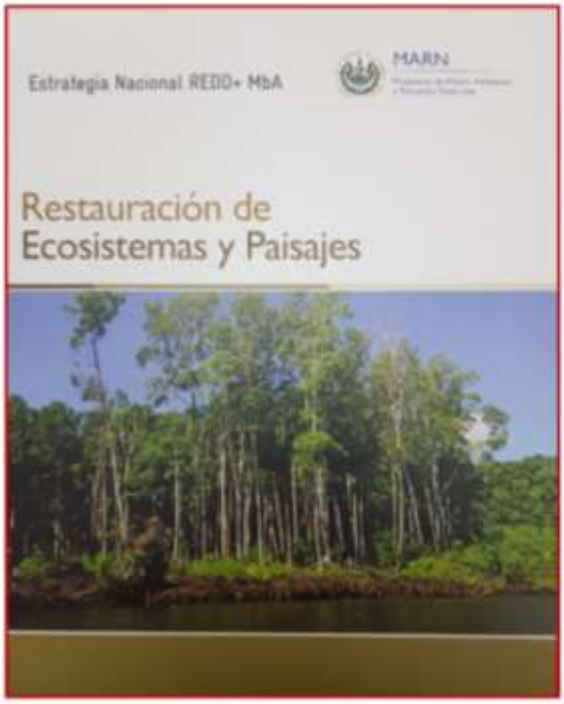
Within the framework of dialogue for REDD+ readiness, these Strategy components have been widely discussed at the national and subnational level, allowing for progress to be made in the development of the first version of the REDD+ AbM Strategy Preparation, Restoration of Ecosystems and Landscapes for El Salvador. This includes a proposal that has been agreed upon through the dialogue platform and contains 5 components, 11 guidelines and 56 strategic activities.

The framework of implementation of this Strategy considers all planned structures and those that arise along the way and which are used by the stakeholders tied to the restoration of the ecosystems and landscapes.

This framework describes the rule, roles and responsibilities in the decision-making process. It describes how to contribute strategic options, make strategic and operating decisions, and control implementation and monitoring.

To carry out this Strategy, three leadership levels are established: 1) regulatory political level, executed by the Environmental Sustainability and Vulnerability Cabinet; 2) strategic level executed by CONASAV and the Ecosystems Restoration Round Table; and 3) operating level executed by the Territorial Dialogue Platforms, which include several round tables and working committees.

The Strategy's operational framework is based on the sustainable landscapes and Adaptation-based Mitigation approaches. This means the adoption of an intervention model at the landscape scale, which includes: the ecological rehabilitation of the ecosystems, the recovery of the main ecosystem services and functions, the improvement of quality of life, the stimulation of local economy and the strengthening of capacities in the actors tied to restoration, all in a highly participatory and inclusive way.

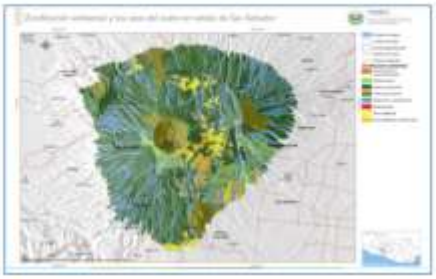


The MARN is working on several lines to develop the Strategy financing mechanisms (readiness and implementation) along with the benefit-sharing mechanisms. This is described in component 2.C.

Advances in the implementation of the REDD+ MbA National Strategy

As has been explained above, among the main drivers of change related to deforestation and degradation of forest ecosystems in El Salvador is the change in land use associated with agricultural activities and construction, as well as forest fires, so during The implementation of the National REDD + MbA Strategy has given special attention to these two agents. Thus, significant progress has been made in environmental zoning and in the issuance of guidelines for land use, which has made it possible to identify, protect and conserve forest ecosystems. as well as to the areas that require a restoration for the recovery of key ecosystem services for the territories.

Avances en la zonificación ambiental y la emisión de directrices de uso del suelo



This information and results will be a relevant input in the processes of Environmental Assessment and planning of the territory. In addition to this work, the revision of the National Forestry Policy and the Forestry Law is being finalized, and the "Consensual" Technical Guidelines have been drawn up among the Competent Authorities - MARN, MAG and City Halls - for the development of legal logging and use of wood and firewood.

In relation to the conservation and maintenance of the Agroforestry Coffee System - related to avoided deforestation - an agreement has been established at the highest level - Government, Coffee Sector and all the Political Parties - to maintain and renew the Coffee Park of the Country, which includes support to coffee farmers in the control of pests and diseases such as rust; provide training and technical assistance, access to inputs and use of new technologies, as well as to manage and channel fresh financial resources. The government, through the MAG, has established the new CENTA-CAFÉ Division, to promote research, innovation and technology transfer. This division is in charge of providing technical support and direct comprehensive advice to producers at the national level, by means of specialist technicians stationed throughout the country, and 23 offices distributed in the coffee cordilleras of El Salvador. In this framework, the MAG has also worked distributing coffee plantlets of varieties with resistance to rust, has delivered, at a low cost, certified seed for nurseries with varieties resistant to rust, has performed the soil analyzes, and has delivered fungicides and foliar to protect the diffuser coffee plantations, as well as traps against the coffee bean drill. This will allow to maintain the coverage of 8.3% of the national territory that includes the area covered by the Coffee Park - coffee under shade.

The National Strategy to Fight Forest Fires has been designed and is being implemented. El Salvador has a National Fire Management Strategy of El Salvador which was prepared through a joint exercise of the eight institutions that make up the National Forest Fire Commission, under the coordination of the Ministry of Environment and Natural Resources and Ministry of Agriculture and Livestock, and the support of the International Agency for the Development of the United States through the Office of Assistance for Disasters Abroad. Planned for the period 2016-2020, the Strategy seeks to integrate policies, plans and programs, through inter-institutional and multidisciplinary coordination of effective actions for the management of fire throughout the national territory, conserving biodiversity and ecosystems, and mitigating effects of climate change, in order to improve the quality of life of the population. The main objective of the Strategy is to establish the guidelines that regulate the responsible management of fire, involving all relevant actors in the country. It seeks to strengthen the legal framework so that it is effective and concordant so that institutions and the population make a responsible management of fire, and adequate prevention and control of forest fires. The Strategy has four strategic lines: The Management and Strengthening of the institutional capacities necessary for the

effective attention of forest and agricultural fires; Social Management that seeks to promote actions that promote the participation and integration of civil society and private enterprise, in the various activities that are developed for the management of fire in the country; Knowledge Management that seeks to incorporate effective methods and processes of research and knowledge transfer, in order to strengthen the country's human resource capabilities in terms of fire management; and Integral Irrigation Management for the execution of prevention, mitigation and response actions to effectively address the occurrence of forest or agricultural fires.

Within this framework, the Recovery Plan for the areas damaged by forest fires has also been designed and implemented, under which a Reforestation Plan is promoted to recover the vegetation cover of the degraded ecosystems in Protected Areas, buffer zones, and Priority ecosystems and a fire management sub-plan that seeks to prevent, control and reduce the incidence of forest fires in these vulnerable areas, all under a broadly participatory approach, involving local stakeholders, particularly local governments, NGOs, Community Development and Local Communities.

2.3. Subcomponent
2.C Implementation Framework

Adoption and implementation of legislation/ Regulations

As explained above, El Salvador has developed a political framework and environmental regulations aimed at guaranteeing the conservation of ecosystems and landscapes, while promoting the sustainable use of natural resources, as a development option, primarily for the rural population. The analysis shows that the current existing regulations are aligned with the objectives of the REDD+ AbM Strategy.

The National Environment Policy supports the implementation of the REDD+ AbM Strategy, whose main objective is to reverse environmental degradation and reduce vulnerability to climate change. Among its

core ideas is the restoration of degraded ecosystems and landscapes. Another policy to reinforce the Strategy is the National Forest Policy. The strategic framework of El Salvador also has a series of instruments that support and give form to the REDD+ AbM Strategy, for example, the Water Basin Management Strategy, the National Climate Change Strategy, the Forest Strategy, the National Biodiversity Strategy, the National Environmental Sanitation Strategy; and specific plans for attention to climate change and the integrated management of water resources.

On the other hand, the readiness process has considered complementing the existing legal framework to provide a framework of action for the REDD+ AbM Strategy. For example:

a. Environment Law. Legislative Decree No. 233. 1998
b. Forest Law. Legislative Decree No. 852. 2002
c. Wildlife Conservation Law. Reformed by Legislative Decree No. 441. 2001
d. Protected Natural Areas Law. Legislative Decree No. 579. 2005
e. Criminal Code. Reforms (31) D.L. No. 957. 2006
f. Special Regulations on the international trade of endangered species, according to the CITES Convention. Executive Decree 35. 2009.

To give operability to the REDD+ Strategy, El Salvador has begun an interinstitutional dialogue to bridge potential incompatibilities with the instruments of agrarian policy and the conservation and management of natural resources. This is operatively between the key government entities, the Ministry of Agriculture and the Ministry of the Environment.

In order to launch the strategic activities as soon as possible, the Ministry of the Environment and Natural Resources led the preparation of the ecosystems and landscapes Restoration Action Plan with an Adaptation-based Mitigation approach (2018-2022). This plan includes the pertinent guidelines for leading restoration at the national level, supported by solid analysis and through a participation, consultation and feedback process with the stakeholders.

The Plan was developed with the Restoration Opportunities Assessment Methodology (ROAM) in order to determine and analyze the restoration options based on social, biophysical and economic criteria. (UICN-WRI, 2014).

The Plan's Structure includes I) an analysis of the current situation and the political and legal framework of action; 2) assessment of restoration opportunities and 3) the description of the action plan containing the philosophical and strategic frameworks.

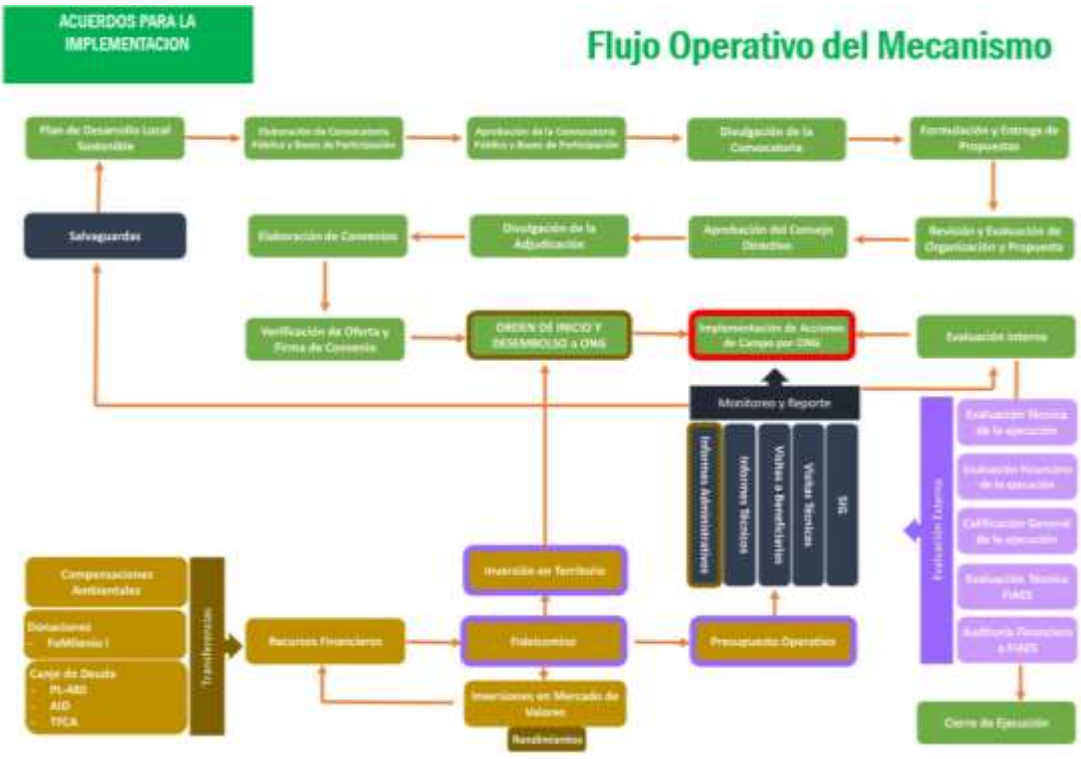
The Financial Mechanism and Benefit-Sharing System

The Initiative for the Americas Fund of El Salvador (FIAES)

To finance the emissions reductions actions associated with deforestation and degradation of forest and agroforest ecosystems, as well as for the restoration and increase of forest carbon reserves, the Restoration Fund has been established, which is managed by the Initiative for the Americas Fund of El Salvador (FIAES), an organization specialized in the management, administration and investment of funds for environmental conservation projects.

Established by Executive Decree in October 1993, the FIAES has a long and recognized history of efficiently and transparently managing funds and donations. FIAES has opened up a special window for restoration projects, which also channels funds from Environment Offsetting – actions to recover or offset the inevitable impacts caused by their presence in the environment – , based on what was established in Executive Agreement No. 31 of March 21, 2014. Likewise, this window will also manage REDD+ funds - *payment for results* – which would be used to support the activities proposed in the REDD+ AbM Strategy Readiness process. By adopting an intervention approach at the landscape level, the El Salvador proposal helps: a) simultaneously address the different land uses in the territory, including the conservation of forest and agroforest ecosystems and attention to change drivers; b) address the territory in a way that guarantees the provision of critical ecosystem services, with interventions in key areas of regional impact, regardless of land ownership, through agreements with local actors and collectively constructed plans; c) integrate the REDD+ Adaptation-based Mitigation Program within the Regional Development Plans for Landscapes that are Sustainable and Resilient to Climate Change; d) implement more inclusive benefit-sharing mechanisms, including a specific repairs fund for indigenous communities removed from their lands due to the illegalization of the institution of shared and common lands at the end of the 19th century.

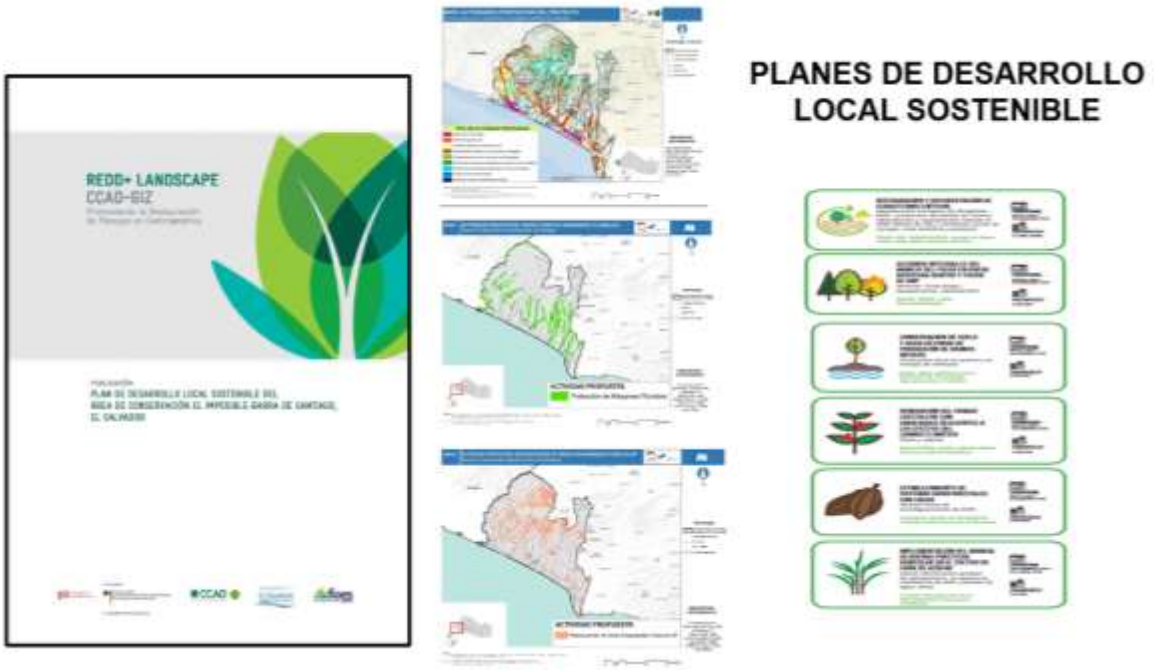
Using small donations of amounts up to USD 100,000, the FIAES has financed or finances the implementation of ecosystem restoration and conservation projects, priority species rehabilitation and protection projects and general environmental improvement projects. The FIAES has also created a line of smaller donations for the execution of projects for a maximum amount of USD 30,000, for community associations with little experience.



The FIAES execution method uses a periodic call for proposals from NGOs and community development associations with environmental purposes or aimed at local development. This call for proposals is published in national newspapers and alternative media.

Entities that wish to apply, must participate in a process that includes the following phases: reception and evaluation of legal, administrative and financial information on the interested organization, followed by an evaluation of the project profile, verification of the project's on-site technical viability and feasibility. The FIAES Administration Council is composed of two representatives of the Salvadoran Government, a representative of the U.S. Government and five representatives of the environmental, community development, tropical forest, Academic-Scientific and childhood subsistence and progress sectors.

To control and avoid deforestation and implement restoration activities in the priority landscapes, Sustainable Local Development Plans have been generated - which include conservation, restoration and adaptation to climate change priorities –, under which the funds are executed and the actions and/or projects are financed for local actors who execute them with the participation of local communities, the private sector, small farmers, local governments and indigenous communities.



Design of a National Incentives Program

In order to establish a National Incentives Program to support the forest ecosystem restoration and conservation efforts, as well as to support the implementation National Program for the Restoration of Ecosystems and Landscapes, several actions have been taken, such as: Evaluation of the existing legal framework; Analysis of the incentives initiatives and programs implemented or in the process of implementation in the country; Economic-Financial Analysis of the activities to increase Forest Carbon Reserves and Restore Forest Ecosystems; formulation and implementation of projects to support the design of the National Incentives Program.

Legal framework and national incentives experiences

The Chapter VI of the Environment Law "Environmental Incentives and Economic Deterrents", establishes, specifically through Articles 32 to 38, that the Ministry of the Environment and Natural Resources, in conjunction with the Ministry of Economy and Finance, will prepare environmental incentives and deterrent programs to facilitate the reconversion of contaminating processes and activities, or those that make excessive or inefficient use of natural resources. On the other hand, Chapter IV of the Forest Law, "Forest Incentives," and specifically Article 20, states that the Ministry of Agriculture in coordination with the Ministry of Economy and the Forest Commission shall prepare incentives programs to promote the increase, management and sustainable use of forest resources, and favor forest development and the country's logging industry.

Analysis of the main incentives programs implemented in El Salvador

Principales Programas de Incentivos implementados para promover el Incremento y Conservación de Ecosistemas Forestales y Agroforestales				
Deforestación Evitada y Conservación	Sistemas Agroforestales – Café bajo sombra	Programa de Certificación de Fincas Cafetaleras - Sello Rainforest Alliance	Fincas Certificadas por apara acceder a mercado de Café de Especialidades	Buena acogida por el Sector Cafetalero y mantiene potencial. Capacidades instaladas para MRV
	Sistemas Agroforestales – Café bajo sombra	Establecimiento del Fideicomiso de Café y Ambiente (FIDECAM)	Busca acceder a mercados voluntarios nacionales e internacionales de Certificados de Carbono (Verified Emission Reduction – VER)	Buena acogida por el Sector Cafetalero y potencial para REDD. Dificultades en colocación VER, pues coincidió con finalización Protocolo Kioto y Mercados Voluntarios
Incremento de Reservas Forestales de Carbono	Forestería Comunitaria	Programa MADELEÑA – Asistencia Técnica, provisión plántulas e insumos agrícolas	Beneficiando a 5,670 pequeños agricultores, se logró el establecimiento de sistemas agroforestales y Arborización de cultivos de granos básicos, uso árboles en contorno y callejones, cortinas rompe vientos y bosquetes energéticos.	Programa con relativamente buen impacto. Pero careció hubo una continuación, consolidación y seguimiento gubernamental. Problema con paquete tecnológico – tipo de árboles a combinar con granos básicos
	Proyectos Forestales	Fondo de Crédito para el Medio Ambiente (FOCAM)	Promoción de la inversión forestal a través de Créditos a Tasas Subsidiadas	Programa con poco impacto, entre otros, por falta de ajuste entre tiempos de financiamiento y el de inicio de rentabilidad proyectos
		Bono Forestal de El Salvador – Ley Forestal	Promover un manejo forestal, establecer Plantaciones Forestales y sistemas agroforestales	Programa poco atractivo, entre otros, carecía de elementos de la cadena forestal productiva – con una ejecución sólo del 18% de los fondos

Incentives to maintain the Coffee-Growing Park. The MARN has promoted the design of a Coffee Farms Certification process, initially with the "Conservation of Biodiversity in Coffee Farms" Project, financed to El Salvador by the Global Environment Fund and the World Bank, and then with the "Better Management and Conservation of Critical Water Basins" Project, financed to El Salvador by the United States Agency for International Development (USAID). The first project had a goal of 200 farms certified or in the process of Certification, while the second initiative worked on the Certification of 17,446 hectares. The distribution of the farms certified within the Apaneca Biological Corridor is presented below. Additionally, the MARN,

in Coordination with BANDESAL trustor, the Ministry of Finance, Ministry of Agriculture, Coffee Farmer Associations, has propelled the Coffee and Environment Trust (FIDECAM), to maintain, restore and increase the "Coffee-Growing Forest," considering the Agroforestry System's capacities for collecting and storing carbon. The FIDECAM is dedicated to selling Carbon Certificates in national and international Voluntary Markets, through Verified Emissions Reductions (VERs) generated by the coffee areas of the Trust's users. http://www.bandesal.gob.sv/servicios/fideicomisos/. Finally, on April 4, 2017, the National Coffee Agreement was passed at the highest political level, which establishes the commitment to reactivate the Coffee Farming Culture in El Salvador in order to maintain the Coffee-Growing Park, considering, among other things, the ecological importance of this Agroforestry system in providing key ecosystem services that are strategic to the sustainability of El Salvador.

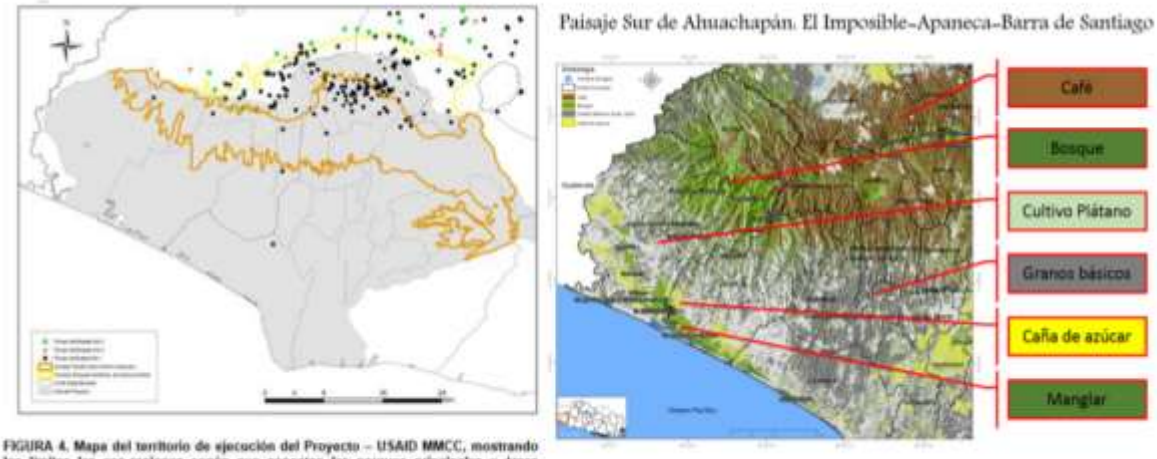


FIGURA 4. Mapa del territorio de ejecución del Proyecto – USAID MMCC, mostrando los límites las eco-regiones según que conectan las parques principales y áreas naturales protegidas, y la distribución de fincas de café certificadas dentro de los mismos.

Costs and benefits of the Increase in Forest Carbon Reserves and the Restoration of Forest Ecosystems

Considering the different current land uses, the possible "transitions" to sustainable land use have been identified, which would help recover the functionality of the ecosystems and agroecosystems, as well as increase the provision of relevant environmental goods and services. Therefore, the identification of potential areas for each type of transition, from the current land use to sustainable and more resilient systems, has identified a total of 1,001,405. hectares for the eleven proposed transitions. The carbon dioxide storage capacity - mitigation capacity - has been calculated for each transition (CO_2 equivalent ton per hectare), which shows the mitigation capacity. A 20-year financial and economic evaluation was performed by land use, current use and "PREP suggested" use or transition proposals, by calculating profitability and analyzing revenue (monetary benefits) and the environmental and social benefits generated for both (shared benefits). Additionally, the Net Present Value (NPV) was calculated and Incremental Benefit by determination of the difference between the net benefit of each transition – difference between the net benefit of the "PREP suggested" use and the net benefit of the current land

use. This information helps us analyze the existing incentives and offsetting mechanisms, and to guide the design of the system considering the profitability and cost-benefit criteria.

Considering the production activities currently performed – current land use –, double-purpose livestock on natural grass or mosaic of crops and grass are the most profitable; and the least profitable is the production of low-altitude coffee (coffee plantations at an altitude lower than 800 m.a.s.l).

Costs and benefits of current land use.

Current land use	Total Costs (US$/ha.)	Gross Benefits (US$/ha.)	Net Benefits, NPV (US$/ha.)
1. Basic grain	8,429	12,559	4,130
2. Natural grass	16,856	24,409	7,553
3. Mosaic of crops and grass	16,896	21,534	4,638
4. Mosaic of crops, grass and vegetation < 900 m.a.s.l.	11,410	14,510	3,100
5. Sugarcane	17,581	20,803	3,222
6. Coffee < 900 m.a.s.l.	3,619	4,826	1,206
7. Coffee < 800 m.a.s.l.	3,289	4,385	1,096
8. Coffee 800-1200 m.a.s.l.	4,115	5,487	1,372
9. Coffee > 1200 m.a.s.l.	6,826	9,101	2,275
10. Average (1, 2, 3, 4 and 5)	13,436	17,764	4,329
11. Degraded mangrove	0	0	-

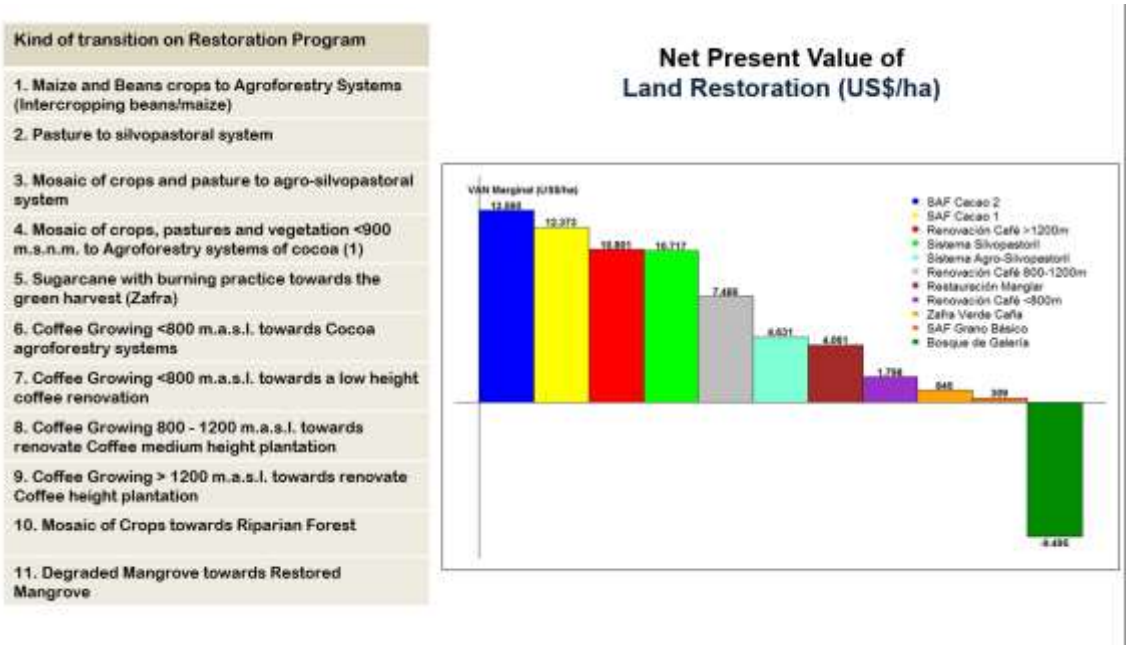
Source: IUCN, 2017

This analysis helped demonstrate that the National Program for the Restoration of Ecosystems and Landscapes meets the Cost-Benefit conditions, which shows that the highest marginal values are reflected in transitions of Coffee Growing < 900 m.a.s.l. towards agroforestry systems of cocoa; the transition of Coffee Growing > 1200 m.a.s.l. towards a renewal of high-altitude coffee; and the transition from natural grass to a silvopastoral system. The least profitable - in terms of monetary benefits: the transition of crops towards the restoration of riparian forest, because it is not associated with a productive land use, although it is focused on the conservation and protection of critical ecosystems for maintaining river flows and other highly significant environmental benefits. The results of this analysis also help us involve the private sector and key local actors in the restoration actions and in the adoption of sustainable land use activities.

Financial Analysis: Costs and Proceeds of Current Land Use and Proposed Land Use under PREP

Net Present Value of Restored Land Use (US$/hectare)			
Transition Type	NPV (US$/ha) – Net Proceeds		
	Current Land Use	PREP Land Use	Marginal Value
1. Basic grain crop to Agroforestry system with basic grains	4,130	4,438	308
2. Natural grass to silvopastoral system	7,553	18,269	10,716
3. Mosaic of crops and grass to Agro-silvopastoral system	4,638	12,124	7,486
4. Mosaic of crops, grass and vegetation < 900 m.a.s.l. to Agroforestry systems of cocoa (1)	3,100	15,473	12,373
5. Sugarcane (by burning) to Green sugar harvest	3,222	4,067	845
6. Coffee < 900 m.a.s.l. to Agroforestry systems of cocoa (2)	1,206	14,767	13,561
7. Coffee < 800 m.a.s.l. to Renovation of low-altitude coffee	1,096	2,894	1,798
8. Coffee 800-1200 m.a.s.l. to Renovation of mid-altitude coffee	1,372	6,003	4,631
9. Coffee > 1200 m.a.s.l. to Renovation of high altitude coffee	2,275	13,076	10,801
10. Crops and Use on Average (1, 2, 3, 4 and 5) to Gallery forest	4,329	-5,166	-9,495
11. Degraded mangrove to Restoration of mangrove	-	4,061	4,061

(Present value with r=10%). Source: IUCN, 2017



Net Present Value for the use of restored land (US$/ha)

National REDD+ MbA Strategy and Nationally Determined Contributions in El Salvador

REDD + MbA and NDC in El Salvador. As contemplated in the proposed NDC of El Salvador submitted to the United Nations Framework Convention on Climate Change, by 2030, El Salvador will establish and manage one million hectares through "Sustainable Landscapes and Resilient to Climate Change", adopting an integral approach to landscape restoration, where forest areas will be rehabilitated and conserved, biological corridors will be established through the adoption of resilient agroforestry systems and the transformation of agricultural areas with low carbon sustainable practices, seeking Neutrality in the degradation of Land. In this framework, deforestation and degradation of forest ecosystems will be controlled, reducing greenhouse gas emissions, conserving current tree cover, maintaining natural areas, including mangroves, agroforestry systems and existing forest plantations. In addition, forest carbon reserves will be improved, increasing tree coverage, with agroforestry systems and reforestation activities in critical areas, such as gallery forests, aquifer recharge zones, and areas prone to landslides. It is committed to the incorporation of soil restoration and conservation practices, control of agricultural burning, reduced use of agrochemicals and nitrogen fertilizers, improvement of pastures and improvement of livestock production practices and manure treatment. To achieve these goals, the necessary means of implementation will be sought and established, in order to complement the investments made with national finances. In addition, the current policies and laws related to agricultural, forestry and livestock activities will be reviewed, harmonized and updated, and adaptation measures will be implemented to achieve water security and food security in El Salvador, taking into account the foreseeable scenarios of climate change.

Plan de Reforestación y Restauración de Ecosistemas y Paisajes Periodo 2017 – 2018		
Componente/Lineamiento Estratégico	Meta 2017 - 2018	Actor
Control de la Deforestación y de la Degradación de Ecosistemas Forestales y Agroforestales		
Integrar la conservación e incremento de la cobertura arbórea y el control de la deforestación y degradación de los ecosistemas forestales el Políticas sectoriales	Revisar la Política Forestal y la Ley Forestal, integrando el papel del bosque bajo el enfoque Mitigación basada en la Adaptación (MbA). Asegurar la integración de Enfoque MbA en la Ley de Cambio Climático y Procedimientos Evaluación Ambiental	MAG, CENTA, Secretaría Técnica. Con apoyo del MARN
	Formular e Iniciar Implementación de la Política Agroforesstal	MARN, MAG y CENTA,
Desarrollar la zonificación ambiental y emitir las directrices del uso del suelo correspondientes para garantizar la protección, restauración y conservación de los ecosistemas forestales y agroforestales.	Emitir las Directrices ambientales para el cultivo de la caña de azúcar Emitir las Directrices ambientales para las actividades ganaderas	MARN, MAG y CENTA, Juzgado Ambiental
Prevenir y controlar los incendios Forestales y mitigar los impactos negativos sobre ecosistemas forestales y la población salvadoreña.	Emitir las Directrices ambientales para el Controlar la Quema Agrícola en El Salvador Emitir las Directrices ambientales para la Quema en cultivos de Caña de Azúcar Revisar Marco Legal sobre Quema Agrícola Emitir las Directrices Ambientales de la Quema Agrícolas en condiciones vientos fuertes	MARN, MAG y CENTA, Juzgado Ambiental
Abordar el asunto de la Tala	Coordinación MAG MARN	
Conservación y Manejo de Bosques y Ecosistemas Forestales Prioritarios		
Conservar en forma inclusiva los ecosistemas y hábitats naturales y protegerlos legalmente, a través de Declaratoria como Área Protegida	Formular e implementar los Planes de Manejo para las quince Áreas de Conservación Establecer y Oficializar los Comités Asesores Locales para las quince Áreas de Conservación. Elaborar e implementar los Planes de manejo de Fuego para las quince Áreas de Conservación	MARN, Municipalidades, ONG Co-manejadoras
Recuperar y Mantener de los procesos ecológicos y evolutivos que sostienen la biodiversidad y restablecer la conectividad ecológica entre los remanentes boscosos	Diseñar los Corredores en las tres Reservas de Biosfera y las quince Áreas de Conservación	MARN, Municipalidades, ONG Co-manejadoras
Conservación y Manejo de Sistemas Agroforestales - Mantenimiento del Parque Cafetalero de El Salvador		
Promover y adoptar una caficultura moderna, competitiva y resiliente a la variabilidad climática.	Gestionar financiamiento climático para mejorar, renovar y conservar el Parque Cafetalero de El Salvador. Caracterizar los Servicios Ecosistémicos de los Cafetales.	Viceministerio Relaciones Exteriores, con apoyo del MARN, MAG, CENTA, y Secretaría Técnica.
Mejorar y conservar el agroecosistema cafetal como proveedor de servicios ecosistémicos claves para el país.	Diseñar un mecanismo de Compensación para conservar los sistemas agroforestales de Café	

2.4. Subcomponent 2.D Social and Environmental Impacts

The Process of Safeguards

As previously described, the REDD+ AbM National Strategy for Ecosystem and Landscape Restoration seeks to reduce the risks associated with climate change and reverse environmental degradation: operationally, it is based on the implementation of 49 restoration techniques and instruments.

In this context, El Salvador undertakes the restoration of ecosystems and landscapes as a mechanism for productive optimization, protection, and the proper use of natural resources. This constitutes an alternative manner of preventing greenhouse gas (GHG) emissions and protecting the sinks that absorb them, so as to make a technical mitigation more viable and maximize mitigation effects in terms of cost effectiveness and social aspects.

The compliance framework for the Strategy has been defined, including the affirmation that it is part of the proposal made in 2015 to the Nationally Determined Contribution (NDC) under the United Nations Framework Convention on Climate Change (UNFCCC). Similarly, it is in line with commitments assumed worldwide through the conventions on biological diversity, endangered species, desertification, and other agreements such as the Bonn Challenge and others on respect for human rights, especially those aimed at vulnerable communities, indigenous peoples, and gender equality.

With a premise of Adaptation-based Mitigation, El Salvador initiates its efforts to implement the REDD+ AbM Strategy and has the fundamental considerations of safeguarding the wellbeing of the people and the integrity of ecosystems, while each of the strategic options and activities is implemented. El Salvador also takes part in the REDD+ Readiness Process commitment to heed the safeguards of Cancun.

Under this readiness context, the first step was to develop the National Safeguards Approach of El Salvador (ENS-SALV, in Spanish). It is based on a framework of citizen rights that ensures active and effective participation of local communities, indigenous peoples, and vulnerable groups, especially women and young people, ensuring transparency of the social and environmental management processes. This contributes to applying, respecting and addressing the Cancun safeguards and the World Bank's operational policies with the aim of enhancing the positive impacts of implementing the REDD+ strategic options and of minimizing the risks and negative impacts.

The National Safeguards Approach of El Salvador includes carrying out pertinent coordination exercises to encompass and make visible the gender considerations and criteria, principles, values and strategic lines of thought from the cosmovision of the indigenous people in El Salvador, and the criteria for compliance with rights associated to the different international conventions and the national and local regulations. The ENS-SALV also considers the relevant elements from the Ecosystem and Landscape Restoration Action Plan.

The process for elaborating this approach includes the following roadmap:

No.	Roadmap for developing the National Safeguards Approach
01	Consolidate a National Safeguard Roundtable
01	1.1 Development of a Work Plan
	1.2 Development of an Enhancement Plan for the Training Program and Committee Strengthening
02	Determine the objectives and scope of the National Safeguards Approach
	2.1 Identification and Analysis • Legal framework • Institutionality • Compliance

No.	Roadmap for developing the National Safeguards Approach
	2.2 Workshops for interpreting safeguards
03	Develop the mechanism to address grievances
04	Develop the Safeguards Information System

During this process, the key stakeholders and the necessary technical and financial resources were identified, and the dates were defined. The complete document of the ENS-SALV details all the indicated analyses, comparisons, and recommendations for addressing each safeguard according to national circumstances: it also includes the compliance framework.

El Salvador presents progress in the consolidation of the National Safeguard Committee, which was formed following the March 2017 convocation of the MARN in the context of the training workshop of the National Safeguard Committee of El Salvador.

Representatives of the following entities attended: the Ministry of the Environment and Natural Resources (MARN), the Ministry of Agriculture and Livestock (MAG), the Ministry of Education (MINED), the Salvadoran Coffee Council (CSC), the Initiative for the Americas Fund (FIAES), the Steering Committee for the Apaneca - Ilamatepec Biosphere Reserve (CGRBA-I), the La Montañona Commonwealth (MLM), the National Indigenous Roundtable on Environmental Affairs (MNIMA), the Municipal government of Berlín Usulután, the Cooperative Federation of the Eastern Agrarian Reform (FECORAO, limited liability), the Morazán Citizens' Cooperation (CCM), the Agricultural Association of Women Farmers (AMSATI, LL), the Agricultural Association (ASAMBIO, LL), the Southern Ahuachapán Micro-Region Association Sur (AMAS), the Colmena de Guaymango Women's Association (ASDEMUCOL), the Morazán Local Economic Development Association (ADEL-Morazán), the Association of Watershed of the Gulf of Fonseca (ACUGOLFO), the Cooperative Federation of the Central Region Agrarian Reform (FECORACEN, LL), the Autonomous Decentralized Entity of the Izalcos Micro-Region (EDAMI), the Network of Associations and Producers for Agro-ecological Development and Ecosystem Recovery (RED APRODARE).

A Safeguard Facilitating group was set up for Operationality purposes, as an operational entity for the actions discussed in the context of the Committee. The process also made progress in generating a Safeguards Information System proposal, as part of the country's commitment.

Safeguards Information System Proposal

In order to give consistency to and follow-up on the indicators reflecting compliance with the REDD+ safeguards, the readiness process has advanced in elaborating a Safeguards Information System proposal. It comprises the design of the Web infrastructure and the Web portal whose function includes the document repository, the directory of institutions, associations and entities involved in the REDD+, REDD+ news and events, the REDD+ Academy, blog and newsletter, photo gallery, and videos. This also includes access to reports, information summaries, and the information relevant to the REDD+ Activities and to Citizen Complaint.

This proposal also comprises the la REDD+ AbM SIS Reporting Unit, considering the database of institutions, contacts, SIS File, projects, REDD+ Activities, Module of Indicators / Safeguards, and the Module of Institutional Arrangements.

The other component is the REDD+ AbM SIS Operational Niche, which suggests operationality in the MARN, given its capacity for IT resources and technical capacity.

Strategic Environmental and Social Assessment (SESA)

In order to comply with the Safeguard agreement for REDD+, since preparations began El Salvador has taken into consideration the impact that the Strategy entails for people and ecosystems. In this context, it has conducted the elaboration of the Strategic Environmental and Social Assessment (SESA) and, subsequently, the Environmental and Social Management Framework (MGAS). The process of preparing and developing the dialogue and participation in the country has reflected the progress, understanding and involvement of stakeholders, so that attention to safeguards is a determining factor in building and implementing the REDD+ AbM Strategy.

This process follows from the preparation of the R-PP that launched a preliminary consultation or early dialogue process; then, with the implementation of a more coordinated dialogue and consultation process, progress is made on the revision of impacts to subsequently draft the documents and have a validation of these instruments.

The SESA objectives are:

- Identify the possible social and environmental risks of REDD+ AbM policies and actions;
- Obtain feedback to address the social and environmental risks and impacts of the EN-REP restoration actions and their strategic options;
- Emphasize the economic and non-economic benefits of the REDD+ AbM and minimize risks and impacts to people, communities, and the environment;
- Provide input for coordination with the ENS, the SIS and the MGAS in El Salvador as a comprehensive public policy proposal for neutralizing or eliminating the risks associated with the implementation of the EN-REP;
- Support and promote strategic actions that are organized within the competent institutionality and of the relevant stakeholders for implementing the EN-REP; and
- Supply strategic input to the elaboration of the Readiness Package for the World Bank FCPF.

The SESA evaluation helps clarify environmental and social priorities, assess risks, impact and opportunities. It should be applied in the early stages of the preparation of the REDD+ AbM Strategy, to ensure an increase in social, cultural and environmental benefits, while preventing or mitigating probable damage. The strategic assessment makes it possible to have mechanisms at various points of the process for compiling and systemizing pertinent information.

The elaboration of the SESA involved the Public Sector, Indigenous Peoples, Rural Women, Agricultural Cooperatives, Community Development Associations (ADESCO), Universities and Research Centers, NGOs aimed at the Environment and Sustainable Agriculture, the Forestry Sector, the Coffee Agroindustry, the

Sugar Agroindustry, and International Cooperation. Importance was given to the diverse opinions on the agents and causes of deforestation and causes and on the social and environmental risks that each sector observes in the different strategic actions proposed by the REDD+ AbM. Aside from the risks, they also proposed elements for developing public policy actions that also contained contributions for the creation of specific safeguards, especially for the indigenous peoples.

During this last phase (November 2017 - March 2018), the relevant information for fulfilling the proposed objectives was updated through the incorporation of additional inputs that arose after the initial SESA workshops. It considers studies as well as information processes and additional preliminary consultations held with the relevant stakeholders.

The SESA is also aimed at integrating social and environmental considerations during the REDD+ AbM Strategy design process. One of its main outcomes is the Environmental and Social Management Framework (MGAS), which guides the REDD+ AbM implementation phase in connection with an effective management of social and environmental risks and impacts.

The basis for obtaining the SESA Evaluation was the complete participation and consultation process that was developed during the preparation.

Impacts are analyzed for each strategic option in matrices that examine each and every strategic guideline, activity, and restoration technique. In this way, the analysis covered the social, legal, economic, and environmental spheres of 5 strategic options, 11 guidelines, and 56 activities.

For each impact an analysis and proposal was made for mitigating or eliminating said impact: each of the REDD+ safeguards was taken into consideration.

In addition, the **Environmental and Social Management Framework** takes the impacts that are identified in the SESA and defines the political, strategic, technical and operational guidelines and procedures necessary for minimizing risks and impacts of the REDD+ AbM Strategy. It is important to include the consultations with stakeholders from different sectors that shall be affected one way or another as the Strategy is being implemented. The Environmental and Social Management Framework of El Salvador takes these inputs into consideration.

The MGAS is the guiding instrument for environmental and social management based on the applicable national environmental and social legislation and on the operational environmental and social policies of the World Bank that are applicable for the phase of implementing activities of the REDD+ AbM Strategy in El Salvador. The MGAS provides the general framework of procedures and principles for addressing matters relating to the management of social and environmental risks and impacts in the REDD+ activities.

The objectives of the Environmental and Social Management Framework are:

- Identify and assess the potential environmental and social risks and impacts that could arise from the policies and actions of the REDD+ AbM Strategy, based on the findings of the SESA process and subsequent derivations, in keeping with the broadening of the information and consultation processes.
- Provide measures for risk management, mitigation of adverse environmental and social impacts and environmental and social actions, in order to enhance the positive effects of the activities of the National REDD+ Strategy.

The MGAS identified the risks of the restoration techniques through consultation with various sectors (indigenous peoples, rural women, and business sector) and generated mitigation measures for each of the identified risks. There is documentation for a consultation process that gave rise to at least 72 local consultation meetings and a chapter for the issues of indigenous peoples and gender.

The management mechanism proposal includes:

- The institutional arrangements for the MGAS;
- Potential economic and non-economic benefits for those who implement the mitigation and adaptation measures in the territories;
- Participation of indigenous peoples and rural women;
- Mitigation measures

3. Component 3. Forest Reference Emission Levels / Forest Reference Levels (FREL/FRL)

As part of the reference level preparation process, the reference levels were preliminarily used in the pilot zone of the la El Imposible – Barra de Santiago conservation area. The details of this process can be consulted in the annexes.

To date, the country has generated a set of robust national data to calculate the reference level at the national level. Next, the basic information that is being used in the calculation is detailed, as well as the specific procedure for the construction of the FREL following the guidelines of the United Nations Framework Convention on Climate Change (UNFCCC), considering:

- Consistency with the guidelines of the UNFCCC,
- The use of guidance and guidelines of the Intergovernmental Panel on Climate Change (IPCC) to estimate changes in carbon reserves, emissions and associated removals,
- The use of consistent activity data (AD) (classification system based on IPCC types, stratification of forests, standardized system for image correction and classification and supported by sampling based on high resolution images)
- The use of emissions factors (EF) determined at the national and regional level, and IPCC default values.

Additionally, some key elements will be considered which must be consistent with the National Forest Monitoring System (SNMF) so as to leverage the technical and methodological efforts made to date.

Basically, the NREF seeks to establish a baseline for measuring the performance of the implementation of REDD + activities in the country, in accordance with decisions 9 / CP.19, 13 / CP.19 (paragraph 2), 14 / CP. 19 (paragraphs 7 and 8) of the UNFCCC.

3.1 Scale and activities included

The Reference Level of Forest Emissions in El Salvador is being generated at the national level considering the entire Salvadoran territory (considering the former pockets).Initially, work will be done to calculate FREL for two REDD + activities: 1) CO2 emissions from deforestation (gross losses) and 2) increase in CO2 stocks (gross profits).
To the extent that the definitions and methodology for measuring forest degradation are established in the future, this activity will also be included in the calculation.

Likewise, it is expected that as the sources of data required are improved, other REDD + activities related to the conservation and management of CO2 stocks can be included.

The activities that will be considered are based on the strategic actions of the components of the National Strategy REDD + MbA. At this point, it is important to note that the calculation of emissions attributable to each component of REDD + is not done individually for each component, but globally at the national level for the total emissions / removals product of the set of measures applied. However, the attribution logic established in the National REDD + MbA Strategy is based on the main causes of deterioration of the country's natural resources (expansion of agroecosystems, urban growth, forest fires, pests and logging / firewood).

COMPONENT	**TYPE OF REDD+ ACTIVITY**	ATTRIBUTION LOGIC
Component I. Harmonizing sectorial policies and laws associated with or having a bearing on land use	- Deforestation and degradation control - Stock conservation and enhancement	Impacts are expected in the control of deforestation and degradation, by integrating sectoral policies and laws as a strategic component of the national policy of mitigation and adaptation to climate change, and with the participatory implementation of Restoration of Ecosystems and Landscapes actions. impacts directly on the conservation and increase of stocks.
Component 2. Addressing the main direct causes of deforestation and degradation of forest and agroforestry ecosystems	- Deforestation and degradation control	The issuance of land use guidelines based on environmental zoning, and the prevention and control of forest fires, are expected to directly impact the decrease in annual rates of deforestation and degradation.
Component 3. Maintaining and managing forests (forest and agroforestry ecosystems) and increasing tree cover in critical areas	- Stock conservation, management and enhancement	Stock conservation is expected to be achieved through declarations of protected areas. And it is expected to achieve a significant increase in stocks with the protection and restoration of forests and critical ecosystems such as mangroves, gallery forests; as well as with the improvement and conservation of the coffee agroecosystem.

Component 4. Designing and implementing a program of incentives and compensation mechanisms	- Stock conservation, management and enhancement	The conservation, management and increase of stocks, is also expected to be positively impacted with the strengthening of environmental funds using as framework the different modalities of ecosystem and landscape restoration, and including in this strengthening the management of funds and the link private investments
Component 5. Designing and implementing a social, economic, and environmental monitoring system of the ecosystem and landscape conservation and restoration	- Deforestation and degradation control - Stock conservation, management and enhancement	The establishment of a monitoring system that integrates information from different sources will allow detecting the needs of action to stop the processes of deforestation and forest degradation, and at the same time provide valuable information for the targeting and prioritization of the restoration actions of ecosystems and landscapes .

Definition of forests under REDD+ AbM

The parameters for considering a surface area to be a forest were defined with the participation of the National Technical Monitoring Committee, based on studies and technical analyses. The definition was approved in June 2018 according to the following:

"Land area measuring at least 0.5 hectares with a tree canopy cover equal to or greater than 30%, with trees having a potential to reach a minimum height of 4 meters at maturity in situ. It does not include land that is primarily under agricultural or urban use".

This definition is the basis for the calculations of the National Forest, the monitoring of the change dynamic, and as indispensable element in the Greenhouse Gas Inventory (INGEI, in Spanish) that the country presents to the UNFCCC.

3.3 ACTIVITY DATA

Preliminary data

A first look at the changes in historical forest cover was done using Landsat images from the years 2000, 2005 and 2010, applying an unsupervised classification method. This information was validated by obtaining an overall precision of 77.03%, 78.05% and 74.27%, respectively for each year, and the

corresponding Kappa coefficients of 0.47, 0.52 and 0.50. The precision values correspond to the nominal Kappa coefficient scale of “moderate agreement.”

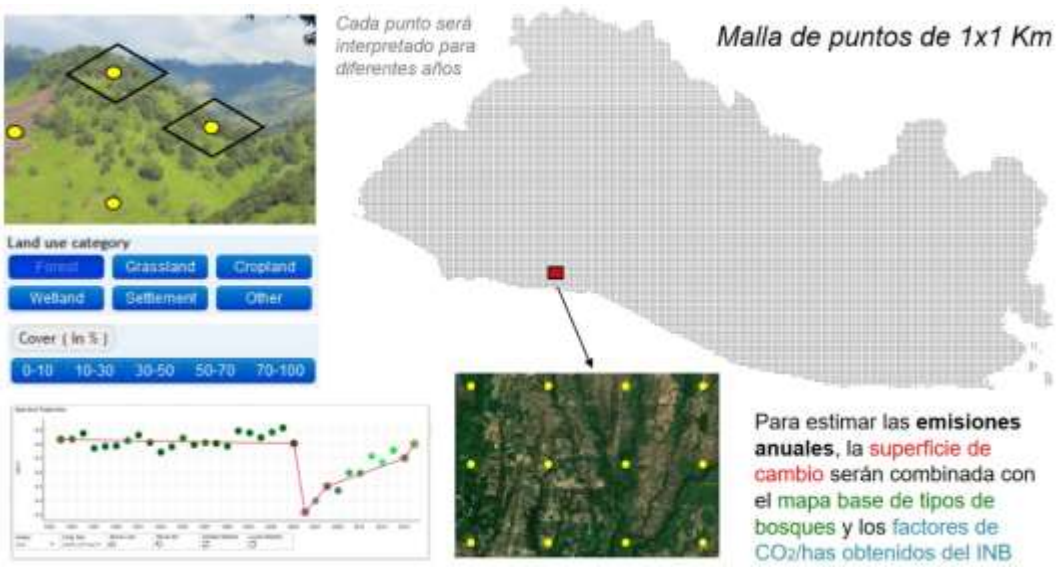
Based on these data, maps were developed for gains and losses in forest cover for the 2000 – 2005 and 2005 – 2010 periods.

Change in coverage map for the period 2000 – 2005.

Change matrix for the period 2005 – 2010.

- Data sources to be used in the calculation of the FREL

Although coverage maps for periods between 2000-2005 and 2005-2010 provide an important basis for knowing where the historical changes in coverage occurred. In order to obtain greater certainty in the calculation of changes in historical coverage and the more reference points over time, a systematic grid of 1x1 km points has been developed at the national level, which shall be interpreted using the remote sensing sampling methodology, which consists of establishing a sampling lot at each point (21,079 lots in total) where visual interpretation of high resolution images will be used to estimate annual coverage and land uses for the years 2000 to 2018. Based on these results, the activity data values for the national reference level will be obtained, and the Landsat maps currently available for 2000, 2005 and 2010 will be improved, and a new map for 2015 will be developed. These new studies will take into account the concept of forest defined in the country for REDD+ AbM.



Grid of points for the annual reconstruction of historical changes in forest cover and land uses

Methodology

The procedure consists of the visual interpretation on screen of each of the 21,079 plots of the mesh of points, using as a basis of interpretation high resolution satellite images from different sources that are available for free for the years analyzed. The RapidEye satellite images acquired to prepare the maps of forest types for 2011 and 2016, as well as the orthophotos taken on the 2014 LiDAR flight, will also be used as complementary sources. A guide for the visual interpretation of the patterns will be elaborated as an input. of the different types coverage in the different sources of images. Additionally, the potential currently available for satellite image management systems in the cloud (for example, Google Earth Engine, Sentinel Explorer, Planet) will be used to obtain temporary profiles of historical coverage changes that support the interpretation of when the changes occurred. . The geospatial data management infrastructure and computer platforms used by MARN will be used to set up the system for analyzing changes in coverage based on this methodology.

The interpretation at each point will consist of:

1) Estimating canopy coverage percentage
2) The allocation of the type of coverage following the same classification system used for the preparation of the coverage types maps for the years 2011 and 2016 in accordance with the levels of aggregation applied in the National Inventory of Forests
3) The identification of the "nodes" of the "vector of change", that is, the years in which a decrease or increase in coverage is identified. And the description of the probable cause of the change.

- Obtaining the area of historical change for each of the activities considered

Once the interpretation of the 1x1 km dot grid is finished, the data will be analyzed using the Integrated data management scheme adopted by the MARN, which consists of a "datawarehouse" and an automated data analysis system based on "business intelligence "that is installed within the platform of the Integrated National System of Monitoring REDD + MbA (See Component 4). The consultations and outputs will allow knowing the area of change of the following REDD + activities:

1) Deforestation: It will be calculated from the historical average of the annual area that went from the forest to the non-forest category (discriminating the forest according to the percentage of canopy coverage of the national definition adopted for REDD + MbA).

2) Increase in coverage: It will be calculated from the historical average of the annual area that went from the non-forest to forest category (discriminating the forest according to the percentage of canopy coverage of the national definition adopted for REDD + MbA).

3) Degradation (first approximation): It will be calculated from the historical average of the annual area where there is a decrease in the percentage of canopy cover that does not exceed the threshold of the forest definition.

4) Conservation of cover (first approximation): It will be calculated as the area of forest that remained unchanged during the entire period analyzed and that is not included in the category of degradation.

- Options that are being valued for the measurement of forest degradation

For the purposes of monitoring forest degradation, the following options are being considered, and a study is expected to assess them based on national capacities.

1) Develop a new methodology for the monitoring of degradation considering different variables and sources, such as forest structure, crown coverage, history of affectation by fires / pests, etc. This would involve working with different data sources including those from the national forest inventory and combined with satellite image data and even take advantage of the LiDAR data that the country has. The idea behind this would be to generate some model that can later be associated with some satellite image metrics.

2) The other option is to develop a methodology to obtain an estimate of the level of forest degradation based on the plots of the National Forest Inventory, analyzing the structure of the forest (density, basal area, strata, regeneration, damages, etc.) and about This basis defines the state of degradation in each plot. For monitoring purposes this would imply establishing a network of permanent plots (prioritizing existing plots) and establishing a periodic monitoring scheme. In this case, the data would be taken at plot level and cartographic data could be obtained at interpolation level (as one more variable in the national inventory). In this case the work would be more geostatistical analysis with the existing data and do some tests to propose the monitoring scheme and leave programmed in the computer system the calculation of the level of degradation of each plot.

3) Finally, the other option would be the most technically simple, which is to use the data generated from the samples that make the interpretation of the mesh of points to obtain the% coverage of the canopy. And associate the level of degradation to that parameter, in this case the degradation parameter to be measured would be limited to a single variable that would be canopy coverage, that is, the less% of the canopy having a site would be assumed to be more degraded. The work would be to generate maps of% coverage of the canopy from the interpretation of the mesh of points and categorize them into ranges of% coverage of the canopy that would be equivalent to ranges of degradation level. In this case the result is obtained directly from the interpretation of the point mesh.

3.4 CALCULATION OF EMISSIONS FACTORS

The emission factors for the country's forests have been calculated using the level or Tier 2 according to the IPCC Guidelines.

- Data sources

The data used correspond to those collected as part of the National Forest Inventory (NFI), executed between August 2017 and June 2018.

- Sampling Design

The sampling design is based on the stratification of forest types which was used for a balanced and not aligned distribution of lots by applying the Peano fractal methodology.

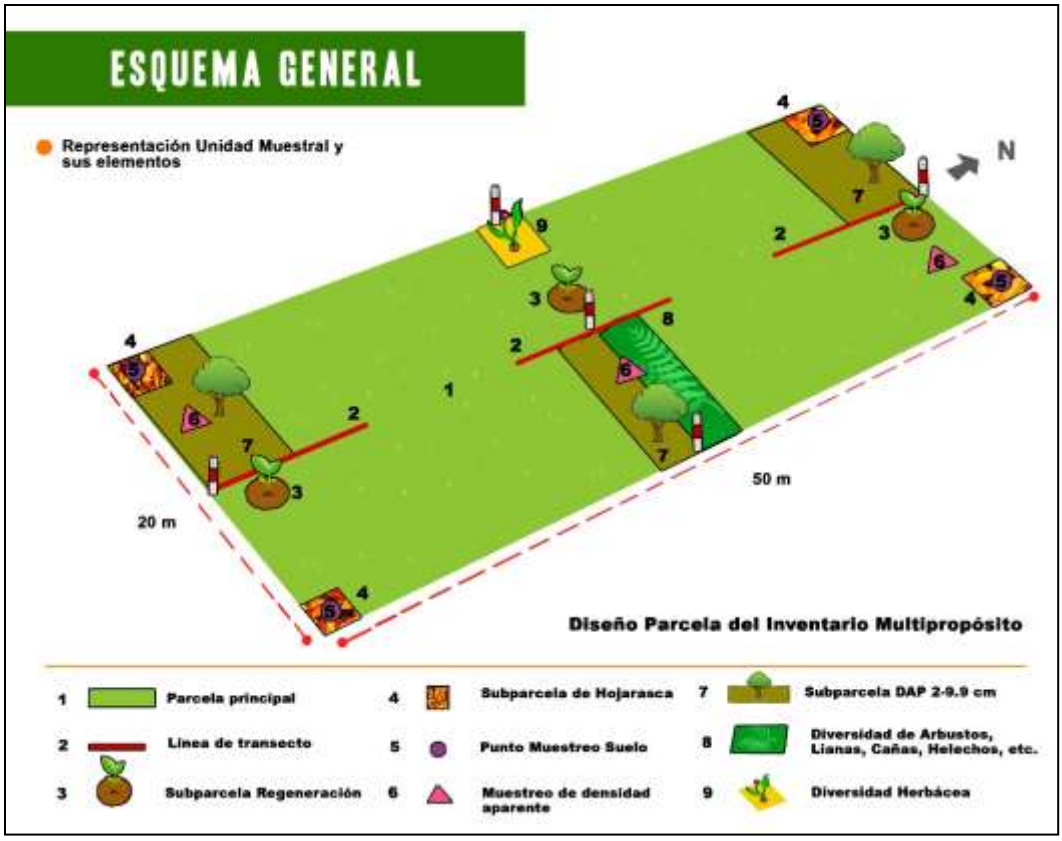
The methodology applied is justified by the country's high level of forest fragmentation which means that, if an aligned systematic method were applied, the small patches would have had a lower probability of being selected. In this same sense, the types of forests with lesser surface area could be under-represented (for example, the mangroves). For this reason, the NFI must be based on a forest map that defines the limits of each type of forest and also serves as a "mask" to eliminate all forest patches under the minimum surface area defined in the concept of forests (0.5 ha.). The coverage and land use map was developed based on RapidEye images with a spatial resolution of 5m for the year 2011, and these were used to define the 5 strata of forests sampled (mature perennial forest, secondary forest, mature deciduous forest, conifer forest and mangrove). The map was validated by obtaining an overall precision of 91% for the forest category (grouping of all forest types into a single category) and a Kappa coefficient of 0.89.

In each vegetation strata, the sampling was applied using the abovementioned methodology, based on the cross-section of the Peano curve fractal in segments of equal size, with such an intensity that, as a final result, the most unfavorable variable would be defined with a maximum sampling error no greater than 15% with a fiducial probability of 95 %.

In addition to the forest strata, the NFI also considered coffee farms, and this was the only non-forest stratus considered. For purposes of calculating the CO_2 stored in other non-forest strata, the sampling data from remote sensing, based on 1x1 km points at the national level, is expected to be combined with the biomass estimates obtained from the mapping with LiDAR, along with additional on-site sampling. Moreover, due to the high dynamic of vegetation cover primarily in non-forest zones, a new map of forest types and land use is being developed based on RapidEye images from 2016.

- Design of Sampling Plots

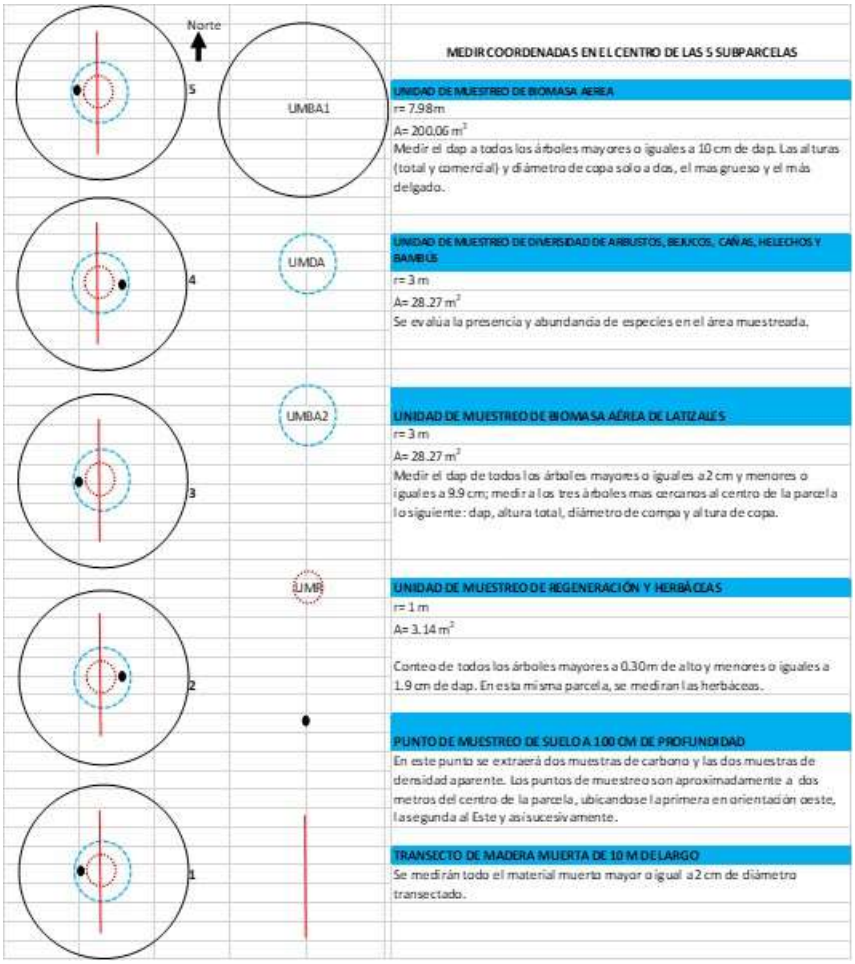
As this is a multi-purpose inventory, the data collection lot is designed for this purpose, and actually corresponds to a set of sub-lots: the main lot, called UMBA 1 (trees with DAP equal to or greater than 10 cm); the transect for data on dead wood biomass; the sub-lot of regeneration; the sub-log of leaf cover; the land sampling points; the apparent density sampling points; the sub-lots of trees with DAP less than 10 cm and greater or equal to 2 cm, called UMBA 2; sublot of different shrubs, lianas, canes, ferns, etc.; and finally the lot of different herbaceous species.



General outline of the National Forest Inventory lot

It is important to clarify that for the shaded coffee stratum, the design is similar to the general scheme of the INB plot, except that the length is 125 m and the sub-plot where the biodiversity located in the central part is recorded with dimensions of 2.5 mx 10 m quantify and measure coffee trees separately to biodiversity.

The plot design for the salty forest stratum is different, being composed of 5 circular plots and separated 20 m apart, as shown in the following diagram.



General scheme of the plot in the forest layer balance

- Calculation of CO2 deposits by forest type

Based on the on-site lots, the different variables to be considered were calculated with an error of less than 15% in all forest types sampled, including all CO_2 deposits defined by the IPCC (aerial biomass, underground biomass, leave cover, dead wood and organic carbon in the ground).

As a result of the NFI, we now know that the country has 624,376 ha. of forest (29.6 % of national territory) and 174,834 ha. of shaded coffee farms (8.3 % of national territory), which together total 799,209 ha. (37.9 % of national territory).

The vegetation stratus that covers the largest surface area is the Secondary Forest, with a total of 463,714 ha (21.99 % of national surface area), followed by shaded coffee farms with 174,834 ha. (8.29 % of national surface area), mature perennial forest with 62,988 ha. (2.99 % of national surface area),

mangrove/mangle with 39,796 ha. (1.89 % of national surface area), mature deciduous forest with 36,549 ha. (1.73 % of national surface area) and conifer forest with 21,318 ha (1.01 % of national surface area).

When considering the fusion of three strata (secondary forest, mature perennifolia and mature deciduous / semi-deciduous) in a new so-called broadleaved forest, it becomes the stratum with the largest area, being 563,262 ha (26.71% of the national surface).

The NFI was developed in two on-site phases (Phase I or pre-sampling and Phase II or sampling), with a total number of 319 lots. Upon completion of Phase I and analysis of the first results, it was technically determined that the differences in the dasymetric variables between the secondary forest strata, perennial forest strata and deciduous/semi-deciduous forest strata were not statistically significant. This fact, along with the identification of inconsistencies in the cartographic delimitation of those strata, led to the grouping of these three strata in a new one: the broadleaf forest stratus.

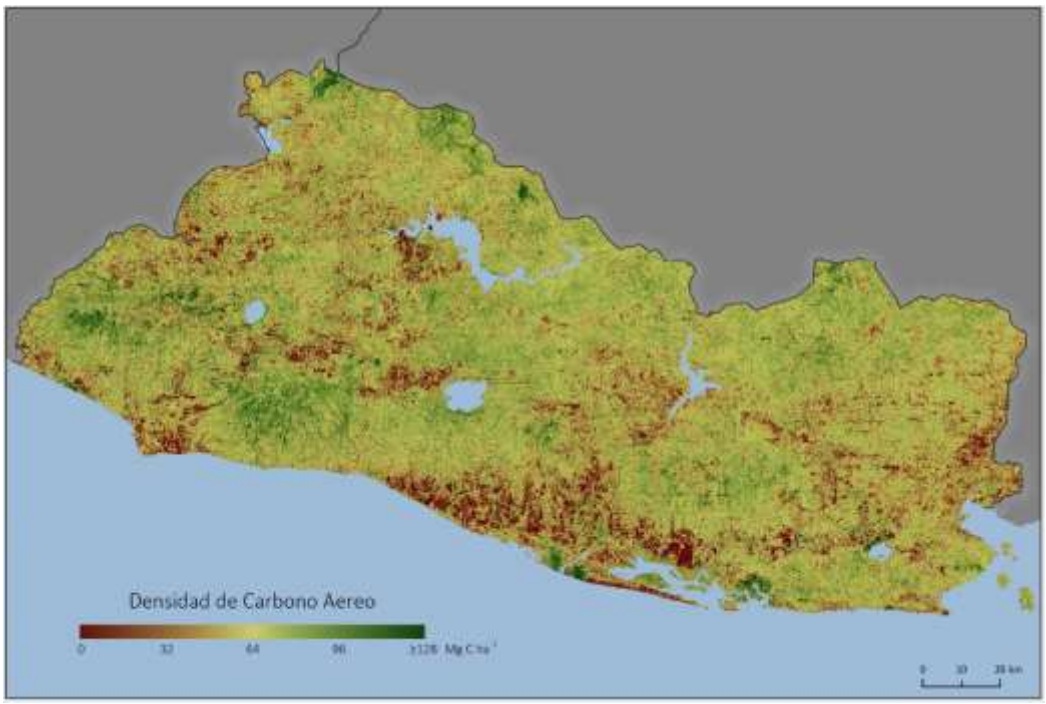
The total CO2 stock estimated by the NFI for forests in El Salvador reaches a total of 567,278,343 T, and this estimate is associated with a sampling error of 6.70 %, therefore stock ranges between 529,244,420 T and 605,312,269 T. For the different strata, the total CO2 stock for broadleaf forest is 374,507,167 T (66.02 % of total calculation), followed by the shaded coffee farm stratus, with 121,308,953 T (21.38 % of total calculation), the mangrove stratus with 60,958,299 (10.75 % of total calculation), the conifer forest stratus (1.85 % of total calculation) with 10,503,924 T.

When analyzing the CO2 stock for all strata but by component, that which contributes the greatest stock is the soil (407,086,302 T, 71.76 %), followed by the trees (114,915,001 T, 20.26 %), the roots component (25,563,913 T, 4.51 %), the dead wood component (12,770,438 T, 2.25 %), the leaf cover component (6,375,915 T, 1.12 %) and finally the herb component (566,774 T, 0.10 %).

Improvement of biomass estimates at the subnational level with LiDAR data

In order to improve the estimates of carbon stored in the aerial biomass at the subnational level, based on the data from trees measured in the NFI, a spatially explicit map was developed at the national level (including all landscape trees). The generation of the map was based on the optimal integration of forest inventory data and 2014 aerial data from LiDAR that cover the entire national territory. The methodology applied consisted of a multiple linear regression derived from the use of the best subsets method, with a value of R^2-adj of 0.71 and a RMSE of 42.7 Mg C ha-1.

As a result, the country has an estimate of aerial biomass in pixels with a resolution of 90m.



Map of aerial biomass of El Salvador, taken from the forest inventory of MARN and aerial LiDAR data

- Institutional arrangements

For the elaboration of the national forest inventory, the corresponding institutional arrangements were made, eventually forming an inter-institutional technical team to monitor the INB, consisting of one or more links in the following institutions:

a) Ministry of Agriculture and Livestock (MAG).
b) Faculty of Agronomic Sciences of the University of El Salvador (UES).
c) Salvadoran Coffee Council (CSC).
d) Museum of Natural History of El Salvador (MUHNES).
e) Ministry of the Environment and Natural Resources (MARN).

This technical inter-institutional team has aimed to evaluate and give technical recommendations for the proper development of activities and products. On the other hand, specialized technical assistance was provided to verify the execution and quality of the products expected from the project, as well as to address certain technical issues that have been appearing during the work, with the support of experts from USFS / SilvaCarbon and GIZ.

3.5 Calculation of activity emissions factors

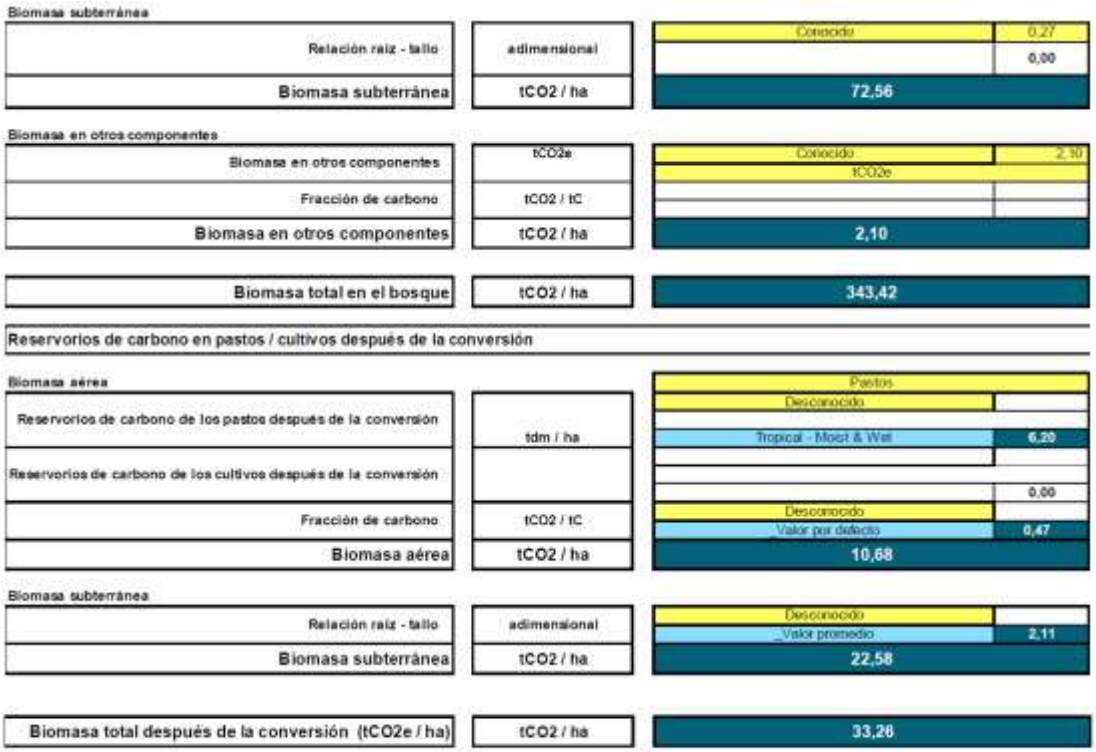
The calculation of emissions factors from avoided deforestation activities shall be calculated from the national forest inventory data. In the case of degradation, three are no specific studies, but the parameters related to fires and plague damage is expected to be estimated. In the case of other activities, the estimates used in the pilot zone of Imposible, Barra de Santiago, will be used as a starting point, where emissions factors cards were prepared for each of the activities and vegetation types. The following figures provides a sample emissions factor card for the mangle vegetation type.

	Unidades	1
Nombre del estrato	-	Manglares
Tipo de bosque (Plantación - Bosque natural)	-	Bosque
Área del estrato	ha	2.182

Reservorios de carbono antes de la conversión

Biomasa aérea

El bosque crece?	-	Si	
Biomasa aérea Inicial	tdm / ha	Desconocido	
		_Valor promedio	155,96
			0,00
Incremento Medio Anual (IMA)	tdm / ha / año	Desconocido	
		_Valor promedio	3,76
Biomasa aérea máxima	tCO2e / ha	Desconocido	
	tdm / ha	Tropical rain forest_North and South America	300,00
Fracción de carbono	tC / tdm	Desconocido	
		Tropical and SubMtropical_All	0,47
Densidad básica	tdm / m3		
			0,70
Factor de expansión de biomasa	adimensional		
			0,00
Biomasa aérea Inicial	tCO2 / ha	268,76	
Incremento Medio Anual (IMA)	tCO2 / ha / year	6,48	
Biomasa aérea máxima	tCO2 / ha	517,00	



3.6 National circumstances

A detailed diagnostic of the national circumstances and their ties to climate change in the country was developed within the framework of the 3rd National Climate Change Communication in May 2017, with the objective of answering three essential questions:

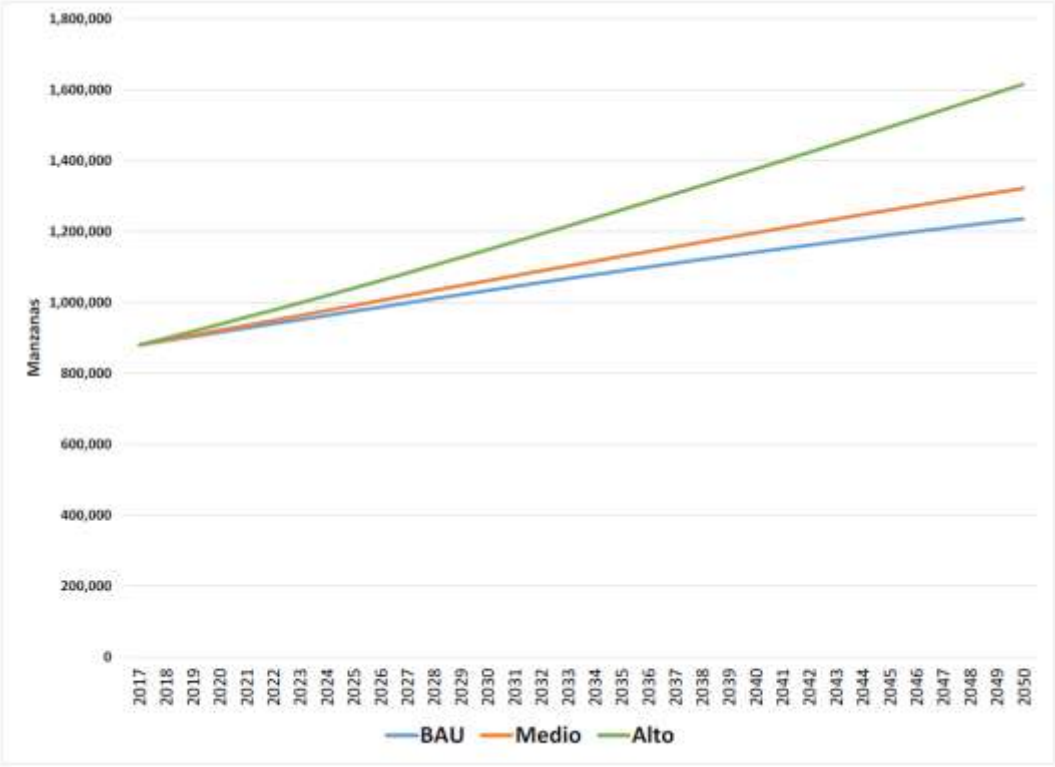
- What country development model frames the mitigation, vulnerability and adaptation studies of the 3CN-CC?;
- How do the socioeconomic conditions and its development model contribute to the generation of GHG emissions and greater vulnerability?; and
- How do the socioeconomic system and development framework enable or hinder the implementation of mitigation and adaptation measures to address the causes and effects of climate change in El Salvador?

As part of this study, simulations were performed which help explore the main anthropic pressures on the environment derived from the history of key variables that configure different potential socioeconomic scenarios in the long-term, considering two main variables: the rate of demographic growth and the rate of economic growth. These considerations shall be analyzed and considered in the development of the National Reference Level (FREL/FRL).

The rate of demographic growth is key because, given a certain rate of economic growth, populational growth determines a series of socioeconomic dynamics that generate anthropic pressures of a certain magnitude. Greater populational growth also brings with it a greater demand for food. If there are no changes to the structure of food supply (for example, domestic production vis-a-vis imports) or technological changes, the greater food demand will imply an expansion of land surface used for agricultural activities and, therefore, changes in land use, greater deforestation, chemical contamination of the land, etc.

However, in the country, given the relative decline registered in agriculture during the past few decades, the pressure applied on land for agricultural use has been relatively moderate. Between 1999 and 2015, the surface dedicated to maize, sorghum, bean, rice and sugarcane crops has increased by less than 55 thousand blocks, that is, a modest 6.8% increase for the entire period.

Nevertheless, even this moderate rate of expansion in agriculture could generate significant pressure upon land for agricultural use in the long term, given the country's limited amount of land space. Under the base scenario calculated in the study, the demand for agricultural lands could increase to 1.2 million blocks for the year 2050; in the medium growth scenario to 1.3 million blocks; and in the high growth scenario to 1.6 million blocks.



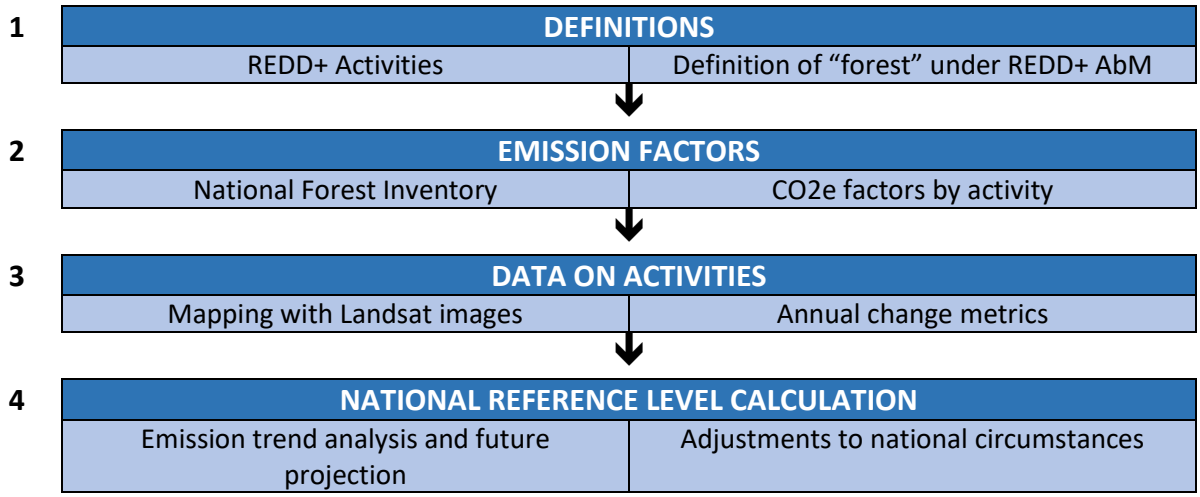
Agricultural land demand projections, 2017 – 2050.

In addition to its direct impact on deforestation in the country, the eventual expansion of agriculture, as in the scenarios described, would also have negative effects in terms of erosion and loss of fertile land, soil and water contamination, loss of biodiversity and alternations, if the non-sustainable land use practices that predominate convention agriculture are maintained, as these are characterized by over-exploitation, the tillage of land not suitable for crops, the burning of crop residue, the excessive use of agrochemical (pesticides, herbicides and chemical fertilizers) and over pasturing, among others.

The specific case of sugarcane illustrates the environmental risks posed by agricultural expansion based on conventional production logic. After calculating approximately 104 thousand blocks for the 1998-99 agricultural year, the sugarcane crop dropped to a minimum of 77,655 blocks in 2005-2006. Since then, the planted surface has increased without interruption up to nearly 114 thousand block in the 2014-2015 agricultural year. One particularly concerning aspect in the expansion of sugarcane is the fact that it is often carried out at the cost of the destruction of the country's mangrove forest. In fact, a fifth of the sugarcane crops are found in the mangrove buffer zones.

3.7 Roadmap to finalize the National Reference Level

In summary, the steps to follow for the finalization of the national reference level are presented in the following diagram, accompanied by a descriptive table of existing dates and restrictions.



Activity	Current State/ End Date	Restrictions
1. Definitions	Finalized	
- Definition of activities associated with REDD+ to be considered	Finalized	
- Definition of Forests	Finalized	
2. Emission Factors		
Survey of the National Forest Inventory	Finalized	
Calculations associated with emisions created by deforestation activities and conservation of stocks.	Finalized	
Calculation of emission factors associated with the increase in stock (restoration methods)	Due / 2019	It is necessary to hire an international consultant to complete the emission factors associated with the different types of restoration.
Calculation of emission factors associated with the degradation and management of stocks.	Due (cannot be considered 1st Level of References sent to CMNUCC).	It is necessary to carry out a study to define degradation It requires the hiring of an international consultant, to

Activity	Current State/ End Date	Restrictions
		elaborate the methodology and development of the baseline.
3. Information on the Activities		
- Preliminary mapping with Landsat images 2005- 2010.	Finalized	
- Calculations on historical changes based on points (change in anual metrics)	Due / 2019	- A National consultant is required to accompany the process. - Strengthening of national capacities is required and the preparation of a protocol that allows the methodology to be replicated in subsequent monitoring events.
4. Calculations of the Level of References		
- Analysis of tendencies and future projections in each activity, considering national circumstances.	Due / 2019	- It is necessary to hire an international consultant to build the reference level using the different inputs generated.
5. Sending References towards the CMNUCC	Due / 2019	

4. Component 4: Forest Monitoring and Safeguards Information System

4.1. Subcomponent: 4a. National Forest Monitoring System

The National Forest Monitoring System (SNMF) is being designed and shall use as its methodological inputs previously-done work, such as: the concept of forest, the National Forest Inventory (INB), maps of forests done with RapidEye images from 2011 and 2016, maps of land use with Landsat satellite images, and shall also reflect the sampling data generated via remote detection with high-resolution images. Moreover, other technology options shall be evaluated to detect annual coverage changes using cloud

processing procedures and data drawn from new sensors, like Sentinel. This means setting up protocols to standardize the data and make it comparable with the reference level information.

As part of the design, the roles of the stakeholders pursuant to the existing legal framework, as well as the capacities that still need work, are being considered.

As part of the institutional arrangements for the SNMF, agreements and letters of understanding and agreement have been reached with the Ministry of Agriculture, the University of El Salvador, the Salvadoran Coffee Council, and the Museum of Natural History (MUNHES), which shall manage the El Salvador Vegetation Museum (MHES). These groups also sit on the National Committee, which was assembled to help the SNMF, formally constituted in 2016. These and other related stakeholders have been engaged in the process to define the concept of forest and in the National Forest Inventory, and have received training on the following topics pertaining to forest monitoring:

- "Designing Monitoring Systems and Reporting on Ecosystem Services with an Emphasis on Climate Mitigation Actions, Land-Use Sector" course
- "Monitoring Co-Benefits Systems/Synergies Generated by REDD+ AbM" course
- "Geographic Information Systems and Geospatial Technologies to Estimate Activity Data as Part of National REDD+ Strategies" course
- "Principles and Introduction to LiDAR Data Analysis" course/workshop
- "Calculating and Interpreting National Forest Inventory Results" course/workshop

The plan is to continue doing training and capacity-building, as well as develop the protocols needed for the SNMF to run smoothly, including gathering data from the network of local observers (ROLAs). The future training needs are as follows:

- Remote sensors and monitoring system platform
- Applying emission factors to REDD+ activities defined for the country and calculating reference levels and MRV at the subnational and national levels.
- Verifying and/or validating reported changes.
- Gathering data from the local observers described in the SNMF.

SNMF Design Framework

The methodology proposed for the MRV, which shall be implemented as part of the SNMF, is grounded in the following:

1) Maps of forest types that reflect the definition of forest being used with high-resolution images (commercial images) (updated at least every five years)

2) National Forest Inventory (INB), stratified pursuant to the national map of forest types (Updated every five years or more)

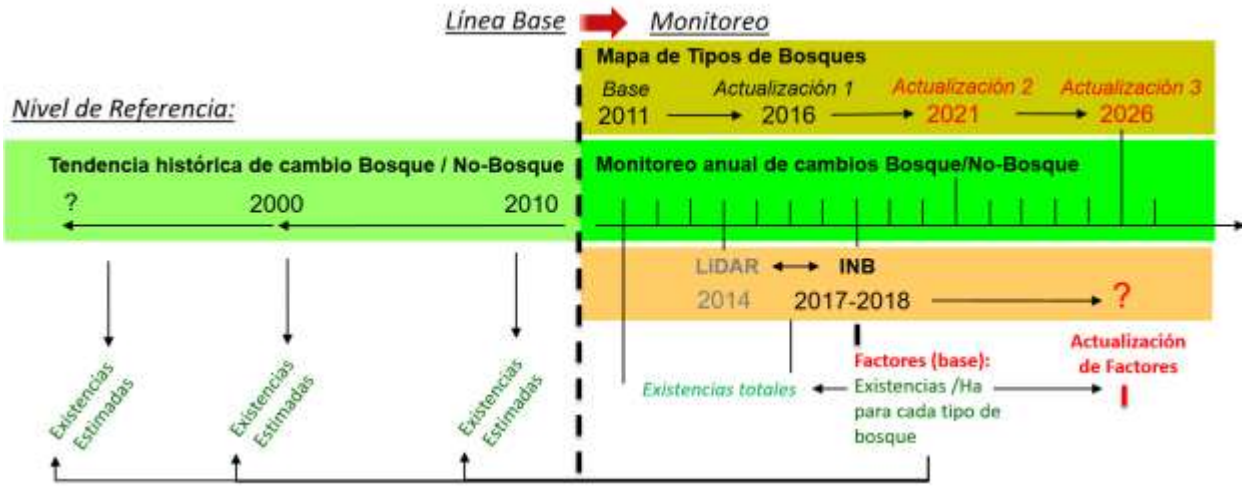
3) Sampling of annual forest cover changes, using the sampling methodology with high-resolution (free) images

4) Maps of coverage losses and gains based on free medium-resolution satellite images (Landsat/Sentinel)

5) Evaluation of the trees outside of forest component (scattered trees and agro-forestry systems)

6) CO2 emissions/absorption reporting system (combining the information from the national forest type map with the wall-to-wall map of coverage changes, the evaluation of trees outside of forests, and the emission factor by type of forest obtained from the national forest inventory, and other factors associated with different REDD+ activities).

The following layout shows the monitoring approach associated with the historical reference data.



SNMF proposal from the CO_2 emission monitoring standpoint

1) **Map of forest types that reflects the definitions of forest types adopted based on high-resolution (commercial) images (with an update period of at least every five years)**

Justification: The highly fragmented and diverse nature of forest types in El Salvador, not to mention the minimum mapping surface area (0.5 ha) the country has chosen requires high-resolution images that are not available for free. The country already has experience with mapping using these sorts of images, as the 2011 and 2016 maps were already developed for the national level. At the subnational level, the maps have already been done for the years 2009, 2012, and 2015 for the Imposible-Barra de Santiago pilot. Thee maps are used as a baseline for the forest types, such that when the annual monitoring system finds any coverage changes, the results shall be combined with the high-resolution base map to understand in what type of forest these changes happened and be able to associate the change with its corresponding emissions factor. This methodology makes it possible to verify changes that happen with the change data obtained from other data sources (e.g., Global Forest Watch).

2) **National Forest Inventory, stratified pursuant to the national forest type map (update period, every five years or more)**

Justification: Considering the highly-fragmented nature of the forests, the targeted distribution of several types of forests, such as the case of the mangroves of the south and the conifer forests of the north, using a systematic sampling grid as has traditionally been done in other inventories would affect the likelihood that small patches would be selected as sampling sites. For that reason, a methodology was used to ensure that any site throughout the territory that meets the parameters to be considered a forest could be chosen. The methodology meant that for the design, it was necessary to have a map of forest types pursuant to the official definition, and do pre-sampling in order to understand how the volume, biomass, and carbon in each type of forest varied, as well as to calculate a sample size (number of plots) for each type of forest to reach a minimum defined error (15%), and subdivide each type of forest into a number of plots of the same surface area, equal in number to the amount of plots chosen, and assign within each polygon a random plot to make sure the likelihood of one plot being chosen was equal across all of the cases. After that, each sampling parcel measured the carbon reservoirs in: 1) aerial biomass, 2) ground biomass, 3) dead organic material (dead wood and leaf litter), and 4) organic carbon in the soil. Finally, the information is processes to obtained the emission factors of each reservoir by forest type with a sampling error by forest type of 15% and nationally lower than that.

3) **Sampling annual forest cover changes using the sampling methodology with high-resolution (free) satellite images**

Justification: The process to detect coverage changes with satellite images requires taking samples of the deforested (non-forest) and non-deforested (forest) zones. These samples can be obtained in the field or from higher-resolution satellite images than the images to classify. Bear in mind that there are free platforms offering visualization of very high-resolution satellite images, like Google Earth, where the idea is to have a systematic grid of points that are 1x1 km for the entire country, with each point interpreted annually in the category of forest and non-forest, to determine whether changes have happened on each point. This is the way to calculate the annual deforestation statistics both annually or by region. Combining the surfaces of change calculated with the base forest type map (to make sure that the changes detected match zones considered forest by the definition) and the emission factors from the National Forest Inventory, it is possible to estimate the annual gross CO2 emissions as a result of forest loss. But this information based on sampling points does not make it possible to get wall-to-wall information of the entire country only at the sample sites, even though it is useful to understand trends and can be used in national reports.

4) **Map of coverage losses and gains from free medium-resolution satellite images (Landsat/Sentinel)**

Justification: The grid of 1-2 km sampling sites shall be used to train algorithms to map out every two years the coverage losses and gains based on the classification of medium-resolution satellite images distributed free. Different options are being looked at for the processing platform, some of which are desktop software and others of which are cloud satellite images. The methodology to detect the changes have two options:

map comparisons in the categories of forest and non-forest and detecting change directly. The choice will depend on the level of precision obtained from the data evaluated with the two methodologies, verifying it by contrasting the results with the points grid and field verifications. Once the method is chosen, the reference level shall be adjusted to be compatible with the change detection method picked.

5) **Evaluating the trees outside of forest component (scattered trees and agro-forest systems)**

Justification: The mapped surface of non-forest on the national forest types map made with high-resolution image shall also be interpreted to classify forest categories. This information shall be used in conjunction with the sampling points from the 1x1 km grid to evaluate the increase or decrease of trees outside of forests. The information shall not be wall-to-wall and will only enable a calculation of the national level and the level by regions. The trees outside of forest emission factors shall be calculated using secondary sources, obtained from the Imposible-Barra de Santiago pilot project, and the biomass/carbon map generated with the LiDAR data, with the exception of the coffee plantations, as they were considered as a stratum within the National Forest Inventory.

6) **CO2 emission/absorption reporting system (combining the information from the national forest types map, the wall-to-wall mapping of coverage changes, the assessment of the trees outside of forests, and the emission factors by type of forest obtained from the national forest inventory, and other factors associated with the different REDD+ activities).**

Justification: The plan is to have a report every two years of the emissions/absorptions emanating from the land-use sector. To do so, the data calculated for both the forests and the trees outside of forests shall be combined. A computer system platform called the National Integrated Monitoring System for REDD+ AbM has been developed in order to manage the data coming from different sources and calculate the indicators required to monitor the impact of REDD+ implementation, not only in terms of emissions/absorption, but also at the co-benefits level. The system is connected to different data reporting platforms from which the data shall be obtained directly to calculate the indicators and show them on a dashboard, using the KPI (Key Performance Indicator) model. The web portal of the integrated monitoring system was designed considering the components of the MRV and the co-benefits monitoring system.

The figures below show the MRV module screens in the National Integrated Monitoring System for REDD+ AbM.

Heading and main menu:

Drop-down menu to access the database section:

Drop-down menu to access the Monitoring section:

Drop-down menu to access the Reporting section:

Drop-down menu to access the Verification section:

As part of this process, the roles of the key actors involved in the SNMF were preliminarily defined:

MARN

- ✓ Coordinate and lead the monitoring process.
- ✓ Responsible for developing and updating the national land coverage map.
- ✓ Responsible for coordinating the development of the National Greenhouse Gas Inventory.
- ✓ Responsible for drafting and submitting reports to the UNFCCC.

MAG, via the Forest, Basin, and Irrigation Organization Office.

- ✓ Help implement the INB, incorporating the emissions monitoring guidelines defined in the protocols agreed on with the MARN.
- ✓ Validate the national land coverage map.
- ✓ Provide assistance in the field on different activities related to forest monitoring.

University of El Salvador (UES)

- ✓ Help develop and update methodological protocols for emission monitoring. Provide assistance with quality control and oversight.
- ✓ Support the analysis of carbon in the soil and leaf litter.

Museum of Natural History (MUHNES)

- ✓ Support on identifying species.
- ✓ Support on sample storage.

National University of El Salvador UES

- ✓ Processing samples to obtain information, primarily on soil density, carbon content of soil and leaf litter.

Component 4a roadmap

A summary and roadmap of activities related to MRV is presented in the following table.

Activity	Current state / date to finalize the updates	Restrictions
Maps of Forest Types	Completed for the years 2011 - 2016. Next update: 2021	It is necessary to continue developing the internal capacities for the elaboration of maps of forest types and to make the transition from RapidEye images to the use of Sentinel images.
National Inventory of Forests	Completed for 2017-2018. A future update is expected for 2026, which would coincide with the 4th mapping of forest types.	Financial support is required for future monitoring events.
Annual area of change of forest cover estimates	Annual interpretation of the mesh of points from 2019.	It is necessary to improve the national capacities to replicate the methodology in the different monitoring events. And it depends on the policies of free access to the images and platforms that will be used to be maintained in the future.
Forest loss and profit maps.	Every 2 years from 2019	It is necessary to strengthen internal capacities and generate experience to use the results of the mesh of points to generate maps of Wall-to-Wall change.

Activity	Current state / date to finalize the updates	Restrictions
Evaluation of trees outside forests (scattered trees and agroforestry systems)	It is considered to be carried out annually starting in 2019, combining the "non-forest" areas (from the map of forest types), with the data from the point mesh.	National consultancy and strengthening of national capacities are required to incorporate the component of trees outside of the forest within the monitoring system.
CO2 emissions / reporting system	It is contemplated to be carried out every 2 years from 2019 (using the inputs that are available from the previous activities, and filling the gaps with secondary strengths while the complete data set is available)	Clarification of inter-institutional roles related to the report is required.

Activity	Current state / date to finalize the updates	Restrictions
Maps of Forest Types	Completed for the years 2011 - 2016. Next update: 2021	It is necessary to continue developing the internal capacities for the elaboration of maps of forest types and to make the transition from RapidEye images to the use of Sentinel images.
National Inventory of Forests	Completed for 2017-2018. A future update is expected for 2026, which would coincide with the 4th mapping of forest types.	Financial support is required for future monitoring events.
Annual area of change of forest cover estimates	Annual interpretation of the mesh of points from 2019.	It is necessary to improve the national capacities to replicate the methodology in the different monitoring events. And it depends on the policies

Activity	Current state / date to finalize the updates	Restrictions
		of free access to the images and platforms that will be used to be maintained in the future.
Forest loss and profit maps.	Every 2 years from 2019	It is necessary to strengthen internal capacities and generate experience to use the results of the mesh of points to generate maps of Wall-to-Wall change.
Evaluation of trees outside forests (scattered trees and agroforestry systems)	It is considered to be carried out annually starting in 2019, combining the "non-forest" areas (from the map of forest types), with the data from the point mesh.	National consultancy and strengthening of national capacities are required to incorporate the component of trees outside of the forest within the monitoring system.
CO2 emissions / reporting system	It is contemplated to be carried out every 2 years from 2019 (using the inputs that are available from the previous activities, and filling the gaps with secondary strengths while the complete data set is available)	Clarification of inter-institutional roles related to the report is required.

Subcomponent: 4b. Information system for multiple benefits, other impacts, management, and safeguards

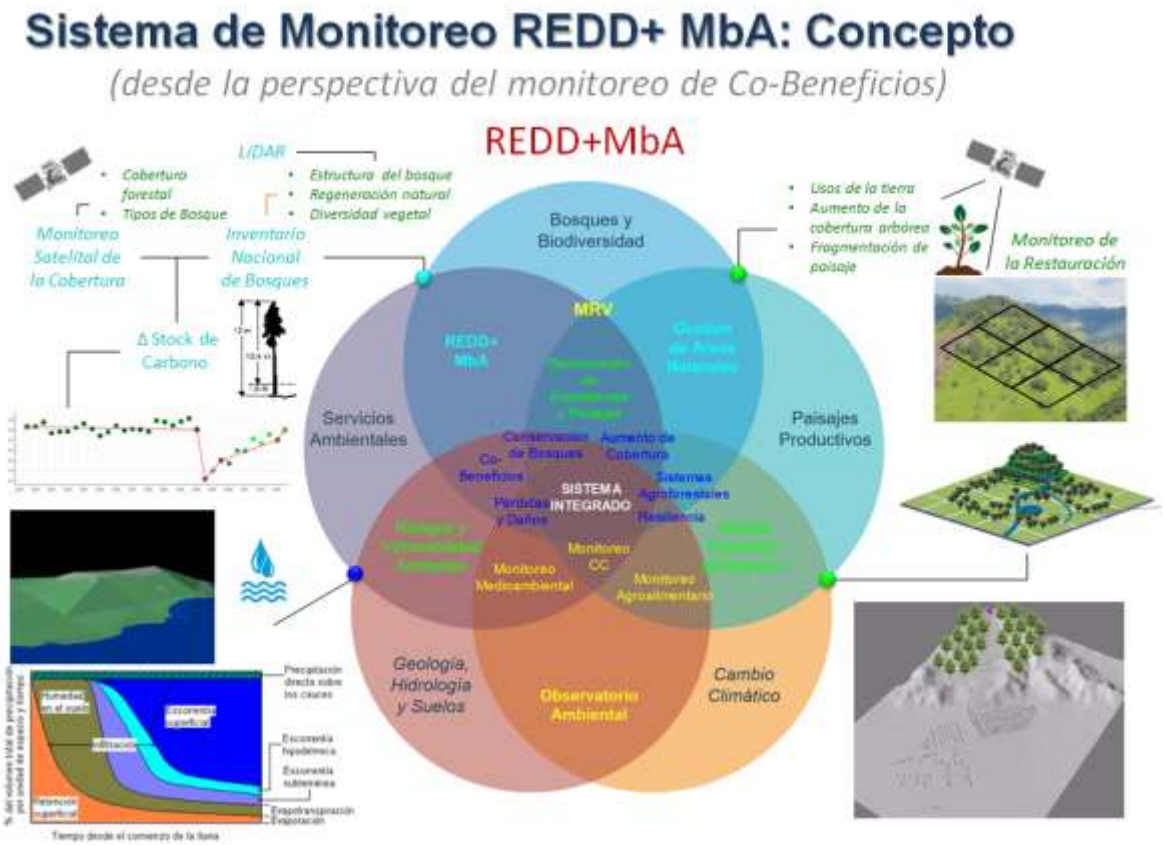
El Salvador is betting on having a comprehensive monitoring system for the vegetation resources of the country and their multiple benefits, as part of an environmental monitoring system that will make it possible to combine data from different sources, reflecting a series of environmental indicators that have been officially defined to evaluate the status of the environment and natural resources in El Salvador.

For that reason, together with key stakeholders, a proposal of a list of co-benefits indicators has been developed with their respective monitoring worksheets.

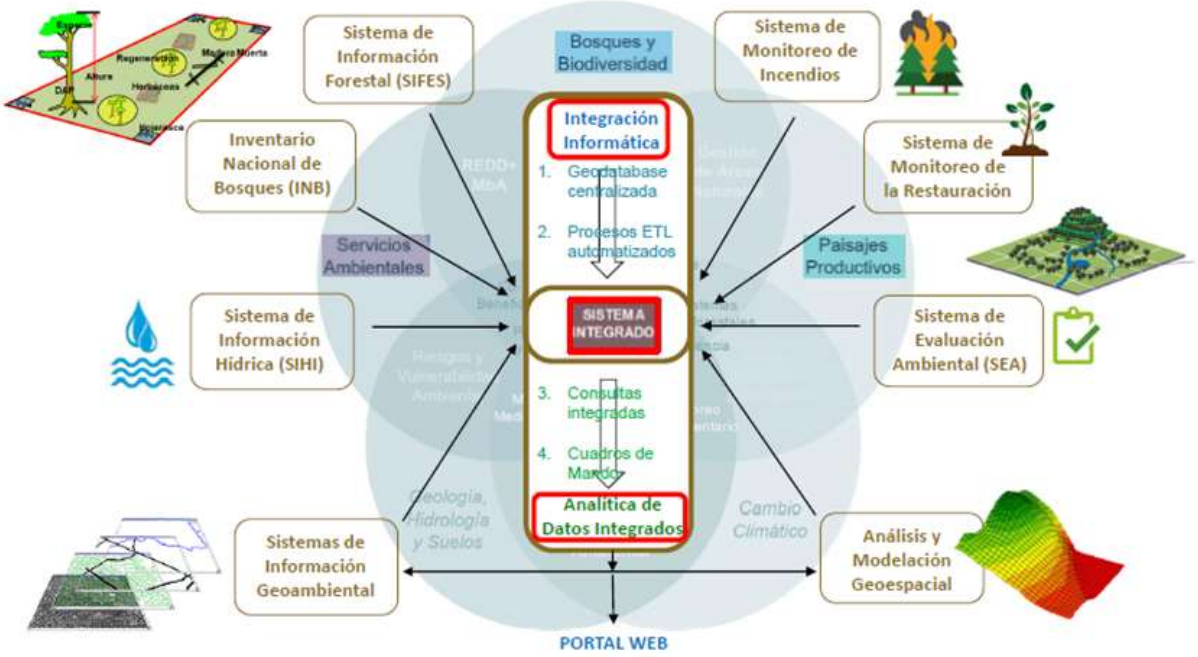
Both the indicators related to emissions and those related to the multiple benefits have been included in the integrated information management system, which contains an informative platform to connect the databases from the different computer systems that provide the information sources to calculate the indicators defined. The system shall extract relevant information and integrate it into a single data

warehouse. That is to say, a standardized database based on which the different indicators shall be tabulated to subsequently be made available at different levels of users, including a web platform with access for the general public through which they can be viewed transparently, with the current and historical status of each indicator.

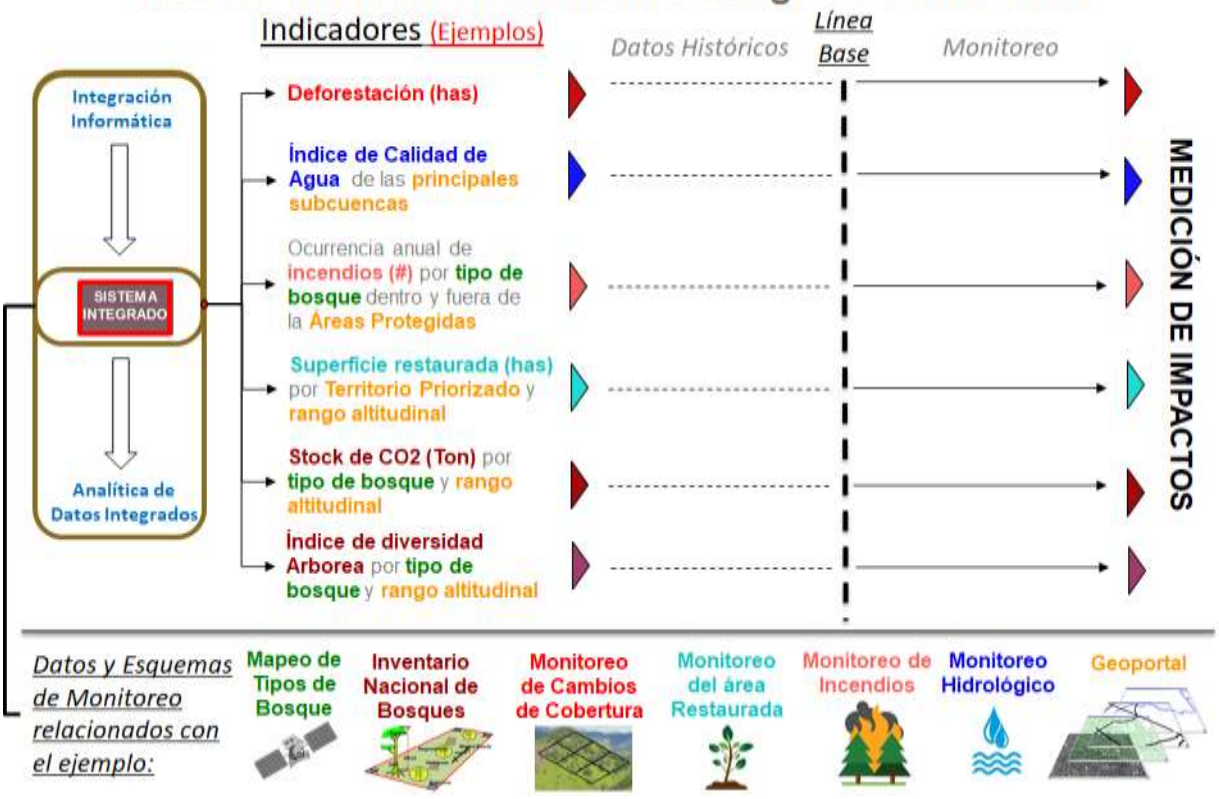
The following layouts show the conceptual and design approach to the National Integrated Monitoring System REDD+ AbM.



Plataforma de Gestión Integrada de Datos



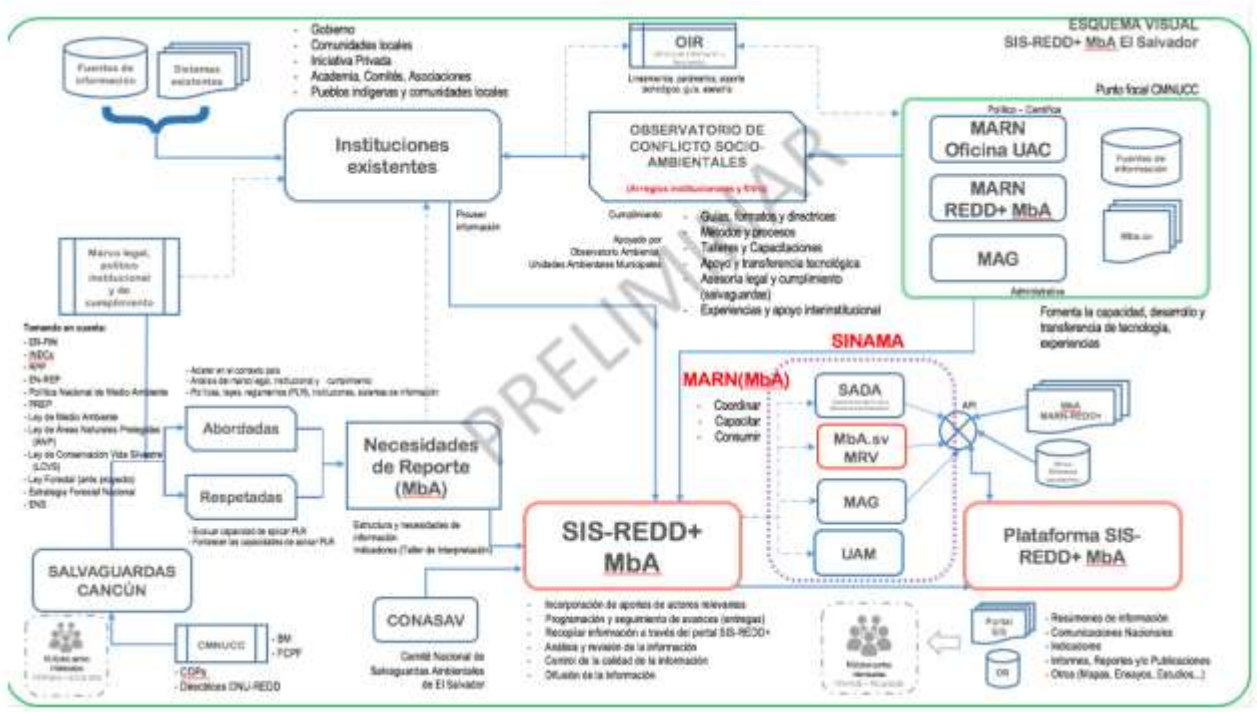
Sistema Nacional de Monitoreo Integrado REDD+MbA



For the Safeguards Information System, a prototype of a web portal was developed, containing information related to the National Safeguards Approach (ENS), which was conceived of as a repository to present the information in an integrated way and issue reports periodically about how the REDD+ safeguards are being tackled and respected in the implementation of the REDD+ AbM Strategy Preparation.

The National Safeguards Committee of El Salvador has recognized that having this information system does not necessarily guarantee that the safeguards are being respected, which is why it is necessary to assemble a system or support structure, considering the existing governance system in the country, particularly, the legal, institutional, and compliance frameworks, which, once combined and linked up, will serve as the basis for putting into practice the safeguards.

Currently, the country already has an interpretation of the different frameworks needed to build the national safeguards system, and has also conducted a study tracing out the main recommendations to strengthen the reporting system for the Ministry of Environment and Natural Resources, integrating it with the rest of the information management systems at the national level, connecting them with respect for the safeguards of the United Nations Framework Convention on Climate Change (UNFCCC) both locally inside the territory and internationally.



Conceptual design of the SI-Safeguards

Summary of findings and recommendations of the studies carried out in Component 4b

Administration of the National System of Integrated Monitoring REDD + MbA and Reporting Unit of the SIS

It is recommended that the general administration of the Integrated REDD + MbA National Monitoring System be carried out through the Information and Communications Technology Management and the Geo-environmental Information Systems Management.

Operating niches of the SIS

For international compliance with the UNFCCC, the Cancun Safeguards and national compliance with the legal and institutional framework of El Salvador, it is necessary to identify which Institutions manage the existing Information Systems - IF, where the Information System could be housed of Safeguards - SIS. This with the objective of finding the physical niche, where it is ensured that the information will be stored and the mechanism of consultation and complaints will work permanently.

The Ministry of Environment and Natural Resources (MARN), is the focal point before the UNFCCC and is in charge of coordinating, promoting and supporting actions related to risk management in the face of climate change. In response to the UNFCCC guidance on "relying on existing systems", El Salvador is making efforts to design and operate its SIS using existing systems and information sources.

Within the communication strategy of the National Strategy for the Restoration of Ecosystems and Landscapes with an MBA approach, the web platform was established. This platform is a necessary communication mechanism to share information, submit reports, citizen complaints, forest library, maps and indicators, among others. This platform will be part of the Integrated REDD + MbA National Integrated Monitoring System.

In this sense, the operational niche where the SIS-REDD + Mba will operate would be in charge of the Information Technology and Technology Management and its areas of Information Technology Areas and Infrastructure and Technology Areas.

Operating niches SIS Reporting Unit

Due to the complexity and dispersion of data processed by MARN dependencies and institutions in El Salvador that would form part of the REDD + MbA National Integrated Monitoring System, such as information on compliance with safeguards, MRV, which includes the integration of spatial data , of field and social inventories, as well as the quality control thereof; they are challenges for the generation of reports, so it is necessary to consolidate inter-institutional efforts for the capture, consolidation, processing, summary and presentation of information generated by the SIS Reporting Unit of REDD + MbA before any requirement.

In this sense, due to the importance and complexity of the MbA Information Summaries that El Salvador must deliver to the CMUNCC, the SIS-REDD + MbA Reporting Unit should have the following functions:

- Support the Climate Change Unit, which is responsible for managing the National Communications Project (1CNCC, 2CNCC, 3CNCC), Information Summaries (not yet submitted), Biennial Update Reports (BUR).

- Integrate representatives of all the institutions that must report to the SIS-REDD + MbA.

- Attend to the institutions and support them in what, when and how they should present the information through the SIS-REDD + MbA.

- Carry out workshops and training sessions on REDD + Safeguards, information exchange protocols, on how to use the SIS-REDD + MbA Portal to provide or consume data.

The Information and Communication Technology Management (GTIC), would be the technological arm for MARN / MAG and other institutions that help provide information on Safeguards, National Safeguard Approach and SESA.

Annexes.

4.2. Annex 1. Policies and Instruments to Support the REDD+ AbM Strategy

Instrument Name	Objective	Competent Authority	Components / Strategic Pillars
National Forest Policy	Manage and recoup forest cover and foster the restoration of ecosystems and landscapes to make the country less vulnerable to natural phenomena resulting from climate change, by encouraging public and private investment in the sustainable production of forest goods and services, to contribute to improving quality of life for the Salvadoran society, by creating direct jobs and industry and generating revenue.	MAG	1. Forest organization 2. Develop sustainable forest management 3. Forest ecosystem restoration 4. Reduce the vulnerability of forest ecosystems and agriculture and livestock systems. 5. Recognize the importance of and value forest ecosystems. 6. Strengthen the organizational, technical, and management capacity of the forest sector. 7. Foster participation for institutions, municipalities, and communities in forest protection and control activities. 8. Implement holistic, efficient, equitable, and inclusive forest management.
National Environmental Policy	Reverse environmental degradation and reduce vulnerability to climate change.	MARN	1. Restoration of ecosystems and degraded landscapes 2. Holistic environmental clean-up 3. Integrated water resource management 4. Add the environmental dimension to territorial organization 5. Environmental accountability and compliance 6. Climate change adaptation and risk reduction
Forest Strategy	Combine the initiatives, resources, and needs of all of the stakeholders involved in the forest sector into a single long-term national management instrument, in an endeavor to position and convert the sector into a key factor for sustainable development in economic, social, and environmental aspects in the country.	MAG	1. Forest lands organization 2. Develop sustainable forest management 3. Restore ecosystems and increase forest cover 4. Protection and reduction of forest vulnerability 5. Value forest products and ecosystem services 6. Build capacities for stakeholders in the sector 7. Improve forest management 8. Forest research
National Water Basin Management Strategy	Promote an environment with broad participation from stakeholders so that holistic water basin management is sustainable, adaptable, and contributes to food security.	MAG	1. Foster coordination and cooperation between institutions and sectors for sustainable and adaptable management of water basins. 2. Sustainable and climate change-resilient agriculture. 3. Agro-climate risk management 4. Capacity building for stakeholders
National Environmental Strategy			

Instrument Name	Objective	Competent Authority	Components / Strategic Pillars
National Climate Change Strategy	Reverse environmental degradation and reduce vulnerability to climate change.	MARN	1. Mechanisms to confront recurring losses and damage 2. Climate change adaptation 3. Climate change mitigation with co-benefits
National Biodiversity Strategy		MARN	1. Strategic integration of biodiversity to the economy 2. Inclusive restoration and conservation of critical ecosystems and priority species 3. Biodiversity for people 4.
National Water Resources Strategy		MARN	1. Water for life 2. Water and economics 3. Water and territory
National Environmental Clean-Up Strategy		MARN	1. Comprehensive management of solid waste, hazardous materials, and soil de-contamination 2. Industrial and household waste water treatment 3. Basic sanitation for suburban and rural areas in the country 4.
National Climate Change and Agro-Climate Risk Management Plan for the Agriculture and Livestock, Forestry, Fishing, and Aquaculture Sector-	Contribute to adaptation to the impacts of climate change and climate variability to reduce the agro-climate risk as part of the Climate Change Mitigation and Adaptation Strategy for the Agriculture and Livestock, Forestry, Fishing, and Aquaculture Sector throughout the territory.	MAG	1. Basic grains, vegetables, and fruits subsector 2. Sugar cane subsector 3. Coffee subsector 4. Livestock subsector 5. Forestry subsector 6. Institutional strengthening
National Climate Change Plan	Build a climate change-resilient and low-carbon society and economy.	MARN	1. Program to incorporate climate change and disaster risk reduction into development plans and public policy, and modernization of the public institutional framework 2. Program to protect public finances and reduce losses and damages associated with the adverse effects of climate change 3. Biodiversity and ecosystem management program for climate change adaptation and mitigation 4. Agriculture and livestock, forestry, and agroforestry practice transformation and diversification program 5. Program for holistic adaptation of water resources to climate change 6. Program to promote renewable energy, efficiency, and energy security 7. Urban development program and program for a climate change-resistant and low-carbon coastline 8. Program to engender the conditions and national capacity to tackle climate change
National Integrated Water Resource Management Plan	Try to attain a good state when it comes to amount and quality of surface and ground water,	MARN	1. Harness water resources and preserve the water environment. 2. Water quality

Instrument Name	Objective	Competent Authority	Components / Strategic Pillars
	preventing them from deteriorating and progressively reducing pollution, while also protecting, enhancing, and regenerating water through adequate water resource management.		3. Risk due to extreme weather phenomena 4. Governance

Annex 2. Reference Level developed in the Pilot Project of the Impossible Conservation Area - Barra de Santiago

As part of the reference level preparation process, the reference levels were preliminarily used in the pilot zone of the la El Imposible – Barra de Santiago conservation area.

The details of this process can be consulted in the annexes. To date, the country has generated a set of robust national data to calculate the reference level at the national level. Next, the basic information that is being used in the calculation is detailed, as well as the specific procedure for the construction of the FREL following the guidelines of the United Nations Framework Convention on Climate Change (UNFCCC), considering:
Elaboration of the cover and land use map;

a) Analysis of transitions in vegetation cover and land uses;

b) Modeling of the dynamic in the change in cover and land use;

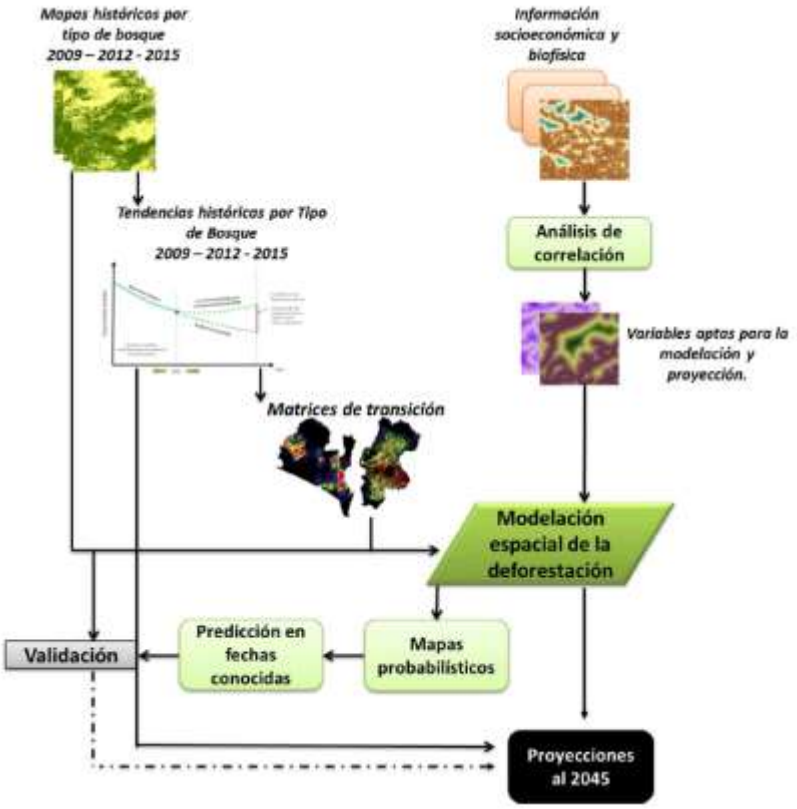
c) Definition and selection of activities and measures to be implemented;

d) Estimation of emission factors;

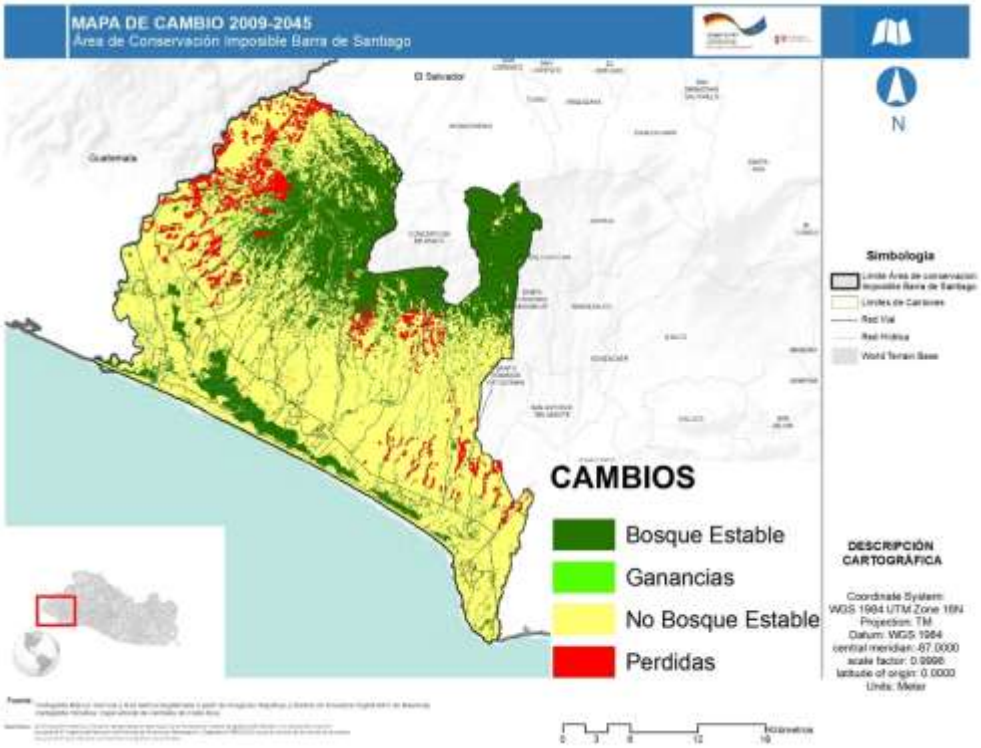
e) Calculation of CO2 stock and future projection according to type of activity;

f) Definition of the terms “buffer”, “leakage”, and “reference level”

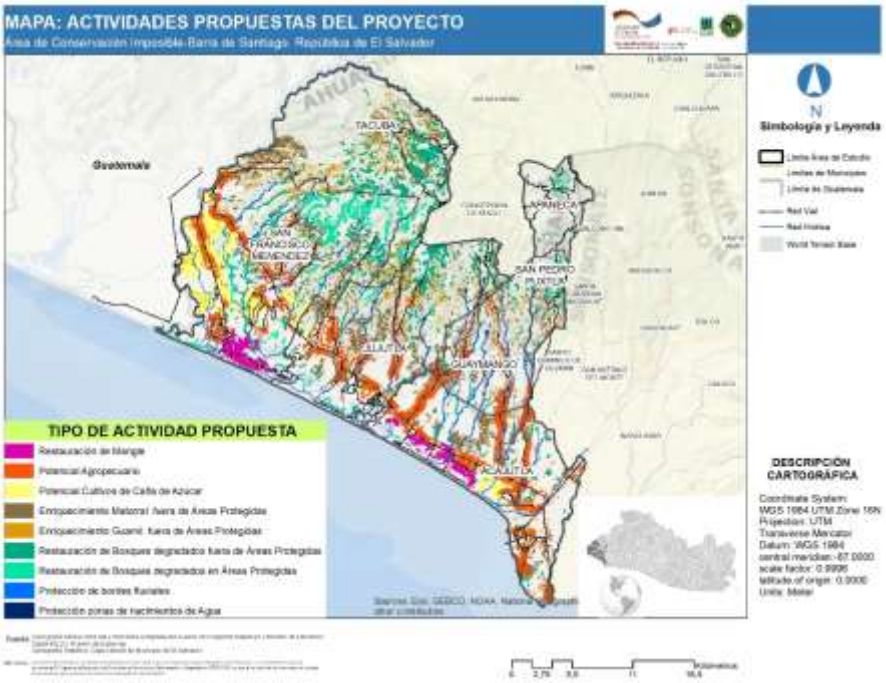
The methodology for steps a), b), and c) is shown in the following diagram:



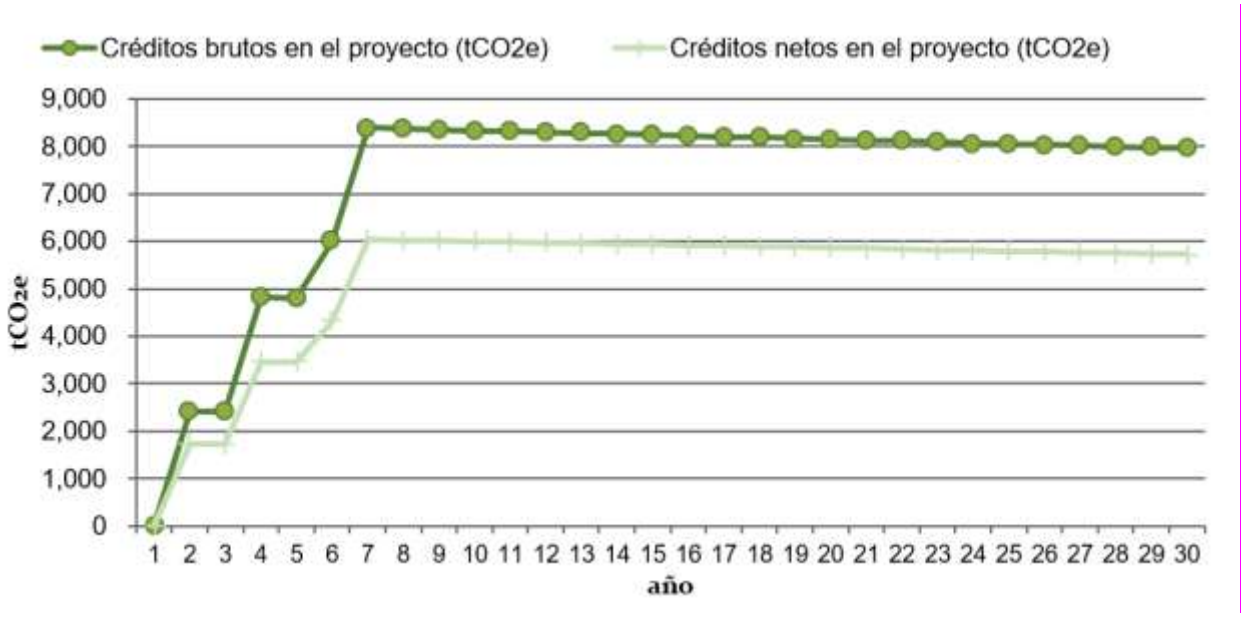
As a result, a demarcation of the zones sensitive to deforestation was obtained up to the year 2045.



Furthermore, the potential activities to be executed (identified in the Local Sustainable Development Plan built with the involvement of local stakeholders in the pilot zone) were demarcated.



The emission factors for prevented deforestation activities as well as activities regarding the increase on carbon stock were calculated by using secondary information sources, with 2017 as the project starting year, and a 5 year verification period plus a 30 year accreditation period. Besides the projected estimates, a 20% corresponding to a buffer deduction was applied for non-permanence, and a 10% deduction was applied for leakage. The deforestation rates calculated for the base year were 0.22%, with an estimated deforestation during project execution of 0.20% for years 1 and 2; 0.18% for years 3 and 4; 0.17% for year 5, and 0.15% from year 6 up to year 30. Total credits for the accreditation period were of 161,658 tCO2e for an emission reduction equivalent to a prevented deforestation surface area of 931 hectares in the course of the 30 years of the project's life.



Emission reduction potential due to prevented deforestation in the Imposible-Barra de Santiago pilot zone (Gross credits in dark green; net credits in light green)

Regarding other activities, the number of CO_2 certificates was calculated in total tons per activity for a time horizon of 30 years. Investments was calculated per activity in a 30 year period (USD/ha) for the project execution. The sequestration was estimated according to type of activity and the species proposed for implementing each activity; this information was obtained from a bibliographic revision, also considering IPCC sources (for the definition of factors, allometric functions, etc.). Thus, the future sequestration for each activity was determined in tons of CO_2/ha/year, defined from a net total, from which the percentage of Nitrogen has already been deducted (using the factors of Nitrogen (kg/ha) = 144.00 and N at tCo2 = 0.005; project emissions (Carbon Fraction = 0.50) and potential leakages (considering a 8% leakage and a 20% buffer for non-permanence). With these considerations, the results obtained for each activity were as follows:

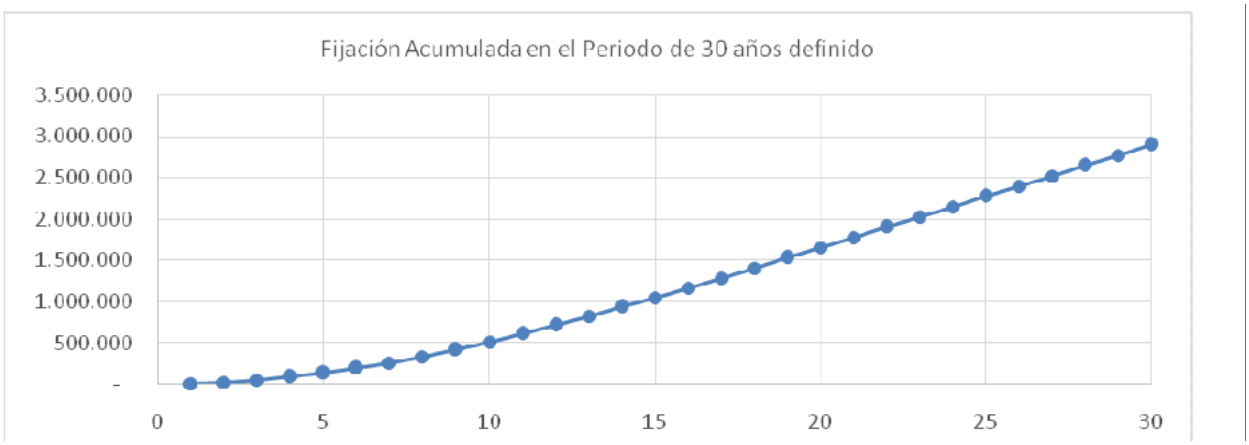
Factores/Actividades	Protección zona nacimiento de agua	Protección bordes fluviales	Restauración de Bosques degradados en ÁP	Restauración de Bosques degradados fuera de AP	Enriquecimiento Guamil	Enriquecimiento matorral	Protección de incendiosy manejo de cafetales	Restauración manglares
Fijación Futura de CO2 [tCO2/ha]	372,50	372,50	384,40	379,03	288,83	288,83	13,84	963,44
Superficie Elegible (ha)	83,00	339,00	1.136,00	2.839,00	3.519,00	7.618,00	14.494,00	1.421,00
Línea Base [tCO2/ha]	80,00	80,00	80,00	80,00	80,00	80,00	18,45	80,00
Fugas [tCO2/ha]	8,00	8,00	8,00	8,00	8,00	8,00	0,00	8,00
Nitrógeno (kg/ha)	144,00	144,00	144,00	144,00	144,00	144,00	144,00	144,00
Nitrógeno t CO2/ha	0,72	0,72	0,72	0,72	0,72	0,72	0,72	0,72
Total Neto 1 (ha)	283,78	283,78	295,68	290,31	200,11	200,11	-5,33	874,72
Emisiones del Proyecto (%)	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01
Total Neto 2 (ha)	281,92	281,92	293,76	288,41	198,66	198,66	-5,40	869,90
Buffer (20%)	0,20	0,20	0,20	0,20	0,20	0,20	0,20	0,20
Total Neto 3 (ha) (con buffer)	225,54	225,54	235,00	230,73	158,93	158,93	-4,32	695,92
TOTAL tCO2	**18.719,54**	**76.456,94**	**266.964,79**	**655.046,18**	**559.275,70**	**1.210.730,96**	**-62.627,20**	**988.906,75**

Estimación de fijación futura de CO2 por actividad

Los totales Netos se obtienen de la consideración de los diferentes factores y/o descuentos supuestos:
Total Neto 1: [Fijación Potencial –Línea base – N]
Total Neto 2: [Total Neto 1- (Fijación potencial *fracción de carbono)]
Total Neto 3: [Total Neto 2 – Buffer]
TOTAL tCO2: [Total Neto 3*Superficie]

Factors / Activities	Protection of water source zone	Protection of river banks	Restoration of degraded forests in PA	Restoration of degraded forests outside PA	Guamil enrichment	Scrubland enrichment	Fire protection and coffee plantation management	Mangrove restoration
Future CO2 Sequestration (tCO2/ha)								
Eligible Surface Area								
Base Line (tCO2/ha)								
Leakage (tCO2/ha)								
Nitrogen (kg/ha)								
Nitrogen t CO2/ha								
Net Total 1 (ha)								
Project Emissions (%)								
Net Total 2 (ha)								
Buffer (20%)								
Net Total 3 (ha) (with buffer)								
TOTAL tCO2/ha								

From the result of sequestration by activity from the current Base Line to a potential Base Line that could be reached in the future and considering a 30 year implementation period for each activity, the annual sequestration of tons of CO2e was modeled according to an Implementation Plan that considers for each activity an annual surface area distribution for constant implementation, which - according to the total surface area to be reached and the activity to be developed per se – shall vary from the year 5 of implementation (as is the case for the River bank protection activity, having an implementation rate of 20 ha in the first 5 years, which considers activities having easier access, resources, labor, etc.) to the year 20 (as is the case of the Scrubland enrichment activity implementation that, given its larger surface area, could achieve total implementation at an average rate of 400 ha in 20 year). Based on these calculations (shown in the next graph), if the activities contemplated in the project were implemented, a sequestration of 2,893,101 tons of CO2e could be achieved in a 30 year period.



Accumulated sequestration of ton/CO2e in the defined 30 year period

After analyzing the 2 GHG mitigation sources, it was possible to combine both and define the Project's mitigation potential. In this way – and as previously indicated – the specific stock increasing activities would generate a sequestration of **2,893,101 tons of CO2e** in 30 years, while the Project's area management actions would generate reductions equivalent to **161,658 tCO2e,** or a total of **3,054,759 tCO2e** for the period and an average annual mitigation of about 101,000 tCO2e. Lastly for this pilot case, it should be noted that the current very low deforestation rate is the variable that significantly decreases the REDD+ potential of the Project, basically transforming it in an ARR Project in terms of its mitigation potential. However, beyond the GHG capturing or sequestration estimated for activities involving an enhancement of CO2 stocks, the mere fact of implementing said activities allows defining that the initiative zone shall be managed with an integrated view of Reduction of Emissions due to Deforestation in existing forest areas. Thus, the Stock enhancement activities for which the Afforestation, Reforestation and Revegetation (ARR) methodologies apply, shall be verified mainly in NON forest areas or in areas having a highly degraded forest. Furthermore, the more generic actions of protection, conservation and, in general, those related to the overall management of the area, shall generate reduction of emissions (REDD) by preventing that deforestation processes continue over time.

Annex 3. Self-Assessment Process

The REDD+ Readiness Self-Assessment Process

The Participatory Self-Assessment for the REDD+ National Strategy AbM Ecosystem and Landscape Restoration readiness process was carried out with myriad stakeholders, using as the foundation the stakeholders' knowledge of the criteria shaping the performance of the sub-components and components involved in the strategy.

Another foundation consisted of the assessment questions outlined in the guidelines for the REDD+ readiness assessment framework.

The national circumstances guided this process, considering that the Redd+ AbM Strategy is oriented toward actions to restore ecosystems and landscapes, with a mitigation-based-on-adaptation approach.

The self-assessment carried out as part of the REDD+ -MTR process mid-term report was also taken into account; however, several considerations differ in the analysis, primarily because the MTR self-assessment looked at the institutional criteria of the MARN as the leader of the process, while the self-assessment enclosed below was done to the stakeholders.

Several methodological considerations to bear in mind.

Two workshops were held. The first, to evaluate Components 1 and 2; the second, for Components 3 and 4. The stakeholders who participated took part based on their interests, thematic knowledge, and the specific nature of the topics.

WORKSHOP 1. COMPONENTS 1 and 2

A. Welcome and Workshop Context

The Ministry of the Environment and Natural Resources welcomed the participants and explained the workshop's objectives. The participants introduced themselves, and the facilitator explained the workshop agenda and methodology.

B. Presentation of Progress on the REDD+ AbM Strategy

A presentation was given summarizing the national REDD+ process, the situation of vulnerability to which El Salvador has been subjected due to climate change. As part of this background information, the importance of the REDD+ AbM strategy and its main components, designed to restore El Salvador's forest landscapes, was underscored.

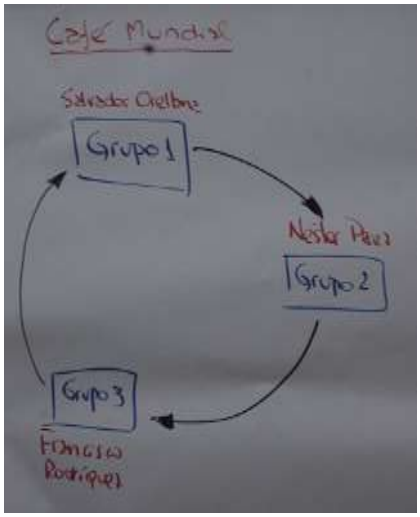
C. Introduction to the Self-Assessment Methodology

To perform the self-assessment, a series of questions were defined for the participants to answer by contributing their own perception of the progress made to date and topics still pending related to each aspect of the questions.
Three groups were assembled in order for the participants to answer the questions:

Each group was given a flip chart with the questions for their theme, as shown below.

They used a technique called "Global Coffee" to come up with their responses. This method involves each group answering the questions and then rotating through each table in successive

rounds in order to contribute to the other questions assigned to the other groups. There were three groups in this case, so there were three rounds. As such, all of the participants were able to share their perceptions about all of the self-assessment questions.



In an additional round, the groups returned to their original tables and read all of the feedback from the other participants. Based on this information, they assigned a progress color to each question pursuant to the following colors:

○	○ No progress (0 to 20%)
○	○ Progress needed (20 a 50%)
○	○ Going well. More progress needed (50 a 80%)
○	○ Considerable progress (80 a 100%)

Finally, each group presented the results of the assessment to the whole group.

D. Reflection on the self-assessment and sharing information on the next steps for the REDD+ AbM process.

Each group introduced and explained how far along each of the aspects evaluated had progressed.

WORKSHOP 2. COMPONENTS 3 AND 4

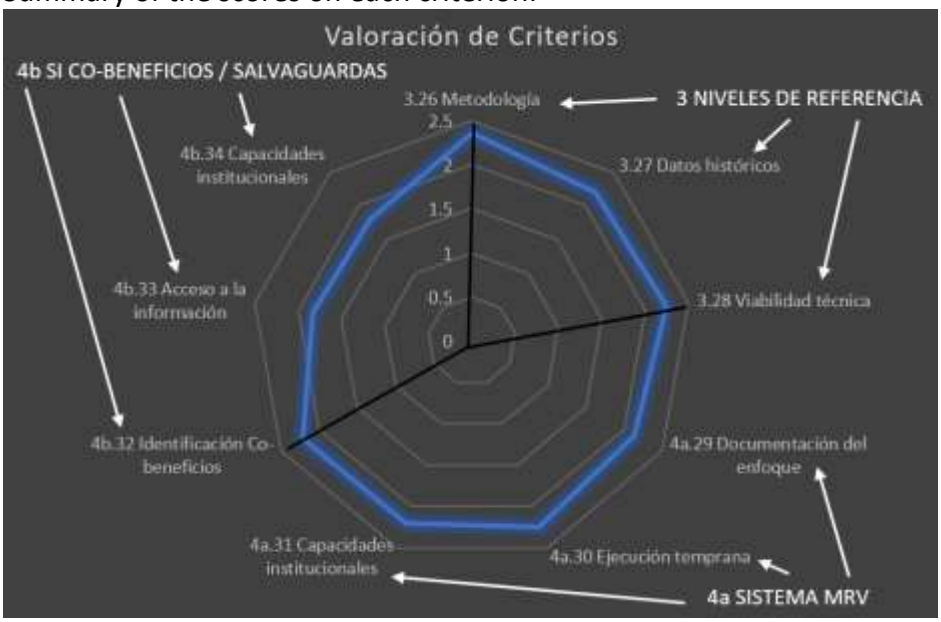
The self-assessment process was carried out with the REDD+ AbM Technical Monitoring Committee, following the Guidelines for the FCPF REDD+ Readiness Package Assessment Framework. The methodology involved the following steps:

A presentation of the conceptual-methodological concept underlying the Components
A summary presentation of the progress to date on each of the Components
Evaluation of the progress on each Component by the participants (assessment worksheets)
Tabulation of the individual results and calculation of the average scores on each criterion
Presentation of results and discussion of the score on each criterion
Recommendations to further advance on each of the criteria
The scoring criteria were as follows:

○ **Score**	○ **Description**	○ **Interpretation**
○ **3**	○ Significant progress	○ Complete
○ **2**	○ Good progress, needs more development	○ Almost complete
○ **1**	○ Needs more development	○ In initial phase
○ **0**	○ Still no progress	○ Has not started

The documentation and results of the self-assessment are enclosed below.

Summary of the scores on each criterion:



RESULTS OF THE SELF-ASSESSMENT

Table 1. Summary of the assessment system criteria suggested in the readiness package

The table below summarizes the results of the Mid-Term Assessment and current Self-Assessment of the REDD+ readiness process

No.	Criterion	Indicator	
Component 1: Organization and Consultation for Preparation		**MTR**	**CURRENT/PACKAGE**
Subcomponent 1a: National REDD+ AbM program management mechanisms for the National Ecosystem and Landscape Restoration Strategy (EN-REP)			
35.	Accountability and transparency		
36.	Operating mandate and budget		
37.	Multi-sector coordination mechanisms and cross-sector collaboration		
38.	Technical supervision capacity		
39.	Fund management capacity		
40.	Feedback and grievance redress mechanism		
Subcomponent 1b: Consultation, participation, and outreach			
41.	Participation and engagement with stakeholders		
42.	Consultation processes		
43.	Information-sharing and access to information		
44.	Implementation and public disclosure of consultations		
Component 2: Developing the REDD+ Strategy			
Subcomponent: 2a. Assessment of land use, land use change drivers, forest law, policy, and governance			
45.	Assessment and analysis		
46.	Prioritization of direct and indirect drivers/barriers to carbon stock enhancement		
47.	Links between drivers/barriers and REDD+ activities		
48.	Action plans to address natural resource rights, land tenure, governance		
49.	Implications for forest law and policy		
Subcomponent: 2b. REDD+ strategy options			
50.	Selection and prioritization of strategy options		
51.	Feasibility assessment		
52.	Implications of strategy options on existing sectoral policies		
Subcomponent: 2c. Implementation framework			
53.	Adoption and implementation of regulations/legislation		
54.	Guidelines for implementation		
55.	Benefit-sharing mechanism		
56.	National REDD+ registry and system for monitoring activities		
Subcomponent: 2d. Social and environmental impacts			
57.	Analysis of social and environmental issues		
58.	REDD+ strategy design with respect to impacts		
59.	Environmental and social management framework		
Component 3 Reference Emissions Level/Reference Level.			
60.	Demonstration of methodology		
61.	Use of historical data and data adjusted for national circumstances		
62.	Technical feasibility of the methodological approach, and consistency with UNFCCC/IPCC guidance and guidelines		
Component 4 Assessment system suggested as part of the readiness package assessment			
Subcomponent: 4a. National forest monitoring system			
63.	Documentation of monitoring approach		
64.	Demonstration of early system implementation		

No.	Criterion	Indicator	
65.	Institutional arrangements and capacities		
Subcomponent: 4b. Information system for multiple benefits, other impacts, governance, and safeguards			
66.	Identification of relevant non-carbon aspects, and social and environmental issues		
67.	Monitoring, reporting, and information-sharing		
68.	Institutional arrangements and capacity		

Analysis of the Self-Assessment

No.	Criterion	Indicator	
Component 1: Organization and Consultation for Preparation			
Subcomponent 1a: National REDD+ AbM program management mechanisms for the National Ecosystem and Landscape Restoration Strategy (EN-REP)			
1.	Accountability and transparency		
2.	Operating mandate and budget		
3.	Multi-sector coordination mechanisms and cross-sector collaboration		
4.	Technical supervision capacity		
5.	Fund management capacity		
6.	Feedback and grievance redress mechanism		

The self-assessment recognizes that significant progress has been made in developing the structures and mechanisms designed to manage the readiness and implementation of the REDD+ AbM Strategy, in terms of the structure and composition of the structures and platforms described. For example, the Sustainability Cabinet, the CONASAV, the restoration working group, and the national safeguards committee.
The government's institutional commitment, expressed in accountability and process transparency policies and principles, also extends to REDD+ AbM, which is evident in the specific instruments. There is a difference between the government's self-assessment in the mid-term report and the stakeholder feedback in this latest self-assessment, manifest mainly in the need for greater disclosure. However, there is an acknowledgment that the mechanisms for information exchange and filing grievances are fairly well-developed and operating. One significant stride forward is the creation of environmental courts to resolve disputes and grievances.
The self-assessment found that good progress has been made on the mechanisms meant to steer the strategy; the MARN operating mandate is explicit and assumed well. The current progress reflects the status of the readiness process.
There is indeed enough technical capacity to manage the REDD+ AbM process among the participating governmental agencies.
Even though the funds management for the REDD+ readiness process has done well and received a response from the government and fostered cooperation, the stakeholders involved believe it is not enough and should be intensified and steered with more effort.
In terms of the funds management capacity, progress has been made, there are structures, and the right score was given.

The stakeholders recognize that there are platforms and structures in place to manage the Strategy, enabling active engagement. Thus, at this point in time, there is also a governance mechanism that has been created and is up and running to track and fulfill the agreements being entered into in order to ready and implement REDD+. There is also communication capacity on the platforms throughout the territory.
On another note, the country has the technical capacity to manage the resources ($), even though further management agreements begun in the different funding windows need to be made concrete still.

No.	Criterion	Indicator	

International cooperation has shown its desire to support the process, in large part thanks to the solidity and representativeness of the platforms, and the clarity of the Strategy's proposal.
If we contrast the two self-assessments done, the government feels that significant progress has been made on funding management, but the stakeholders feel they do not have enough information about this management, and their expectation is that resources are available.

The technical capacity of the government to steer the process is recognized.

The stakeholders identified the topics that still need deeper work. The recommendation was to foster greater articulation and functionality for the different bodies involved in the governance platform, as well as to provide more public information about the governance mechanisms. It is time for activities that enhance the articulation and functionality of the different bodies involved in the governance platform.

On another note, the idea is to ramp up dissemination or disclosure of the work being done to implement the strategy.

Work on defining and making the REDD+ AbM benefits more precise is a very important task. Another task is to find ways to make the payments for environmental services a reality.

The stakeholders stated that it is time to make the management to implement the Strategy more concrete.
It is still possible to shore up the technical side of the executing arm of the MARN project activities.
To strengthen the supervision capacity and technical execution, it will be important to consider community knowledge.
When the funding for execution is in, the suggestion is to mobilize it in a differentiated way.

Subcomponent 1b: Consultation, participation, and outreach			
7.	Participation and engagement with stakeholders		
8.	Consultation processes		
9.	Information-sharing and access to information		
10.	Implementation and public disclosure of consultations		

The self-assessment of this component identified considerable progress on creating spaces for participating in the formulation and implementation of the REDD+ AbM Strategy. The existing political, technical, social and national to local platforms legitimize and lend representativity to the REDD+ AbM process.

The evolution and growth of the engagement and representativeness of the different platforms is visible in everything from the preparation of the R-PP to the final outputs, including the strategy and its action plan, as well as the instruments related to the theme of safeguards. The stakeholders

The political spaces, the sustainability cabinet, and the CONSASAV have been fundamental to the creation of a multi-stakeholder platform assembled at the National Restoration Table and the local committees and organizations, like the PLAS, the indigenous peoples, cacao farmers, sugar cane farmers etc.

The consultation process for the principal instruments involved in the Strategy, like the Plan, the Safeguards, the Grievance Mechanism, the Social and Environmental Assessment (SEA), and the Management Framework, has been open and spearheaded by the MARN. To do these consultations, specific guidelines in the Consultation Plan have been followed, enabling order, guaranteeing participation, and ensuring feedback. This is at both the national and local levels.

The Indigenous Round Table is yet another platform that has become better organized and expanded its spaces for participation.

No.	Criterion	Indicator	

The communication of the process, results, and progress made has improved, thanks to the implementation of the Communication Strategy. This strategy has made it possible to update the MARN website, and disseminate digital and written publications through different channels.

The parties feel that with the existing mechanisms, there has indeed been effective access to information and the possibility to participate in the REDD+ AbM project and process, preparation of the strategy, and the processes involved in reviewing the impacts, developing the safeguards, and the management framework to deal with the social and environmental impacts of the REDD+ implementation.

The consultation results have been disclosed via the various channels created as part of the communication strategy. That includes virtual sharing and in-person sharing at the local level, working directly with the groups, as well as a platform that is updated with information on progress made.

In terms of improvement and monitoring, the recommendation is to do even more efforts to network among the local stakeholders participating in the Strategy. Strengthening the restoration table at the national and territorial levels is another recommendation, as is generating dialogue to create the local/territorial mechanisms to steer and implement the restoration.

The progress made on consultation and participation is considerable, but to guarantee the success of the Strategy, it is necessary to have support instruments that reflect, foster, and ensure full and effective, culturally appropriate participation with the spaces and tools to carry out the consultation, and free, prior, and informed consent. There is a need to create spaces for indigenous participation.

Another suggestion is to do more work in order to raise awareness about the processes, especially the Strategy. There should be events by department to publish and disseminate progress, and there should be alternative channels besides virtual channels for information-sharing.

Another good step would be to make the territorial platforms better and develop communication and decision-making mechanisms.

Also, to strengthen the existing transparency and competition mechanisms with an emphasis on and details pertaining to the REDD+ AbM implementation.

Component 2: Developing the REDD+ Strategy			
Subcomponent: 2a. Assessment of land use, land use change drivers, forest law, policy, and governance			
11.	Assessment and analysis		
12.	Prioritization of direct and indirect drivers/barriers to carbon stock enhancement		
13.	Links between drivers/barriers and REDD+ activities		
14.	Action plans to address natural resource rights, land tenure, governance		
15.	Implications for forest law and policy		

Self-assessment on this subcomponent demonstrates considerable progress. The analysis process to determine the state of land use and factors causing changes, and identify agents and causes has been carried out since the beginning of readiness.
Stakeholders have actively participated in the dialogue and consultation. The instruments to conduct the assessment and analysis have been diverse, used to reach consensus about which factors are influencing changes in land use, as well as their effects and consequences.

No.	Criterion	Indicator	

Finally, the full analysis done to develop the strategy, and specifically, the Action Plan, in order to analyze restoration opportunities using the ROAM method, has enabled, beyond the analysis, the establishment of priorities by virtue of the current status of land use to work on landscape restoration as a main strategy implementation tool.
The analysis has gone in-depth in terms of determining where degraded landscapes are located and also identifying restoration opportunities in social, technical, and economic terms.

Beyond this analysis, in-depth work has also been done on sectors such as basic grains, sugar cane, and intensive livestock. They are also looking at the agroforestry, coffee, and cacao sectors, and forestry and wildlife practices, too.

Stakeholders feel that the existing legal and regulatory framework does support the REDD+ AbM Strategy, although further actions are needed to harmonize policies with operations. However, there do not seem to be any major contradictions when it comes to landscape restoration as a development opportunity for the country.

The topic of land rights, use, and management of natural resources still needs attention, considering the structural situation with respect to this matter. The splitting up of properties, for example, is a barrier to planning and implementing actions with a landscapes approach.

One recommendation that has been made is to define actions that would make these matters viable and pay more attention to them so that the Strategy implementation, especially where restoration is concerned, achieves the desired success.

Several actions have already commenced. For example, local development plans are being made with a landscapes approach.

Other monitoring actions suggest it is time to conduct deeper systematic and specific studies to analyze the problem in strategic ecosystems, as well as further disseminate the information for decision-making on land use among important sectors like the livestock sector.

Subcomponent: 2b. REDD+ Strategy Options			
16.	Selection and prioritization of strategy options		
17.	Feasibility assessment		
18.	Implications of strategy options on existing sectoral policies		

El Salvador has made significant progress in defining the REDD+ AbM strategy options. The country has defined and published the REDD+ AbM strategy with technical, economic, and working instruments and the platforms to start up activities.

On the one hand, the Strategy has the options, guidelines, and activities clearly defined. The consultation and participation to develop it have been essential, ensuring the legitimacy and representativeness of the instrument.

Moreover, the Restoration Plan is an operational instrument that provides clear guidelines to undertake restoration actions. The instrument is in the process of being participatorily developed, with a lot of technical work and economic analysis going into it to be certain about which options are the most cost-effective to achieve the targets proposed.

No.	Criterion	Indicator	
These strategic and operational instruments have also garnered political validation from the highest levels of the governing bodies mentioned above, namely, the sustainability cabinet and the CONASAV, showing that the Strategy has major implications for sectoral policies. The MARN has undertaken some of the implementation work with its own resources and some international cooperation. Reforestation and restoration have been done in specific territories. The challenges on this subcomponent consist of enhancing the promotion and dissemination of the instruments, advantages, and private and collective benefits of implementing these activities.			
Subcomponent: 2c. Implementation Framework			
19.	Adoption and implementation of regulations/legislation		GREEN
20.	Guidelines for implementation		GREEN
21.	Benefit-sharing mechanism		ORANGE
22.	National REDD+ registry and system for monitoring activities		YELLOW ¿?
The Strategy implementation framework has been defined, communicated to, and approved by a considerable group of stakeholders. The stakeholders are aware of the objectives, priorities, benefits, activities, and guidelines. They have been defined in several instruments, including the Restoration Plan, the Management Framework, and local development plans, principally. Governmental arrangements back up adopting the instruments and guidelines. The stakeholders say that they are "ready for implementation." And it is there where the challenge resides in getting the activities up and running. The challenges include engaging key stakeholders. On the one hand, there is the task of developing the public policy instruments to mobilize public funding for implementation. For example, these include incentives, rewards, and investment on a scale appropriate to the targets set. On the other, the private sector has the opportunity to breathe new life into investment in the land-use sector, and implement restoration activities that generate appealing financial benefits for the sector. Aligning these two sides could be the answer to the demand for restoration that simultaneously boosts jobs, revenue, food production, and livelihoods, while reducing vulnerability and strengthening climate change adaptation. The stakeholders are somewhat doubtful about the benefit-sharing, considering that for restoration purposes, the benefits are not exactly coming from external compensation in the form of payments for emission reduction results, but rather from direct investment in productive activities and ecosystem restoration. The benefits reside in creating jobs and income and all of the restoration-related benefits. It is a challenge to disseminate these arrangements and help people understand the benefits, in order to offer clarity and make sure the stakeholders' expectations are aligned. Finally, the stakeholders are aware of the existing structure and platform at MARN to keep the registry of REDD+ activities. The concept and structure are defined. Progress is still needed for the start-up, considering that this system is tied to the full Monitoring, Reporting, and Verification proposal. Another challenge is to measure how it is functioning once the national system is up and running.			

No.	Criterion	Indicator	
Subcomponent: 2d. Social and environmental impacts			
23.	Analysis of social and environmental issues		YELLOW
24.	REDD+ strategy design with respect to impacts		GREEN
25.	Environmental and social management framework		GREEN

In El Salvador, participation and consultation have served as the foundation for progress in the readiness process. Implementing a strategy designed with participation, validation, and ownerhsip of the stakeholders is a fundamental condition.

With that said, the subcomponent pertaining to social and environmental impacts displays very significant progress, in terms of physical progress made in readying the instruments related to the safeguards, the social and environmental assessment, and the social and environmental impact management framework.
Essentially, progress has also been done in garnering the participation and a sense of ownership among the stakeholders toward these instruments.
The country's social agreement to work on the strategy for landscape and ecosystem restoration has been vital to progress on this subcomponent.

The REDD+ safeguards have been analyzed concretely based on the strategy options, simplifying the work with the stakeholders, because they are talking about concrete actions and analyzing the positive and negative impacts of matters of interest to society as a whole.

Earlier instruments, like the national safeguards approach, which really put a lot of emphasis on capacity-building, standardizing concepts, and reaching a common understanding of safeguards for El Salvador, was very important in making progress in analyzing the impacts.
There is still a ways to go, but this progress will depend on the implementation actions. The stakeholders prefer to do that analysis as part of the analysis of concrete field actions and results.

The social and environmental management framework is very far long, having followed the same logic described above. The analysis is done on activities that the stakeholders themselves have proposed, of which they have knowledge and for which they have the ability to identify impacts and alternatives to manage any potential negative fallout, reduce risks, and mitigate impacts.
The management framework is exhaustive in the analysis, all the way up to the operational level for strategic activities.

Component 3 Emissions Reference Levels			
26.	Demonstration of methodology		
27.	Use of historical data and data adjusted for national circumstances		
28.	Technical feasibility of the methodological approach, and consistency with UNFCCC/IPCC guidance and guidelines		

The methodology to put together the subnational or national reference level is clearly documented and based on a tiered approach. The relationship between the subnational and national reference level is demonstrated. They are evolving, and plans are being designed for next steps and what data are needed.

Several considerations mean that the dynamics of the mangroves in the Imposible-Barra de Santiago pilot zone are not necessarily the same as in other zones. For that reason, it is possible to justify the subnational Reference Levels, dividing the country pursuant to the different change dynamics.
The national or subnational approach to constructing the Reference Levels depends on the data availability.

Timber-gathering in the mangroves is not reflected in the analysis of coverage using satellite images.
The implementation of the Local Sustainable Use Plan (PLAS) in the Barra de Santiago is an important aspect of mangrove conservation as compared to other zones in the country.

On another note, historical data are being used in developing the RLs, so several changes are needed due to the dynamics of the country and the specific conditions involved in the Strategy.

Moreover, climate change effects should be considered, such as the movement of people away from coastal zones and towards inland as a result of rising sea levels.
In calculating the climate change scenarios for extreme events, it is important to remember that the uncertainty in the modeling is high.
It is also vital to get all of the different institutions in the country on board with the same Holistic Sustainable Development Plan.

The REL/RL methodological approach is fairly aligned with the convention and IPCC guidelines. The stakeholders are clear on the fact that transparency is needed to advance.

The zones authorized under the sustainable forest management have not yet been spatially defined, which is a key step to separate these areas from those classified as deforestation areas.
The MAG's El Salvdor Forest Information System (SIFES) has begun geo-referencing the zones under authorized use.
Further support is needed for MARN/MAG to enhance the reference level calculations for other REDD+ activities (besides just deforestation).

Component 4 Assessment system suggested as part of the readiness package assessment framework			
Subcomponent: 4a. National Forest Monitoring System			
29.	Documentation of monitoring approach		
30.	Demonstration of early system implementation		
31.	Documentation of monitoring approach		
Adequate progress has been made on documenting the monitoring approach. Progress has also been made on the revision at the technical level, and the stakeholders and the government have agreed on the approach and direction to follow. On another note, progress has been done on some tests or demonstrations. The stakeholders have been involved under the participation and consultation scheme. The institutional capacities have been defined, as has the role of the MARN, the environmental observatory, and teh technical teams, all of which have made progress,			

The need for institutional strengthening to get the system up and running has been identified. It is necessary to make progress on the equipment and implementation.
Several recommendations and comments from the stakeholders including gathering information to improve the calculation of growth factors for the different forest types.
There should also be an ongoing network of plots in place to monitor growth and restoration.
Consider different options to process satellite images, like Sentinel-Arcgis, to evaluate changes.
Consider field verification for a percentage of the plots interpreted on the grid of 1+1-km plots.
Come up with indicators that correlate directly with the implementation of restoration measures and impacts on co-benefits.
The Monitoring System approach is to "create institutionality and strengthen it."
Also, keep in mind that stakeholders should be involved on an ongoing basis in subsequent phases of the REDD+ AbM process, clearly defining who will contribute what. To do so, we need to identify the activities in which all of the stakeholders are involved on an ongoing basis in the monitoring system.
Another recommendation is to link up our research work with the research projects that universities and research centers have planned to do.

The roles beyond the forest inventory should be clarified, as formal agreements have yet to be set up with several institutions.
Consider governance aspects for the sustainability of the information systems, identifying the institutions' needs to strengthen the operationality of the systems.
Define a mechanism to feed information into the different computer platforms.
Consider the legal framework (legal foothold) for the monitoring system.

Subcomponent: 4b. Information system for multiple benefits, other impacts, governance, and safeguards			
32.	Identification of relevant non-carbon aspects, and social and environmental issues		
33.	Monitoring, reporting, and information-sharing		
34.	Institutional arrangements and capacity		

This subcomponent exhibits significant progress.
For the co-benefits indicators, the institutions contributing to each indicator have been identified.
The recommendation is to revise the methodological fact sheet for the indicators.

The co-benefits indicators were agreed upon by groups of experts, so a review process shall be carried out considering the arguments pursuant to which this group defined the indicators.
Rethink the riparian vegetation indicators as a metric of contamination due to waste.
Analyze the link between water indicators and other indicators (correlation): action – impact.
There are two options for the soil monitoring: 1) Direct monitoring and 2) Indirect monitoring (direct analyses used to compare)
Consider two types of indicators: 1) overall indicators and 2) key indicators prone to change as a result of the actions being implemented.
Use PLAS as a restoration monitoring instrument.

To deal with information management and monitoring, the recommendation is to build a climate change repository so that it is sustainable (document repository).

Consider disseminating topics to evaluate progress (improve from here on out what is already being done at the moment)
Promote and disseminate any activities being implemented (think about social media and other online tools)
Awareness-raising at schools
Establish an agreement monitoring mechanism

To define a mechanism to support and monitor the institutional capacities, there is a challenge. How to preserve the continuity of the process even when there are changes of administration?
The idea is to assembly a Multidisciplinary Team for the Co-Benefits System or augment the current MRV Committee.
Consider a tiered approach (based on what is already in place, propose actions for improvement).
Consider local actors (ROLAs) in the monitoring system.

Annex 4. Self-Evaluation of Participants in the Process

Self-Evaluation of Participants in the Process		
Participants of the Evaluation Process related to REDD+ MbA Components 1 & 2		
1	Rosibel Díaz	CCM Morazán
2	Víctor Nelson Abarca	Berlín Production
3	María Antonia Pineda	ACUGOLFO
4	Ernesto Morales	CORDES
5	Alonso Gámez Rivera	FUNSALPRODESE
6	Balmore Zanco	Mesa Indígena Medio Ambiente
7	Miguel Angel Galdámez	MINIMA
8	Betty E. Pérez	MINIMA
9	Mario Montano Ruiz	FIAES
10	Salvador Hernández	ACOLGUA
11	Iván A. Díaz Cruz	ANAPICUS
12	Yamileth Pérez	ACOLGUA
13	Guillermo Isaías Martínez	ACOLGUA
14	Juana Heriberta Cruz	ACOLCHI
15	José Rigoberto Martínez	CSC
16	Helen Palm	GIZ
17	Guillermo Mayorga	GIZ
18	Carla Chávez	GIZ
19	Mario Escobedo	CCAD SICA
20	Néstor Pérez	MARN/MINIMA
21	Salvador Orellana	MARN
22	Melvin Ozuna	MARN
23	Jorge Rodríguez	GIZ
24	Wilfredo Batres	MICSUR
25	Guillermo Tesorero	ARCAS/CCNIS
26	Andrés Gregori	CONFRAS
Participants Evaluation Process for REDD+ MbA Components 3 & 4		
27	José Rigoberto Martínez	Consejo Salvadoreño del Café

28	Abner Josué Jiménez	GIZ/Monitoreo REDD
29	Jaime Alexander Aguilar Segura	Ministerio de Agriculture
30	Amilcar Antonio López Melara	MARN/REDD
31	José Francisco Rodríguez	MARN/Environmental Observatory
32	Mario Giovanni Molina	MARN/ Environmental Observatory
33	Luis Menjivar	MARN/ Environmental Observatory
34	Vladimir Avelar Baiza	MARN/Protected Areas
35	Wilfredo Fuentes	MARN/ Environmental Observatory
36	Jenny Elisabeth Menjivar Cruz	Museum of Natural History of ES
37	Luis Fernando Castaneda	El Salvador University
38	Reynaldo López Landaverde	El Salvador University
39	Vinicio A López Quezada	MARN/REDD
40	Carlos Giovanni Rivera	MARN/Restauration
41	Miguel A. Gallardo	MARN/Climate Change
42	Manuel Arturo Escalante Díaz	MARN/Climate Change