



Forest Carbon Partnership Facility (FCPF) Carbon Fund ER Monitoring Report (ER-MR)	
ER Program Name and Country:	Payment for emission reductions project around the Taï National Park
Reporting Period covered in this report:	01-01-2022 to 31-12-2023
Number of FCPF ERs:	13,183,152
Quantity of ERs allocated to the Uncertainty Buffer:	713,373
Quantity of ERs to allocated to the Pooled Reversal Buffer:	3,937,824
Number of FCPF ERs from enhanced removals through afforestation/ reforestation	671,022
Date of Submission:	17-03-2025
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LIST OF ACRONYMS

AFOLU	Agriculture Forestry and Other Land Use
AD	Activity Data
AFOR	Rural Land Agency
AGB	Above-ground Biomass
AIC	Akaike Information Criterion
ANDE	Environment National Agency
BFAST	Breaks for Additive Season and Trend
BGB	Below Ground Biomass
BNETD	National Office for Technical Studies and Development
C2D	Debt Reduction and Development Contract
CAP	Community Action Plan
CCDC	Continuous Change Detection and Classification
CF	Classified Forest
CFI	Cocoa and Forests Initiative
CH ₄	Methane
CI	Confidence Interval
CIGN	Geospatial and Digital Information Center
CMC	Complaints Management Committee
CMM	Complaint Management Mechanism
CNF	National Floristic Center
CNTIG	National Committee for Remote Sensing and Geographic Information
CO ₂	carbon dioxide
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
CSOs	Civil society Organization
CSRS	Swiss Center for Scientific Research
CURAT	University Center for Research and Application in Remote Sensing
DBH	Diameter at Breast Height
DGM	Dedicated Grant Mechanism
EDF	European Development Fund
EF	Emission Factors
ERP	Emission Reduction Program
ERPA	Emission Reductions Payment Agreement
ERPD	Emissions Reduction Program Document
ESA	European Space Agency
ESRI	Environmental Systems Research Institute
EU	European Union
FAO	Food and Agriculture Organization of the United Nations

FCPF	Forest Carbon Partnership Facility
FGRM	Feedback and Grievance Redress Mechanism
FIP	Forest Investment Project
FL	Forest Land
FMT	Facility Management Team
FPRCI	Foundation for Parks and Reserves of Côte d'Ivoire
FREL	Forest Reference Emission Level
FRL	Forest Reference Levels
GCF	Green Climate Fund
CIGN	Geographic and Digital Information Center
GFC	Global Forest Change
GHG	Greenhouse Gas
GPS	Global Positioning System
GRM	Grievance and Redress Mechanism
IFFN	National Wildlife Forest Inventory
IGN-FI	National Institute of Geographical and Forestry Information France International
IGT	Institute of Tropical Geography
INPHB	Félix Houphouët-Boigny National Polytechnic Institute
IPCC	Intergovernmental Panel on Climate Change
ISLA	Initiative for sustainable Land Use
M&E	Monitoring & Evaluation
MEF	Ministry of Economy and Finance
MEMINADER	Ministry of State Ministry of Agriculture and Rural Development
MINEDD	Ministry of the Environment and Sustainable Development
MINEF	Ministry of Waters and Forests
MRV	Measurement, Reporting and Verification
N ₂ O	Protoxide nitrogen
NFI	National Forest Inventory
NFMS	National Forest Monitoring System
NGO	Non- Governmental Organization
OIPR	Ivorian Office of Parks and Reserves
OL	Other Lands
PAD	Project Appraisal Document
PCRMF	Physical Cultural Resource Management Framework
PES	Payment for Environmental Services
PESM	Prescription of Environmental and Social Measures
PMP	Pest Management Plan
PNSFR	National Rural Land Security Program
QA	Quality Assurance

QC	Quality Control
REDD+	Reducing Emissions from Deforestation and forest Degradation
RL	Reference Level
SEP REDD+	Permanent Executive Secretariat for Reducing Emissions from Deforestation and Forest Degradation
SESA	Strategic Environmental and Social Assessment
SESMP	Simplified Environmental and Social Management Plan
SIS	Safeguards Information System
SLM	Spatial Land Monitoring
SN-REDD+	Strategy National REDD+
SODEFOR	Forest Development Corporation
SOP	Standard Operational Procedure
STI	Sustainable Trade Initiative
TMF	Tropical Moist Forest
TNP	Tai National Park
TOR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change
URPCI	Union of Rural Radios of Côte d'Ivoire
WB	World Bank

1 IMPLEMENTATION AND OPERATION OF THE ER PROGRAM DURING THE REPORTING PERIOD

1.1 Implementation status of the ER Program and changes compared to the ER-PD

Status of actions and interventions undertaken under the ERP

In Côte d'Ivoire, the drivers of deforestation and forest degradation are classified into 2 categories. These are direct and indirect drivers. In terms of direct drivers, the expansion of agricultural land is the main cause of deforestation and forest degradation. Agriculture accounts for 62% of the direct drivers of forest loss. Within this sector, the main crops with a significant impact on deforestation and forest degradation are cocoa, rubber and oil palm, with 38%, 23% and 11% respectively. After agriculture comes illegal logging, which accounts for 18% of deforestation. The extension of infrastructures such as housing (rural and urban) and transport (roads, railways) play a role in the loss of forest cover. The contribution of this sector is estimated at 10%. Clandestine gold panning and bush fires also play a minor role, ranking fourth (8%) and fifth (3%).

In terms of indirect drivers, which are factors that encourage deforestation, several elements are listed:

- Economic factors (economic attractiveness, notably the price of agricultural commodities);
- Factors linked to the absence of regional development schemes or plans;
- Demographic factors (high population growth);
- Political and institutional factors (non-compliance with regulations due to weak governance in the forestry sector).

Details of this classification of the drivers of deforestation can be found in the report of the study on the analysis of the drivers of deforestation and forest degradation in Côte d'Ivoire (page 14 to 64). The document is available [here](#).

To address these drivers of deforestation and forest degradation, the ERP is being implemented using a landscape approach to address all drivers of deforestation and forest degradation in a coordinated and effective manner. This landscape approach builds on the linkages between agricultural development, natural resource management and governance and aims to maximize economic, environmental and social benefits.

The ERP as designed will capitalize on emission reductions from (i) reducing deforestation, (ii) reducing forest degradation, (iii) preserving residual forests, and (iv) increasing forest carbon stocks. To this end, several projects and initiatives underway in the program area are aligned to contribute to the achievement of the program's GHG emission reduction objectives. These include:

Table 1: Ongoing projects and initiatives in the ER-Program area

Project	Activity	Summary of progress achieved
FIP (2 nd phase) 2022-2029	The Development Objective is to conserve and increase the forest stock and improve access to sources of income from sustainable forest management for selected communities in target zones. The objectives are: i. Support the development of participatory forest management plans (PFMP); ii. Support the implementation of participatory forest management plans;	- 1 framework for the resettlement of populations infiltrated in classified forests was developed based on the Environmental and Social Standard of the World Bank. The document is available from this link. - 1 Livelihood Restoration Strategy for People Affected by Forest Restoration has been developed for the classified forests of : Haute Dodo, Rapides Grah and Scio.

	iii. Support the sustainable management of national parks and nature reserves.	
FIP (1 st phase) 2018-2023	The objective is to conserve and increase the forest stock and to improve the access of communities in the targeted areas (central and southwestern part of Côte d'Ivoire) to sources of income induced by sustainable forest management. The objectives are: i. Restoration of forest cover in classified forests and riparian zones; ii. Sustainable management of the Taï National Park (TNP);	- 14, 289.34 hectares of agroforestry established in classified forests. This value can be checked in the report here, specifically on page 24. The geolocation of these parcels is in progress, to date only 4,875.8 hectares have been completed. The database in shapefile format is available from this link ;
Earthworm and Nestle (2020-2026)	By 2026, this project aims to: - Prevent deforestation and promote forest regeneration; - Improve the resilience of small producers; - Improve the protection of children's rights; - Establish transparent and traceable supply chains for cocoa and rubber;	- 1,500 hectares of reforestation will be realised in the Cavally Forest reserve in 2022. - 777 hectares of assisted regeneration completed. These values can be checked in the activity report on page 7.
ISLA (Initiative for Sustainable Land Use) IDH 2021-2025	Develop a balance between forest, agriculture, and populations; in doing so, ISLA will support the implementation of public and private sector commitments towards net zero deforestation and green growth on the ground in the TNP area.	- Development of a Regional Scheme for Planning and Sustainable Development of the Cavally Territory (SRADT) with a green growth strategy; - Promotion of agroforestry practice - Restoration of forest cover ; - Diversification of producers' activities ; - Development of financial incentive measures and the creation of a public-private investment mechanism for sustainable and ecological land development. The report is available here
Regional Indicative Program - 11th EDF Union 2021-2027	PIR- 11th EDF West Africa - Priority Area 3: Resilience, Food and Nutrition Security and natural resources - Support for Tai National Park	- Protection and conservation of Taï National Park (TNP) ; - Development of the territory around TNP; - Support for local development around TNP ; - Fight against land degradation ; - Improvement of the productivity of food and energy wood sectors (agroforestry), to sustainably generate production surpluses and jobs, particularly for women in both rural and peri-urban areas ;

		- Integration of trees into production systems for their contribution to soil management ; - Respect for sustainable land management techniques, including measures related to sustainable natural resource management. National indicative program report can be found below for : - 2014-2020 - And 2021-2027 The regional programme also covers the period 2021-2027
Spatial Forest Monitoring and Deforestation Early Warning System	The Geoportal for Land Monitoring System (LMS) is a web portal that aims to visualize and provide access to updated national data on the evolution of natural resources. The early warning system for deforestation should allow for the rapid detection of forest infiltrations and trigger follow-up and control operations on the ground to remedy them.	Consultations with various national stakeholders enabled finalizing the specifications for the Land Monitoring and Early Warning System for deforestation. It was adopted by the government in March 2023. The next step is to recruit a service provider for the development of the platform.

Strategic updates established to mitigate/minimize displacement

Efforts are made to minimize emissions displacement outside the program area. This is mainly due to the fact that the proposed measures are mostly incentives rather than coercive measures that could lead to emissions displacement outside the program area.

In addition, the MRV system uses satellite monitoring procedures and tools to assess and track annual deforestation at the national level to ensure that there is no additional deforestation/forest degradation outside the program area due to program implementation. A geoportal as part of the national forest monitoring system is available. It is accessible from this link: <http://sst.geoportailsst.com/Accueil>. It makes it possible to monitor the evolution of deforestation and control actions implemented by the country.

The causes of deforestation remain unchanged, all the strategies described in the ERPD (Table 2) are being implemented and the risk of displacement is still assessed and classified as low for (i) cocoa farming expansion and (ii) artisanal gold panning and medium for (i) illegal logging and (ii) demographic pressure due to population migrations to the program area.

Table 2: Strategies to combat deforestation and forest degradation

Drivers of deforestation or degradation	Displacement risk	Strategy / Action
Expansion of agriculture	Low	- Distribution of 12 million forest tree seedlings to cocoa producers by the café-cocoa council in 2022. - Sustainable production and improvement of income of producers: 336,347 Ha of cocoa agroforestry plots between 2022 and 2023 257,425 producers made aware of the new forest code, law enforcement, forest protection and restoration. These values can be checked on page 15 of this report .

Illegal logging of timber and fuelwood	Medium	Production of fuelwood, timber, and the use of improved stoves, promotion of butane gas and the use of agricultural residues and agro-industrial by-products.
Artisanal gold panning	Low	- Strengthen the surveillance capacity of OIPR to prevent any intrusions and monitor these borderline activities (page 25) ; - Identify artisanal gold miners, restructure the sector with the implementation of the mining code. The gold panning rationalization program can be viewed at the following link.
Demographic Pressures (migration into the ERP zone)	Medium	- Contractualization of occupants of individual or community forest concessions to carry out agroforestry activities, participatory and improved management of classified forests, participatory development plan under preparation (Haute dodo and Rapide graph forest management plans) - Clarification and securing of land tenure and conflict resolution through the National Program for Securing Rural Land (PNSFR) which was launched in July 2018 and is led by AFOR through the PNSFR, which is implemented through several projects including PAFR which can be view here.
Economic factors	Low	- 23,155 producers benefit from payment for services environmental. 150,878 producers registered for formal financial products and services with support from businesses. These values can be checked on page 15 of this report . - Identification of beneficiaries of monetary payments for emissions reductions from the First reporting period. A platform has been developed for the management of beneficiaries and is available here - 55 microprojects, also called income-generating activities (AGR), were approved.
Factors linked to the absence of regional development schemes or plans	Low	- A national map of land occupation was produced in 2023, it will be the basis for the development of local development plans in each region. This map is available here . - Intensifying awareness-raising, information, training, and communication campaigns. Details of this information can be found at this link Page 72 -76

Effectiveness of organizational arrangements and involvement of partner organizations

Institutional arrangements for program implementation are in place and effective. The entities and partners involved in the implementation of the program are the same as those in the first notification.

The political and cross-sectoral commitment of the various ministries for REDD+ is materialized by the creation, by [Decree](#), of a **National REDD+ Commission**, an intersectoral organization for analysis, counselling and guidance for the implementation of the REDD+ mechanism in Côte d'Ivoire. It is composed of:

- a **National REDD+ Committee** (CN-REDD+) in charge of steering the REDD+ mechanism;
- a **REDD+ Interministerial Technical Committee** (CTI REDD+) in charge of intersectoral coordination, proposing to CN-REDD+ the main guidelines for reducing emissions from deforestation and forest degradation, and planning the implementation of CN-REDD+ decisions;
- and a **REDD+ Permanent Executive Secretariat** (SEP-REDD+) which is responsible for implementing the REDD+ process, mechanisms, and tools at the national level. It is responsible for coordinating the actions and investments

of all players to achieve the objectives in terms of reducing emissions and compliance with environmental and social safeguard directives. It also ensures (i) the monitoring of reduced emissions, (ii) the monitoring of the implementation and compliance with environmental and social safeguard standards, the monitoring of complaints and appeals and the application of conflict resolution decisions and (iii) reporting to the World Bank carbon fund.

The Ministry of Economy and Finance (MEF), signatory of the ERPA contracts, is the entity responsible for the implementation and success of the program. It is responsible for managing the register of carbon transactions and transfers of emission reduction titles resulting from the implementation of the program. It transferred responsibility of distributing monetary benefits to program beneficiaries, as per a [subsidiary agreement](#), to the **Foundation for Parks and Reserves of Côte d'Ivoire** ([FPRCI](#)).

The Ministry of the Environment is the administrative authority of SEP-REDD+, OIPR and ANDE.

- **Ivorian Office of Parks and Reserves** (OIPR): Responsible for the management of National Parks and nature reserves including the Taï National Park, Mount Peko National Park and the N'zo natural reserve complex, making it the largest West African primary tropical forest under protection. OIPR ensures the management of ER targeted national parks through enhanced patrolling, natural regeneration of degraded areas and awareness raising at the local level to ensure avoided deforestation.

- [National Environment Agency](#) ¹(ANDE): The ANDE's fundamental mission is to ensure that environmental concerns are taken into account in policies, plans, programs (PPP), and development projects initiated in Côte d'Ivoire. As such, it aims to effectively encourage all project holders to comply with national environmental regulatory requirements and to integrate their activities into a sustainable development approach. To do so, it has three (03) tools based on current regulatory texts that constitute the core of its major activities: (i) Strategic Environmental Assessment (SEA), (ii) Environmental and Social Impact Assessment (ESIA), and (iii) Environmental Audit (EA). All project activities included in the PRE receive support from ANDE in this regard. The Forest Investment Project (Phase 1) is among the projects receiving such support.

The Ministry of Water and Forest ([MINEF](#)): Responsible for the preparation and implementation of Government policy on the management of forest, wildlife and water resources. It also coordinates the cocoa and forests initiative and it is the supervisory ministry for:

- The **Forest Development Company** (SODEFOR): whose mission is to participate in the development and implementation of Government policy in terms of enriching the national forest heritage, developing forest production, enhancing the value of products and safeguarding forest areas. It is responsible for the management of 234 classified forests spread throughout the national territory, including 24 in the programme area.

The **Ministry of State, Ministry of Agriculture and Rural Development** (MEMINADER): Responsible for the implementation of agricultural policy at the national level. It is also the administrative guardian of:

- o **National Rural Development Support Agency** ([ANADER](#)): its mission is to "contribute to the improvement of living conditions in the rural world through the professionalization of farmers and professional agricultural organizations by designing and implementing appropriate tools and approaches, programs adapted to ensure sustainable and controlled development". As such, it provides support to farmers in the program area with regard to the implementation of sustainable practices.
- o [Coffee-Cocoa Board](#): is responsible for managing all activities related to the Coffee-Cocoa sector in Côte d'Ivoire. It has several missions, including regulating, stabilizing and developing the sector. Its role is to bring technological innovations and scientific research closer to producers and to support rural producers in adopting best practices related to smart agriculture, intensification and agroforestry;
- Private operators in the agricultural sector and the timber sector
- NGOs
- Bilateral agencies.

Their role is to develop and implement activities aimed at reducing greenhouse gas emissions in the program area.

¹ www.ande-ci.com

For the smooth running of the emissions reduction project (ERP) 6 meetings including 3 for the steering committee and 3 for the technical committee between 2022 and 2023. All reports attached to the lists of participants are available [here](#).

Updates on the assumptions in the financial plan and any changes in circumstances that positively or negatively affect the financial plan and the implementation of the ER Program:

With regard to the financial plan, the ERP, like all REDD+ projects, is results-based and aims to capitalise on the efforts of the programmes, projects and initiatives (Table 1) and public and private investments implemented in the zone. It should be remembered that the country obtained USD 35,000,000 from the revenues generated by the sale of emission reductions (7,016,884 Tco2eq) during the first notification.

These funds are managed by the Foundation for the Parks and Reserves of Côte d'Ivoire (FPRCI) and are used for the day-to-day management of the project, MRV activities, estimating reduced emissions and monitoring the implementation of activities in compliance with environmental and social safeguards. These funds are also intended to reward the beneficiaries (direct and indirect) of the ERP based on a [benefit-sharing plan](#). Details of the distribution of benefits from the first notification are available in Annex 2.

1.2 Update on major drivers and lessons learned

The drivers of deforestation and forest degradation initially described in the program area through [Nitidae and BNETD \(2016\)](#)² have not changed since the ERPD was written.

These are mainly agriculture, with cocoa farming in the lead, uncontrolled logging, bush fires (accidental or intentional, often linked to agriculture or hunting) and mining, particularly illegal artisanal gold panning. This information has been confirmed by the data assessment work on activities, the detailed results of which can be found in [section 3](#).

To address these factors of deforestation and forest degradation, various measures are taken while minimising the risk of displacement of populations from the programme area. These measures include agroforestry and agricultural intensification with sustainable agricultural practices, land-use planning and development, rehabilitation of gold panning sites plus income-generating activities, participatory management of classified forests between local communities and managers, and the issuing of land certificates. These measures are detailed in section 1.1.

All these measures are implemented through various projects, including the FIP, the activities of the private cocoa sector, and the National Rural Land Tenure Security Program (PNSFR) and the cocoa and forest initiative, described in detail in [section 1.1](#) by the partner entities also presented in [section 1.1](#).

Several lessons have been learned in mitigating displacement risks. Thus, the strategies associated with these risks show that they are low for agricultural expansion and artisanal gold mining, and medium for illegal exploitation of energy wood and timber, and the displacement of populations outside the program area. The activities implemented to mitigate displacement risks are adapted to local economic and social conditions, and are mainly based on incentives, rationalization and sustainable management of natural resources exploitation and the valorization of non-carbon benefits. With regard to demographic pressure exerted on the program area, all activities currently being carried out at the national or regional level have helped limit the effect of demographic pressures. These are:

- Planning of land use and development, through support for the integration of development and management plans for protected areas (SRADT) Community plantations - food and energy wood associations in classified forests ;
- Strengthening the capacities of local communities in forest management through the Forest Investment Project phase 2.

² Nitidae and BNETD (2016):Qualitative analysis of drivers of deforestation and forest degradation in Côte d'Ivoire
<http://reddplus.ci/download/analyse-qualitative-des-facteurs-de-deforestation-et-de-degradation-des-forets-en-cote-divoire-2/>

Finally, the traceability program developed as part of the Cocoa and Forests Initiative and the “zero-deforestation” policy for monitoring the cocoa supply chain coupled with the National Forest Monitoring System (NFMS) make it possible to track and detect deforestation and degradation through satellite image interpretation and on the ground. Movement surveillance is monitored both inside and outside the program boundaries.

2 SYSTEM FOR MEASUREMENT, MONITORING AND REPORTING EMISSIONS AND REMOVALS OCCURRING WITHIN THE MONITORING PERIOD

2.1 Forest Monitoring System

The monitoring system, whose role is to assess the country's performance in reducing emissions from deforestation and forest degradation, is implemented with several national actors according to their fields of competence.

In Côte d'Ivoire, SEP-REDD+ has the lead on National Forest Monitoring System (NFMS) activities. As such, it coordinates the work of stakeholder organisations, both at the national level and in the ERP zone, for (i) estimating data on land use change activities, (ii) estimating biomass and emission factors for the different relevant vegetation strata, (iii) estimating GHG emissions/removals due to REDD+ activities, and (iv) notifying GHGI to partners for verification.

The organisations in charge of producing activity data (AD) are:

- [BNETD/CIGN](#) is the national reference centre for map production (topographic maps and thematic maps). It produces mapping data and develops geographic information systems necessary for the study, implementation, and operation of land use planning. It coordinates and controls mapping and remote sensing work on behalf of the State of Côte d'Ivoire. In general, these are "wall-to-wall" maps that are produced from satellite image processing coupled with data collection campaigns in the field;
- [CNTIG](#) which is responsible for defining policy, organising and coordinating programmes in the field of geoinformation and applied remote sensing;
- [SODEFOR](#) is the entity responsible for providing data (geographical, socio-economic, and other statistics) related to the sustainable management of classified forests;
- OIPR is responsible for providing data (geographical, socio-economic, and other statistics) related to the management of parks and reserves;
- SEP-REDD+ is responsible for the compilation, quality control and archiving of data collected by national entities and the estimation of uncertainties associated with the surface areas of the strata
- Universities and research centres (CURAT, IGT, CNF, CSRS and INPHB) contribute to the development of methodologies and quality control of data collected by other organisations producing data on activities. In addition, the data ;

The organisations in charge of producing data on biomass and emission factors are:

- The Ministry in charge of forests (MINEF) which is the national organisation in charge of carrying out forest and wildlife inventories. As such, a national inventory of forest and wildlife resources was carried out between 2019 and 2021, in partnership with SODEFOR, OIPR and ANADER;
- SEP-REDD+, which in 2016, in partnership with SODEFOR, conducted a [forest inventory](#) to estimate the biomass of forests;
- SODEFOR, which collects dendrometric data as part of the development inventories of the classified forests under its management;
- Universities and research centres which, as part of their research work, collect dendrometric data in various ecosystems, both forest and agricultural, which are used to estimate emission factors. They also participate in the quality control of the data collected by the above-mentioned entities.

The estimation of GHG emissions/removals and emission reductions achieved from the implementation of projects and other policies on land use/land cover changes is the responsibility of SEP-REDD+.

- **Selection and management of GHG data and information**

The data used for the GHG inventory come, as indicated in the previous paragraph, from different sources. The choice of data to be used depends on a number of factors including: (i) the spatial and temporal coverage of the data, (ii) the suitability of the methodology used for its production and standard operating procedures.

National data are preferred when they meet the above conditions. Otherwise, or in the absence of relevant national data, data are sought from relevant international databases.

For the same category of data, the data are compiled, cleaned, consolidated, and archived in databases designed for this purpose and available on the SEP-REDD+ servers. This makes it possible to make them accessible later for processing but also and above all for any verifications that may be necessary.

Thus, the mapping data used for the calculation of the country's emissions or the ERP were produced by BNEDT/CIGN following a methodology validated at the national level by the various stakeholders such as universities, research centres and competent national organisations. This methodology also includes the process of validation of the data produced, which meets national and international standards.

Missing biomass data are selected based on different sources of information such as research results conducted in the country or in the sub-region and published, e.g. the values used for agroforestry and cocoa biomass.

- **Process for collecting, processing, consolidating and reporting GHG data and information**

Initially, for the production of activity data, data collection was carried out by BNEDT/CIGN with the participation of other organisations such as CNTIG, SODEFOR, OIPR and universities and research centres (CURAT, IGT).

This data collection was carried out at two levels : the collection of satellite images on relevant websites³ and the collection of field data to serve as training data for classification algorithms. The data produced underwent validation at national level before publication. This validation consisted of photo-interpretation, using tools such as [Collect Earth](#) or [free open-source mapping software](#) of sample units produced according to a stratified random design.

However, it should be noted that the methodology for estimating the AD has been improved in terms of the type of sampling and size. This change is in response to technological developments in data, tools and new technical considerations (Pagliarella & al., 2017⁴; McRoberts & al., 2018⁵; Olofsson & al., 2020⁶; Sandker & al., 2021⁷). This is the same approach we used for the first notification.

Indeed, accurate and precise estimates of land cover/land use change area are essential to compare and measure the effect of policies and activities to mitigate, adapt or prevent climate change impact. However, individual maps contain errors which, when combined to make land cover area estimates, increase bias and prevent the characterisation of land use change to the standards required by the international community.

The methodological approach developed in 2018 for the ERPD described area estimates through a combination of data based on visual interpretation of sampling units and the use of maps. In practice, it consisted of using classified and combined maps to design a reference sample according to the practices described by Olofsson (2013⁸, 2014⁹). This approach used by SEP REDD+ in 2018 for the FREL development of the ERP was updated in October 2022 with support from the World Bank, FAO and the Institut Géographique National-France International (IGN- FI), to measure reduced emissions in a robust and more accurate manner.

³ CNES website for Spot Word Heritage : <https://regards.cnes.fr/user/swh/modules/60>

Earth explorer : <https://regards.cnes.fr/user/swh/modules/60>

European Space Agency website : <https://sentinel.esa.int/web/sentinel/access-to-sentinel-data-via-the-copernicus-data-space-ecosystem>

⁴Pagliarella, et al. 2017. Spatially-balanced sampling versus unbalanced stratified sampling for assessing forest change: evidences in favor of spatial balance. <https://sci-hub.wf/10.1007/s10651-017-0378-y>

⁵McRoberts, et al. 2018. The effects of imperfect reference data on remote sensing-assisted estimators of land cover class proportions. <https://sci-hub.wf/10.1016/j.isprsjprs.2018.06.002>

⁶ Olofsson & al., 2020: Mitigating the effects of omission errors on area and area change estimates.

<https://www.sciencedirect.com/science/article/pii/S0034425719305115>

⁷Sandker & al., 2021: The Importance of High-Quality Data for REDD+ Monitoring and Reporting. <https://www.mdpi.com/1999-4907/12/1/99>

⁸Olofsson, et al. 2013. Making better use of accuracy data in land change studies: Estimating accuracy and area and quantifying uncertainty using stratified estimation. <https://sci-hub.wf/10.1016/j.rse.2012.10.031>

⁹Olofsson, et al. 2014. Good practices for estimating area and assessing accuracy of land change. <https://sci-hub.wf/10.1016/j.rse.2014.02.015>

In the new approach, the interpreted sampling units for the estimation of land use change areas are distributed according to a systematic sampling grid spaced at 1 km, which leads to a very dense sampling design (i.e. [46415 points](#) over the ERP area, 4,000 of which are intended for visual and fixed interpretation.

In the process, once the sampling grid was established, information from several global layers (GFC, TMF, ESA, DW, ESRI, etc.) was extracted for each point, as well as a time series of standardized vegetation indices, from different remote sensing sensors (Landsat, Sentinel). The breaks in these series of indices were determined using different algorithms (BFAST, CUSUM, CCDC, LandTrendR, as well as standard statistical descriptors). All this information was integrated into a clustering model in order to identify the trajectory (stable or change) of each of the points. Taking into account the time and resources available, a sample of 4000 points sufficiently representative of the set of 46415 was selected from the combined Dalenius-Neyman method.

the same sampling will be used for the collection of past and future data. In order to harmonise the interpretations between the different operators and to reduce as much as possible the interpretation errors that could induce noise in the results, the process of sampling unit visual interpretation has been standardised by developing interpretation keys (link available [here](#)).

The information on emission/absorption factors comes from the 2016 national forest inventory conducted by MINEDD through SEP-REDD+ and SODEFOR.

To update the activity data for the preparation of the second ERP notification report, the SEP-REDD+ MRV team has recruited 10 national photo-interpretation consultants specialising in remote sensing and geographic information systems, to visually interpret the 4,000 sampling units over the period 2022-2023.

- **Systems and processes that ensure the accuracy of data and information**

Various processes and systems are in place to ensure the accuracy of the data and information produced by the MRV system. These are:

- The implementation of QA/QC processes in all data production processes ;
- The development of [standard operating procedures \(SOPs\)](#) for the collection, processing, archiving and management of data. They are described in detail in the below paragraphs ;

Thus, for the period 2022-2023, the experts of the Côte d’Ivoire MRV team have [built the capacities of the 10 photo-interpreter consultants](#) in accordance with the SOPs initially defined for the first notification.

- Given that only a few land cover changes were identified between 2022 and 2023, the Ivory Coast MRV team agreed with FAO to update the change probabilities and select additional sampling of [452 points](#) different of the 4,000 points to ensure that deforestation was not underestimated or overestimated. Comparison of the deforestation trend in the 2 interpreted datasets is similar and confirms that the estimates are neither underestimated nor overestimated.

- **Design and maintenance of the Forest Monitoring System**

A [geoportal](#) has been developed as part of the national forest monitoring system. This portal is developed by the CNTIG and allows the sharing of information with the large public.

In addition to a specific [platform](#) has been developed for the registration and management of project beneficiaries. this makes it possible, among other things, to identify the different initiatives contributing to the reduction of emissions in the program area and also to implement the benefit sharing plan.

Improvements are underway to facilitate public consultation of data in the form of a register of emissions reduction initiatives in the PRE area.

Note that the reorganization phase this geoportal is underway and should be finalized by October 2024.

- **Systems and processes that support the Forest Monitoring System, including Standard Operating Procedures (SOPs) and QA/QC procedures**

The daily management of classified forests is carried out by SODEFOR. While that of the rural domain is carried out by the MINEF. It should also be noted that the parks and reserves are monitored and administered by the OIPR. All these entities are responsible for carrying out forest monitoring actions in their respective areas of intervention. For Quality, Assurance and Quality Control have been produced.

Implementation of QA/QC processes in all data production processes:

Case of forest inventory data. A field data collection manual has been developed to serve as a guide. This manual is available [here](#). Subsequently, training of data collection teams was carried out with a view to strengthening their competence. A pilot phase of data collection allowed the teams to understand the collection process; In the field, data collection was done in 2 formats, paper (field sheet) and digital (tablets on which the Collect tool was installed). The verification of the conformity of the data collected on the field sheets and tablets made it possible to make corrections if necessary;- The establishment of mixed teams (SEPREDD+, universities and research centers, and civil society organizations) for missions of control and verification of the data inventoried in the field.

- In terms of activity data, 4 standard operating procedure (SOP) documents have been established. They are described in detail and accessible at the following links:

- [SOP1](#) : Design of the sampling plan. This document describes a spatially referenced, probability-based sampling design and a balanced geographic distribution for estimating land use and land change.
- [SOP2](#) : Response System. This procedure describes how to assign labels (occupancy or land use category) to a sample unit. The response plan provides the best available classification of changes for each spatial unit sampled and contains all the information necessary to replicate the process of labeling the sampling unit. The response plan establishes an objective procedure that interpreters can follow and that reduces interpretation bias.
- [SOP3](#) : Baseline Data Collection. This SOP explains how to set up and execute data collection for visual sample interpretation using primarily remote sensing data for sample information collection and quality management.
- [SOP4](#) : Analysis system. This SOP describes how area estimates and their uncertainties through the combined use of reference data and maps.

- **Role of local communities**

-The National Federation of Environmental and Sustainable Development Networks, NGOs and Associations (FEREAD) has been carrying out awareness-raising and beneficiary mapping actions taking gender into account since 2023. Preparation and training workshops for this network of NGOs carried out in 2023 are available [here](#).

– Traditional authorities and NGOs participate in information, awareness-raising and stakeholder mobilization activities for the implementation of project activities and ensure their continuity.

– Local communities organized into NGOs, associations and others are responsible for contributing to the identification, mapping, and monitoring of the achievements of the direct beneficiaries of the project.

As part of the identification of project beneficiaries, a Notice of Expression of Interest was launched and allows the registration of communities and populations having carried out activities that have contributed to the reduction of emissions. All data (geolocated plots) can be integrated into the national forest monitoring system.

- **Use of basic technical procedures, their uniformity in the country and their consistency with the National Forest Monitoring System**

All procedures and methodologies to produce AD and Emission Factors (EFs) are defined and validated at the national level by all actors in the NFMS. The methodologies designed by these structures (BNETD, CURAT, IGT, CNTIG, SODEFOR, OIPR MINEF), are the same and respond to the local and international context and the roles and responsibilities of the different national organisations remain identical.

The map captions have been harmonised and are used by all the national organisations in their various productions (land use maps and NFI).

The collection procedures on EFs are the same used at national and sub-national level. It should be recalled that the procedure for producing DAs is the one currently used for determining DAs at both subnational and national levels in the context of developing FRELS.

2.2 Updates to the monitoring approach

The monitoring approach has not been updated (compared to the description of the monitoring plan that was provided in the validated version of annex 4 of the first Monitoring Report). As such, this section is not applicable.

2.3 Measurement, monitoring and reporting approach

2.3.1 Line Diagram

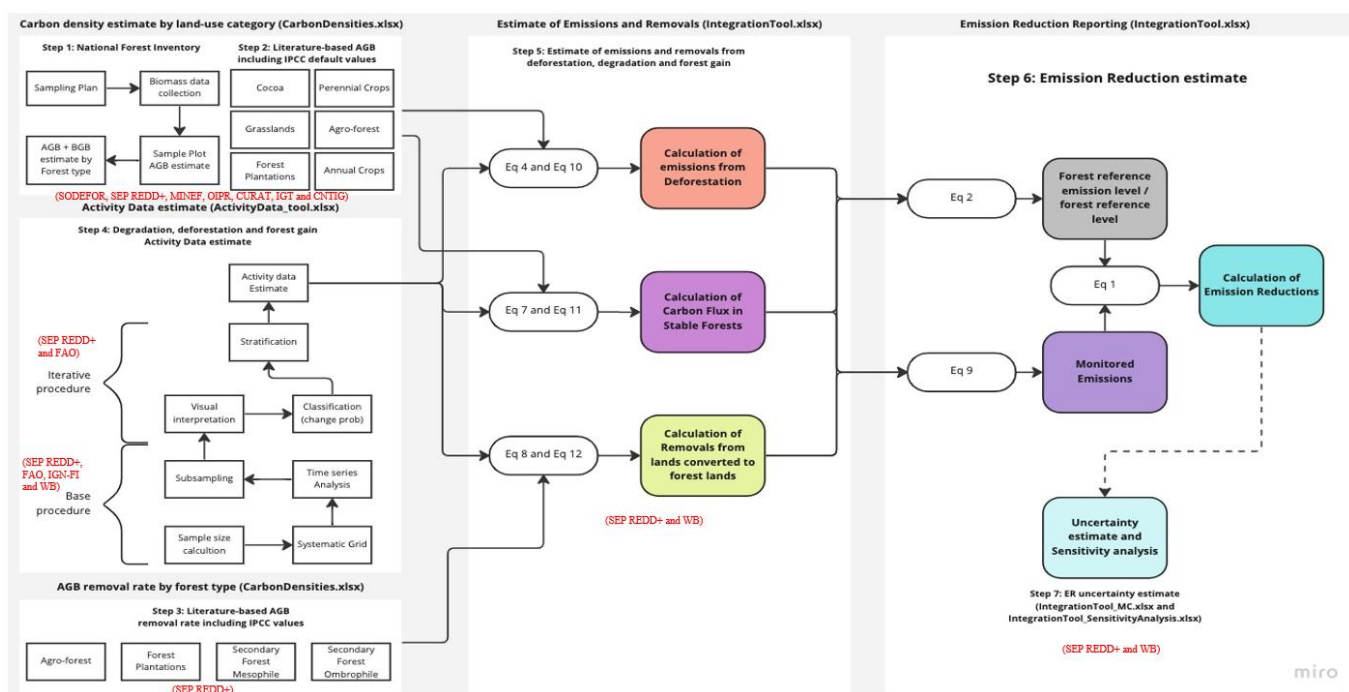


Figure 1: Organizational structure and GHG estimation method

2.3.2 Calculation

>

Emission reduction calculation ($ER_{ERP,t}$):

To determine GHG emission reductions, the same IPCC methods and equations described in Section 8.3 were used over the monitoring period.

$$ER_{ERP,t} = RL_t - GHG_t \quad \text{Equation 1}$$

Where:

- ER_{ERP} = Emission Reductions under the ER Program in the Reporting Period; tCO₂.
- RL_{RP} = Net emissions of the Reference Level over the Reference Period; tCO₂e. This is sourced from previous [ER Monitoring Report](#) and equations are provided below.
- GHG_t = Monitored gross emissions during the Reporting Period; tCO₂e;

T = Number of years during the reporting period; dimensionless.

Reference Level (RL_{RP})

The RL estimation may be found in Annex 4, yet a description of the equations is provided below.

Net emissions of the RL from deforestation over the Reference Period (RL_{RP}) are estimated as the sum of annual change in total biomass carbon stocks (deforestation and degradation), and annual removals (ΔC_{B_t}) during the reference period.

$$RL_{RP} = \frac{\sum_t^{RP} \Delta C_{LU_{RP,i,t}}}{RP} \quad \text{Equation 2}$$

Where:

$\Delta C_{LU_{RP,i,t}}$ = Balance of emissions during the Reference Period in the Accounting Area of the ER Program that corresponds to the sum of annual change in carbon stocks and removals for each of i REDD+ activities at year t; tCO₂*year⁻¹.

RP = Reference period; years.

Technical corrections: The reference level for the ERP was initially determined for 16 years (January 1, 2000 to December 31, 2015) in line with the reference level submitted to the UNFCCC in 2017. However, according to criteria 11.2 and 16 of the Methodological Framework, the reference period should not exceed 15 years. To correct this issue, a pro-rata estimate of a 15-year Forest Reference Emission Level / Forest Reference Level was calculated. Considering that the reference period was estimated based on two monitoring events (2000-2010 and 2010-2015), the emission of the 2000-2010 period was pro-rated to an adjusted period 2001-2010. Finally, the new Reference Level was calculated by adding adjusted emissions of 2001-2010 with emissions of 2010-2015 to obtain the reference level emission adjusted to 15-year reference period.

Annual change in total biomass carbon stocks forest land converted to another land-use category ($\Delta C_{B_{defo,t}}$)

Emissions from deforestation were estimated based on the Deforestation Sheet of Activity data tool following the 2006 IPCC Guidelines, the annual change in total biomass carbon stocks forest land converted to other land-use category ($\Delta C_{B_{defo,t}}$) would be estimated through the following equation:

$$\Delta C_{B_{defo,t}} = \Delta C_G + \Delta C_{CONVERSION} - \Delta C_L \quad \text{Equation 3 (Equation 2.15, 2006 IPCC GL)}$$

Where:

$\Delta C_{B_{defo,t}}$ Annual change in carbon stocks in biomass on land converted to other land-use category, in tones C yr⁻¹;

ΔC_G Annual increase in carbon stocks in biomass due to growth on land converted to another land-use category, in tones C yr⁻¹;

$\Delta C_{CONVERSION}$ Initial change in carbon stocks in biomass on land converted to other land-use category, in tones C yr⁻¹; and

ΔC_L Annual decrease in biomass carbon stocks due to losses from harvesting, fuel wood gathering and disturbances on land converted to other land-use category, in tones C yr⁻¹.

Following the recommendations set in chapter 2.2.1 of the GFOI Methods Guidance Document¹⁰ for applying IPCC Guidelines and guidance in the context of REDD+, the above equation will be simplified and it will be assumed that:

a) the annual change in carbon stocks in biomass (ΔC_B) is equal to the initial change in carbon stocks ($\Delta C_{CONVERSION}$);

¹⁰Page 44, GFOI (2013) Integrating remote-sensing and ground-based observations to estimate emissions and removals of greenhouse gases in forests: Methods and Guidance from the Global Forest Observations Initiative: Pub: Group on Earth Observations, Geneva, Switzerland, 2014.

b) it is assumed that the biomass stocks immediately after conversion is the biomass stocks of the resulting land-use. Therefore, the annual change in carbon stocks would be estimated as follows:

$$\Delta C_B = \Delta C_{CONVERSION}$$

$$\Delta C_{B_t} = \sum_{j,i} \{ (B_{After,i} - B_{Before,j}) \times A(j,i)_{RP} \} \times CF \times \frac{44}{12} \quad \text{Equation 4 (Equation 2.16, 2006 IPCC GL)}$$

Where:

$A(j,i)_{RP}$

Area converted/transited from forest type j to non-forest type i during the Reference Period, in hectares per year. In this case, twenty-four forest land conversions are possible:

- 1 Agro-forest to Cocoa
- 2 Agro-forest to Grassland
- 3 Agro-forest to Human settlement
- 4 Agro-forest to Other crops
- 5 Agro-forest to Other lands
- 6 Agro-forest to Perennial crops
- 7 Dense Forest to Cocoa
- 8 Dense Forest to Grassland
- 9 Dense Forest to Human settlement
- 10 Dense Forest to Other crops
- 11 Dense Forest to Other lands
- 12 Dense Forest to Perennial crops
- 13 Forest plantations / reforestation to Cocoa
- 14 Forest plantations / reforestation to Grassland
- 15 Forest plantations / reforestation to Human settlement
- 16 Forest plantations / reforestation to Other crops
- 17 Forest plantations / reforestation to Other lands
- 18 Forest plantations / reforestation to Perennial crops
- 19 Secondary Forest to Cocoa
- 20 Secondary Forest to Grassland
- 21 Secondary Forest to Human settlement
- 22 Secondary Forest to Other crops
- 23 Secondary Forest to Other lands
- 24 Secondary Forest to Perennial crops

Technical corrections. Initially, in the ERPD, activity data was determined based on the combination of several maps on which a random sampling system is applied to carry out visual interpretations through operators, as recommended by Olofsson et al. (2013 and 2014). Although this approach reduces the errors of omission of change, they remain significant. A hybrid approach for estimating areas has been adopted to correct these errors and obtain relevant and precise results.

$B_{Before,j}$

Total biomass of forest type j before conversion/transition, in tons of dry matter per ha. This is equal to the sum of aboveground ($AGB_{Before,j}$) and belowground biomass ($BGB_{Before,j}$) and it is defined for each forest type.

$B_{After,i}$

Total biomass of non-forest type i after conversion, in tons dry matter per ha. This is equal to the sum of aboveground ($AGB_{After,i}$) and belowground biomass ($BGB_{After,i}$) and it is defined for each of the non-forest IPCC Land Use categories.

Technical corrections. Forest carbon densities: Dense Forest and secondary forest biomass values have been updated considering the recommendations of Carbon Fund participants in 2019 relating to the plot stratification approach. Indeed, the initial approach developed in the ERPD indicated a classification of the sampling units of the forest inventory based on the rate of cover estimated from the visual interpretation of satellite images, deemed irrelevant. Data updating is based on direct field observations that inventory teams provide during surveys. Field sheets¹¹ and database¹² describing the land cover category of the sampling units are available. Biomass values related to agroforests and forest plantations under the ER Program were obtained through the literature. These are the results from work carried out by Asigbaase et al., (2021)¹³ in Ghana. Indeed, before the submission of the ERPD in January 2019, no legal texts were ruling on the agroforest category as a forest class. Since the clarification provided by the forest code LAW N ° 2019-675 OF JULY 23, 2019, available here, this correction has been considered by integrating emission factors from the agroforest category. **Non-Forest carbon densities:** Initially, it was assumed that Cocoa biomass is carbon density for non-forest land use. Other non-forest land use was included in the carbon accounting due to the recalculation of activity data. Therefore, the following carbon densities were included in the calculation of emissions from deforestation: perennial crops, annual crops, and grassland. The biomass values for these land uses were obtained through the literature.

For the aboveground biomass of the annual crop category, the value from IPCC GL 2006, TABLE 5.9, Volume 4, Chapter 5 was used as country specific data is not available¹⁴.

Land category	AGB			
Other crop (annual)	AGB (t/C/ha)	AGB (tdm/ha)	90% Confidence Interval [tdm/ha]	90% Confidence Interval [%]
	2.6	5.53	4.15	75%

CF Carbon fraction of dry matter in tC per ton dry matter. The value used is:

- **0.47** is the default for (sub)tropical forest as per IPCC AFOLU guidelines 2006, Table 4.3.

44/12 Conversion of C to CO₂

Annual change in carbon stocks in biomass on forestland remaining forestland ($\Delta C_{B_{deg,t}}$)

Following the 2006 IPCC Guidelines the annual change in carbon stocks in biomass on forestland remaining forestland ($\Delta C_{B_{deg}}$) could be estimated through the Gain-Loss Method or the Stock-Difference Method as described in Chapter 2.3.1.1 of Volume 4 of the 2006 IPCC Guidelines.

¹¹ NFI Field sheets: https://drive.google.com/drive/folders/1FZjLxTm6qc5RakJ0x2GoOuQNqVbaTNlg?usp=share_link

¹² NFI land cover category database - <http://reddplus.ci/download/forest-type-biomass/>

¹³ Asigbaase, Michael; Dawoe, Evans; Lomax, Barry H.; Sjogersten, Sofie (2021). Biomass and carbon stocks of organic and conventional cocoa agroforests, Ghana. Agriculture, Ecosystems & Environment, 306(), 107192–. doi:10.1016/j.agee.2020.107192 <https://sci->

¹⁴ IPCC 2006, Volume 4, Chapter 5 https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_05_Ch5_Cropland.pdf

$$\Delta C_B = \Delta C_G - \Delta C_L \quad \text{Equation 5 (Equation 2.7, 2006 IPCC GL)}$$

$$\Delta C_B = \frac{(C_{t_2} - C_{t_1})}{(t_2 - t_1)} \quad \text{Equation 6 (Equation 2.8 (a), 2006 IPCC GL)}$$

ΔC_B	Annual change in carbon stocks in biomass for each land sub-category, in tonnes C yr ⁻¹
ΔC_G	annual increase in carbon stocks due to biomass growth for each land sub-category, considering the total area, tonnes C yr ⁻¹
ΔC_L	annual decrease in carbon stocks due to biomass loss for each land sub-category, considering the total area, tonnes C yr ⁻¹
C_{t_2}	total carbon in biomass for each land sub-category at time t_2 , tonnes C
C_{t_1}	total carbon in biomass for each land sub-category at time t_1 , tonnes C

Following the recommendations set in chapter 2.2.2 of the GFOI Methods Guidance Document¹⁵ for applying IPCC Guidelines and guidance in the context of REDD+, the above equation will be simplified, and it will be assumed that: a) the annual change in carbon stocks in biomass (ΔC_B) due to degradation is equal to the annual decrease in carbon stocks (b) the decrease in carbon stocks occurs the year of conversion. The long-term decrease in carbon stocks indicated in equation (1) of the GFOI MGD is assumed here to be zero. Therefore, considering the GFOI MGD the IPCC equation for forest degradation could be expressed as an Emission Factor time activity data as follows:

$$\Delta C_{BDEG} = \sum_j \{EF_j \times A(a, b)_{RP}\} \quad \text{Equation 7}$$

Where:

EF_j	Emission factor for degradation of forest type a to forest type b, tonnes CO ₂ ha ⁻¹ .
$A(a, b)_{RP}$	Area of forest type a converted to forest type b (transition denoted by a,b) during the Reference Period, ha yr ⁻¹ .

Technical corrections. Initially, the forest degradation emissions estimate corresponded to the area of forest land remaining in the Forest Land category with a decrease in cover and biomass in the Ombrophilics and mesophilic areas. It had been considered as forest degradation in those forest areas with a forest cover rate of more than 70% in 2000, which decreased to a forest cover rate between 30-70% in 2015. Now, this calculation corresponds to the areas of forested lands converted into other forest types. All transitions between secondary and dense forests, agroforests, and forest plantations are considered

The below equations are the result of the technical corrections applied to the Program:

Annual change in carbon stocks in biomass on non-forestland converted in forestland ($\Delta C_{B_{reg}}$)

Land converted to forest land CO₂ removals has been estimated following the recommendations set in the Guidance Note for accounting of legacy emissions/removals of the FCPF (version 1). Since the FCPF Methodological Framework requires IPCC Tier 2 or higher method, the net annual CO₂ removals are calculated using equations 2.15 and 2.16 from the 2006 IPCC Guidelines, Volume 4, Chapter 2. These equations were simplified by assuming that the conversion from non-forest to forest occurs during a period from average carbon stocks in non-forest to average carbon stocks in forests. A conservative default period of 20 years is assumed for the forest to grow from the carbon stock levels of non-forest to the level of biomass in the average forest. The removal estimate considers changes in

¹⁵Page 48, GFOI (2013) Integrating remote-sensing and ground-based observations for estimation of emissions and removals of greenhouse gases in forests: Methods and Guidance from the Global Forest Observations Initiative: Pub: Group on Earth Observations, Geneva, Switzerland, 2014.

carbon stocks in aboveground biomass. Using the outcome of equation 2.15 and 2.16, it was determined the changes in the total carbon stocks in biomass (removals) during the reference period as the sum of the total carbon stocks in biomass of all land units. From the point of view of notations, the emission factors in equation EQ7 above would be replaced by RF_{SREG} in enhancement of carbon stocks in new forests.

$$\Delta C_{B_{reg}} = \sum_{LU=1}^n \{RF_{reg} \times A(i,j)_{RP}\} \quad \text{Equation 8}$$

Where:

- RF_{reg} enhancement of carbon stocks in new forests [tCO₂*ha*year⁻¹].
 $A(j,i)_{RP}$ Area of non-forestland i converted to forestland j (transition denoted by i,j) in the Reference Period, ha yr⁻¹.
 LU Land unit.

Technical corrections. Carbon removals estimate include all secondary forest cohorts regenerated after 2000. The Secondary Forest regenerated before the reference period is assumed as Degraded Forests. Land converted to forest land CO₂ removals have been estimated following the recommendations set in the Guidance Note for accounting of legacy emissions/removals of the FCPF (version 1). A conservative default period of 20 years is assumed for the forest to grow from the carbon stock levels of non-forest to the level of biomass in the average forest. The removal estimate considers changes in carbon stocks in aboveground biomass. The changes in the total carbon stocks in biomass (removals) during the reference period were determined as the sum of the total carbon stocks in biomass of all land units. **Removal factors:** in the ER-PD the removals estimate is based on native forest regeneration only. Forest plantation and Agro-forest removals were included. For forest plantations and agroforestry systems IPCC (2006) values of tables 5.2 and 4.10 were used.

Domain	ecological zone	AGB			
Tropical	Tropical moist deciduous	$RF_{reg} < 20$ years	tdm/ha	90% Confidence Interval [tdm/ha]	90% Confidence Interval [%]
			195.5 tdm/ha	175.95	90%

IPCC 2019 refinement to the 2006 Guidelines, volume 4. table 4.8 (updated) aboveground biomass (AGB) in forest *Tectona grandis* plantations (tonnes d.m. ha-1) available [here](#).

BGB annual growth was excluded.

Tectona grandis is used as evidence because this species is indicated as the major species in reforestation in Côte d'Ivoire. This can be verified in the report on the general state of the forest, fauna and flora on page 42. This document is available [here](#). Furthermore, of the values proposed by the IPCC (IPCC 2019 refinement to the 2006 Guidelines, volume 4. table 4.8 updated aboveground biomass in forest plantations), only the species *tectona grandis* is used for reforestation in the ERP area.

Monitored emissions (GHG_t)

Annual gross GHG emissions over the monitoring period in the Accounting Area (GHG_t) are estimated as the sum of annual change in total biomass carbon stocks (ΔC_{B_t}).

$$GHG_t = \frac{\sum_t \Delta C_{LU_{MP,i,t}}}{T} \quad \text{Equation 9}$$

Where:

$\Delta C_{LU_{MP,i,t}}$	=	Balance of emissions during the Monitoring Period in the Accounting Area of the ER Program that corresponds to the sum of annual change in carbon stocks and removals for each of i REDD+ activities at year t ; $tCO_2 \cdot year^{-1}$.
T	=	Number of years during the monitoring period; dimensionless.

Annual change in total biomass carbon stocks forest land converted to another land-use category ($\Delta C_{B_{defo,t}}$)

The annual change in total biomass carbon stocks forest land converted to other land-use category ($\Delta C_{B_{defo,t}}$) would be estimated through **Equation 4** above. Making the same assumptions as described above for the RL the change of biomass carbon stocks could be expressed with the following equation:

$$\Delta C_{B_t} = \sum_{j,i} \{ (B_{After,i} - B_{Before,j}) \times A(j,i)_{RP} \} \times CF \times \frac{44}{12} \quad \text{Equation 10 (Equation 2.16, 2006 IPCC GL)}$$

Where:

$A(j,i)_{RP}$ Area converted/transited from forest type j to non-forest type i during the Reference Period, in hectares per year. In this case, twenty-four forest land conversions are possible:

- 1 Agro-forest to Cocoa
- 2 Agro-forest to Grassland
- 3 Agro-forest to Human settlement
- 4 Agro-forest to Other crops
- 5 Agro-forest to Other lands
- 6 Agro-forest to Perennial crops
- 7 Dense Forest to Cocoa
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- 19 Secondary Forest to Cocoa
- 20 Secondary Forest to Grassland
- 21 Secondary Forest to Human settlement
- 22 Secondary Forest to Other crops
- 23 Secondary Forest to Other lands
- 24 Secondary Forest to Perennial crops

$B_{Before,j}$	Total biomass of forest type j before conversion/transition, in tons of dry matter per ha. This is equal to the sum of aboveground ($AGB_{Before,j}$) and belowground biomass ($BGB_{Before,j}$) and it is defined for each forest type.
$B_{After,i}$	Total biomass of non-forest type i after conversion, in tons dry matter per ha. This is equal to the sum of aboveground ($AGB_{After,i}$) and belowground biomass ($BGB_{After,i}$) and it is defined for each of the non-forest IPCC Land Use categories.

CF	Carbon fraction of dry matter in tC per ton dry matter. The value used is: • 0.47 is the default for (sub)tropical forest as per IPCC AFOLU guidelines 2006, Table 4.3.
44/12	Conversion of C to CO ₂

Annual change in carbon stocks in biomass on forestland remaining forestland ($\Delta C_{B_{deg,t}}$)

The Annual change in carbon stocks in biomass on forestland remaining forestland ($\Delta C_{B_{deg,t}}$) would be estimated through **Equation 7** above. Making the same assumptions as described above for the RL the change of biomass carbon stocks could be expressed with the following equation:

$$\Delta C_{B_{DEG}} = \sum_j \{EF_j \times A(a,b)_{MP}\} \quad \text{Equation 11}$$

Where:

EF_j	Emission factor for degradation of forest type a to forest type b, tones CO ₂ ha ⁻¹ .
$A(a,b)_{MP}$	Area of forest type a converted to forest type b (transition denoted by a,b) during the Monitoring Period, ha yr ⁻¹ .

Annual change in carbon stocks in biomass on non-forestland converted in forestland ($\Delta C_{B_{reg}}$)

Annual change in carbon stocks in biomass on forestland remaining forestland ($\Delta C_{B_{reg}}$) would be estimated through **Equation 8** above. Making the same assumptions as described above for the RL the change of biomass carbon stocks could be expressed with the following equation:

:

$$\Delta C_{B_{reg}} = \sum_{LU=1}^n \{RF_{reg} \times A(i,j)_{MP}\} \quad \text{Equation 12}$$

Where:

RF_{reg}	enhancement of carbon stocks in new forests [tCO ₂ *ha*year ⁻¹].
$A(j,i)_{MP}$	Area of non-forestland <i>i</i> converted to forestland <i>j</i> (transition denoted by <i>i,j</i>) in the Monitoring Period, ha yr ⁻¹ .
LU	Land unit.

3 DATA AND PARAMETERS

3.1 Fixed Data and Parameters

Parameter:	$AGB_{Before,j}$
Description:	<i>Aboveground biomass of forest before conversion,</i>
Data unit:	<i>ton of dry matter per ha</i>
Source of data or description of the method for developing the data including the spatial level of the data (local, regional, national, international):	The data used in this document are from Tier 2 level (country-specific data) and come from the National Forest Inventory of 2017 for forests (dense forest and secondary forest in the ombrophilic sector; dense forest and secondary forest in the mesophilic sector). All NFI data and script can be found here. Each teaching unit has 4 plots, for a total of 600 plots. The data are sufficiently representative of the program area and allowed accurate estimates of emission factors. The biomass of forest strata before conversion was obtained using a 3-phase approach: (i) sampling plan development, (ii) field data collection and (iii) biomass estimation. i. Sampling plan The sampling plan adopted for collecting forest biomass data in Côte d'Ivoire is stratified random and was based on the country's phytogeographical zoning (ombrophilous, Mesophilic, pre-forest and Sudanese). This sampling technique has several advantages, including (i) the elimination of any subjectivity in the choice of sampling units to be measured, (ii) the calculation of parameters per stratum and of the distinct sampling error for certain strata, and (iii) the reduction of the variability of a parameter of a given stratum. Sampling units are available via this link. The sampling units are clusters of 500 m x 500 m consisting of four rectangular observation plots of 25 m x 200 m. Each SU thus covers an area of 25 hectares. The coordinates of the centre of these units correspond to the coordinates of the points on the survey plan. Once the centre of the SU is located and established, the four plots are set up inside the SU and arranged in a cross pattern. They are each located 50 m from the centre of the SU and are numbered clockwise from 1 to 4.

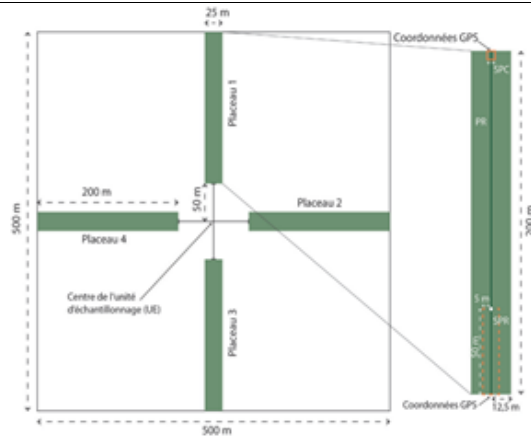


figure 2: Sampling unit

The forest strata resulting from the inventory are recorded in the table below:

IPCC Category	Phytogeographic zones	Forest class
Forest land	Ombrophilous	Dense forest
		Secondary forest
	Mesophilic	Dense forest
		Secondary forest

ii. Data gathering

A three-level collection system is implemented within each SU, corresponding to three different levels of readings:

- level 1 consists of four rectangular plots of 25 m x 200 m each intended for measuring trees with a DBH ≥ 10 cm, standing, dead wood standing, dead wood lying on the main strip (axis of the plot);
- Level 2 consists of a rectangular sub-plot of 10 m x 50 m each located inside each rectangular space. It is intended for measuring trees with small diameters ($5 \text{ cm} \leq \text{DBH} < 10 \text{ cm}$);
- Level 3 consists of a square sub-plot of 5 m x 5 m in each plot and intended for the assessment of biodiversity (count of individuals of woody species with DBH $< 5 \text{ cm}$ and height $\geq 1.30 \text{ m}$).

For levels 1 and 2, the measurements related to the height, the diameter at breast height (DBH = 1.30 m) and observations on the health status of the tree. The diameter of lying dead wood was measured on the 200 m of the main section of the plot (level 1). For level 3, observations focused on the presence or absence of woody species whose total height is greater than or equal to 1.30 m and diameter less than 5 cm.

The details of the collection method can be viewed from the following [link](#).

iii. Estimation of above-ground biomass (AGB) at the sample level

The pantropical allometric equation developed by Chave et al. (2014) was used to convert field measurements into estimates of aboveground biomass (AGB) because it is considered more

	robust (s= 0.357; Akaike Information Criterion (AIC)=3130 and df=4002), recent and covers a wide range of vegetation types, for a total of 4004 trees ranging in trunk diameter from 5 cm to 212 cm, and includes data from other pantropical equations including Brown's equation (1997), the Chave (2005) and that of Fayolle (2013). Model 4 of the Chave et al. (2014) was used for biomass estimates. It is based on the diameter at breast height (DBH), the height of the tree and the basic density of the wood. The mathematical expression of this allometric equation is: $AGB = 0.0673 \times (r \text{ DHP}^2 \text{ H})^{0.976}$ Where : - AGB is the estimated aboveground biomass in Kg; - DHP is the diameter at breast height in cm; - H is the total height of the tree (m); - r is the specific density of the wood (g.cm-3)														
Value applied:	The Aboveground Biomass for the forest land category from the NFI are recorded in the following table. <table><tr><th rowspan="2">Phytogeographic zone</th><th rowspan="2">Forest land category</th><th>AGB</th></tr><tr><th>tdm/ha</th></tr><tr><td rowspan="2">Mesophilic</td><td>Dense forest</td><td>134.70</td></tr><tr><td>Secondary forest</td><td>67.89</td></tr><tr><td rowspan="2">Ombrophilous</td><td>Dense forest</td><td>204.57</td></tr><tr><td>Secondary forest</td><td>107.71</td></tr></table> The Aboveground Biomass Spreadsheet can be viewed via this link and all carbon densities here.	Phytogeographic zone	Forest land category	AGB	tdm/ha	Mesophilic	Dense forest	134.70	Secondary forest	67.89	Ombrophilous	Dense forest	204.57	Secondary forest	107.71
Phytogeographic zone	Forest land category			AGB											
		tdm/ha													
Mesophilic	Dense forest	134.70													
	Secondary forest	67.89													
Ombrophilous	Dense forest	204.57													
	Secondary forest	107.71													
QA/QC procedures applied	To ensure data quality, the following QA/QC procedures were applied: • Design of a field data collection manual to serve as a guide. The manual can be viewed from the following link; • Training of collection teams; • Collection of field data in 2 formats, paper (field sheet) and digital (tablets on which the Collect tool of the Open Foris platform has been installed); • Verification of the conformity of the data collected in the field sheets and tablets; • Constitution of 2 mixed teams for the verification on the ground of 8% of the total of the formed sampling units. These teams were made up of SEP-REDD+, universities and research centres and civil society organizations. This control consisted in carrying out measurements on 8% of all the SUs in order to make comparisons with the measurements collected by the collection teams. In each SU, a plot is randomly selected and information such as plot dimensions, type of occupation and land use, DBH and height and species names were recorded. This information made it possible to correct some gaps.														

	• Clearance and aggregation The information contained on the sheets and in the tablets was checked after the field phase to ensure their compliance and consistency. The field sheets have been digitized and archived. These files can be consulted here. Then, a cross between the 2 information sources made it possible to correct the names of the species, the input errors, the omissions and the commissions in the recording of the data. These operations resulted in a final database, which was used for the calculations of emission factors.																												
Uncertainty associated with this parameter:	Uncertainties in above-ground biomass (AGB) estimates for dense and secondary forests <table><tr><th rowspan="3">Parameter</th><th colspan="4">Above ground biomass (AGB)</th></tr><tr><th colspan="2">Dense forest</th><th colspan="2">Secondary forest</th></tr><tr><th>Ombrophilous</th><th>Mesophilic</th><th>Ombrophilous</th><th>Mesophilic</th></tr><tr><td>Standard error [tdm/ha]</td><td>17.44</td><td>12.91</td><td>9.11</td><td>5.60</td></tr><tr><td>Absolute error [tdm/ha]</td><td>29.83</td><td>22.74</td><td>15.52</td><td>9.62</td></tr><tr><td>Relative error [%]</td><td>14.58</td><td>16.88</td><td>14.41</td><td>14.17</td></tr></table>	Parameter	Above ground biomass (AGB)				Dense forest		Secondary forest		Ombrophilous	Mesophilic	Ombrophilous	Mesophilic	Standard error [tdm/ha]	17.44	12.91	9.11	5.60	Absolute error [tdm/ha]	29.83	22.74	15.52	9.62	Relative error [%]	14.58	16.88	14.41	14.17
Parameter	Above ground biomass (AGB)																												
	Dense forest		Secondary forest																										
	Ombrophilous	Mesophilic	Ombrophilous	Mesophilic																									
Standard error [tdm/ha]	17.44	12.91	9.11	5.60																									
Absolute error [tdm/ha]	29.83	22.74	15.52	9.62																									
Relative error [%]	14.58	16.88	14.41	14.17																									
Any comment:																													

Parameter:	BGB _{Before,j}
Description:	Belowground biomass of category forest j before conversion
Data unit:	Ton of dry matter per hectare
Source of data or description of the method for developing the data including the spatial level of the data (local, regional, national, international):	Belowground biomass is calculated by applying the stem to root ratio on AGB for tropical forest as reported in Table 4.4 IPCC 2006 vol 4 (IPCC, 2006).
Value applied:	

		<table><tr><th rowspan="2">Forest land category</th><th>BGB</th></tr><tr><th>tdm/ha</th></tr><tr><td>dense mesophilic forest</td><td>30.60</td></tr><tr><td>Mesophilic secondary forest</td><td>13.58</td></tr><tr><td>Dense Rainforest</td><td>75.69</td></tr><tr><td>Secondary rain forest</td><td>39.85</td></tr></table>	Forest land category	BGB	tdm/ha	dense mesophilic forest	30.60	Mesophilic secondary forest	13.58	Dense Rainforest	75.69	Secondary rain forest	39.85																
	Forest land category	BGB																											
		tdm/ha																											
	dense mesophilic forest	30.60																											
	Mesophilic secondary forest	13.58																											
	Dense Rainforest	75.69																											
Secondary rain forest	39.85																												
The spreadsheet can be viewed here .																													
All resources (spreadsheets, script and input data) are available here .																													
QA/QC procedures applied	Refer to the QA/QC process of AGB before j																												
Uncertainty associated with this parameter:	Uncertainties in belowground biomass estimates for dense and secondary forests <table><tr><th rowspan="3">Parameter</th><th colspan="4">Below-ground biomass (BGB)</th></tr><tr><th colspan="2">Dense forest</th><th colspan="2">Secondary forest</th></tr><tr><th>Ombrophilous</th><th>Mesophilic</th><th>Ombrophilous</th><th>Mesophilic</th></tr><tr><td>Standard error [tdm/ha]</td><td>6.45</td><td>3.46</td><td>3.37</td><td>1.12</td></tr><tr><td>Absolute error [tdm/ha]</td><td>11.04</td><td>6.09</td><td>5.74</td><td>1.92</td></tr><tr><td>Relative error [%]</td><td>14.58</td><td>19.92</td><td>14.41</td><td>14.17</td></tr></table>	Parameter	Below-ground biomass (BGB)				Dense forest		Secondary forest		Ombrophilous	Mesophilic	Ombrophilous	Mesophilic	Standard error [tdm/ha]	6.45	3.46	3.37	1.12	Absolute error [tdm/ha]	11.04	6.09	5.74	1.92	Relative error [%]	14.58	19.92	14.41	14.17
Parameter	Below-ground biomass (BGB)																												
	Dense forest		Secondary forest																										
	Ombrophilous	Mesophilic	Ombrophilous	Mesophilic																									
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Absolute error [tdm/ha]	11.04	6.09	5.74	1.92																									
Relative error [%]	14.58	19.92	14.41	14.17																									
Any comment:																													

Parameter:	AGB After,i
Description:	Aboveground biomass of the cropland category: cocoa In Côte d'Ivoire, the main driver of deforestation is agriculture, with cocoa production being the lead driver. Forests are largely converted to cocoa plantations, especially in the ER-Program area.
Data unit:	Ton of dry matter per hectare
Source of data or description of the method for developing the data including the spatial level of the data (local, regional,	The biomass for cocoa plantations comes from the study by N'Gbala et al., (2017). Following an inventory carried out in cocoa plantations in the central western zone of the country, they used the diameter measurements at 30 cm from the ground (because cocoa trees generally branch off below 1.30 m) in the allometric equation de Segura et al., (2005), to determine the above-ground biomass of cocoa plantations. The article in PDF can be viewed via this link.

national, international):									
Value applied:	<table border="1"> <tr> <th colspan="2">AGB</th></tr> <tr> <th>Cocoa</th><th>tdm/ha</th></tr> <tr> <td></td><td>37.2</td></tr> </table>	AGB		Cocoa	tdm/ha		37.2		
AGB									
Cocoa	tdm/ha								
	37.2								
QA/QC procedures applied	The above-ground biomass of cocoa plantations considered in this work (37.2 tdm/ha) is taken from the study by N'Gbala et al., (2017) see. the full study can be viewed here. This value more or less coincides with that of the study conducted by Nimo et al, (2021) in Ghana. Fully publication can be viewed by the following link. In their study, they estimated the aboveground biomass of cocoa plantations at 32.02 tdm/ha using the same methodological approach. This difference of about 5 tdm/ha between these two studies could be explained by the difference in age of the inventoried plantations, 26 years and 20 years respectively for N'gbala et al, (2017) and Nimo et al, (2021). Thus, with the addition of local context considerations, the value retained (37.2 tdm/ha) is considered relevant as a value of (above-ground) biomass for cocoa plantations in the ERP area.								
Uncertainty associated with this parameter:	<table border="1"> <tr> <th colspan="2">AGB</th></tr> <tr> <td>SE (standard error)</td><td>2.9</td></tr> <tr> <td>90% CI [tdm/ha]</td><td>4.77</td></tr> <tr> <td>90% CI [%]</td><td>13.34</td></tr> </table>	AGB		SE (standard error)	2.9	90% CI [tdm/ha]	4.77	90% CI [%]	13.34
AGB									
SE (standard error)	2.9								
90% CI [tdm/ha]	4.77								
90% CI [%]	13.34								
Any comment:									

Parameter:	BGB _{After,i}
Description:	Category Belowground Biomass: Cocoa
Data unit:	Ton of dry matter per hectare
Source of data or description of the method for developing the data including the spatial level of the data (local, regional, national, international):	The underground biomass for cocoa plantations comes from the study by N'Gbala et al. (2017). This study applied the allometric model $r^2 = 0.84$ developed by Cairns et al., (1997) and widely used by a number of authors (Somarriba et al., 2013). This model is an accepted methodology within the framework of the IPCC on land use, land use change and forestry (Penman et al., 2003).

Value applied:	<table border="1"> <tr> <th colspan="2">BGB</th></tr> <tr> <th>Cocoa</th><th>tdm/ha</th></tr> <tr> <td></td><td>8.2</td></tr> </table>	BGB		Cocoa	tdm/ha		8.2		
BGB									
Cocoa	tdm/ha								
	8.2								
QA/QC procedures applied	This data from the literature has been re-evaluated by the MRV team in Côte d'Ivoire, which confirms that the values are consistent with those of the program area.								
Uncertainty associated with this parameter:	<table border="1"> <tr> <th colspan="2">BGB</th></tr> <tr> <td>SE (standard error)</td><td>0.6</td></tr> <tr> <td>90% CI [tdm/ha]</td><td>0.99</td></tr> <tr> <td>90% CI [%]</td><td>12.52%</td></tr> </table>	BGB		SE (standard error)	0.6	90% CI [tdm/ha]	0.99	90% CI [%]	12.52%
BGB									
SE (standard error)	0.6								
90% CI [tdm/ha]	0.99								
90% CI [%]	12.52%								
Any comment:									

Parameter:	AGB After _i						
Description:	Aboveground biomass of the category: Perennial crop The category of land of the perennial crop type essentially includes agricultural commodities other than cocoa that are practiced in the ER-Program area. These are particularly rubber and palm oil; <table border="1"> <tr> <th>Category</th><th>Subclass</th></tr> <tr> <td rowspan="2">Perennial crop</td><td>rubber tree</td></tr> <tr> <td>Oil palm tree</td></tr> </table>	Category	Subclass	Perennial crop	rubber tree	Oil palm tree	
Category	Subclass						
Perennial crop	rubber tree						
	Oil palm tree						
Data unit:	Ton of dry matter per hectare						
Source of data or description of the method for developing the data including the spatial level of the data (local, regional, national, international):	The biomass for the perennial crop category is derived from the average biomass of rubber and oil palm plantations. The data for each of them are taken from the literature. These are regional studies carried out in Ghana. Grieco et al., (2012) used information from an inventory in samples of rubber and oil palm plots. They used the sampling protocol used to detect changes in the aboveground biomass carbon pool proposed by the FAO: <i>Assessing carbon stocks and modelling win-win scenarios of carbon sequestration through land-use changes</i>. (Ponce Hernandez, 2004). The average age of plantations considered in this study of 10 years and 20 years respectively for rubber and oil palm. The study by Grieco et al., (2012) can be consulted from the link and complete Ponce Hernandez, (2004) study from this link.						
Value applied:	<table border="1"> <tr> <th colspan="2">AGB</th></tr> <tr> <th>Perennial crop</th><th>tdm/ha</th></tr> <tr> <td></td><td>86.7</td></tr> </table>	AGB		Perennial crop	tdm/ha		86.7
AGB							
Perennial crop	tdm/ha						
	86.7						

QA/QC procedures applied	According to Grieco et al. (2012) each of the crops (rubber and oil palm) have their above-ground biomass estimated in the study: 113.4 tdm for rubber and 60 tdm for oil palm. The relevance of using the average of these values including the applied value has been verified and confirmed by the MRV team in Côte d'Ivoire.								
Uncertainty associated with this parameter:	<table border="1"> <thead> <tr> <th colspan="2">AGB</th></tr> </thead> <tbody> <tr> <td>SE (standard error)</td><td>15.20</td></tr> <tr> <td>90% CI [tdm/ha]</td><td>25</td></tr> <tr> <td>90% CI [%]</td><td>28.84</td></tr> </tbody> </table>	AGB		SE (standard error)	15.20	90% CI [tdm/ha]	25	90% CI [%]	28.84
AGB									
SE (standard error)	15.20								
90% CI [tdm/ha]	25								
90% CI [%]	28.84								
Any comment:									

Parameter:	BGB After,i					
Description:	Belowground biomass of the category: Perennial crop The category of land of the perennial crop type essentially includes agricultural commodities other than cocoa that are practiced in the ER-Program area. These are particularly rubber and palm oil; <table border="1"> <thead> <tr> <th>Category</th><th>Subclass</th></tr> </thead> <tbody> <tr> <td rowspan="2">Perennial crop</td><td>rubber tree</td></tr> <tr> <td>Oil palm tree</td></tr> </tbody> </table>	Category	Subclass	Perennial crop	rubber tree	Oil palm tree
Category	Subclass					
Perennial crop	rubber tree					
	Oil palm tree					
Data unit:	Ton of dry matter per hectare					
Source of data or description of the method for developing the data including the spatial level of the data (local, regional, national, international):	Belowground biomass was calculated by applying the AGB stem-to-root ratio (Cairns et al., 1997; Mokany et al., 2006) considering that the underground biomass represents 20% of the aboveground biomass. All this information can be found in Grieco et al., (2012). Mokany et al (2006) complete study can be viewed by the following link.					
Value applied:	<table border="1"> <thead> <tr> <th colspan="2">BGB</th></tr> </thead> <tbody> <tr> <td rowspan="2">Perennial crop</td><td>tdm/ha</td></tr> <tr> <td>17.4</td></tr> </tbody> </table>	BGB		Perennial crop	tdm/ha	17.4
BGB						
Perennial crop	tdm/ha					
	17.4					
QA/QC procedures applied	According to Grieco et al. (2012) each of the crops (rubber and oil palm) had its underground biomass estimated in the study: 22.8 tdm for rubber and 12 tdm for oil palm. The relevance of using the average of these values including the applied value has been verified and confirmed by the MRV team in Côte d'Ivoire.					
Uncertainty associated						

with this parameter:		BGB		
		SE (standard error)	3.02	
		90% CI [tdm/ha]	4.97	
		90% CI [%]	28.58	
Any comment:				

Parameter:	AGB _{After,i}								
Description:	Aboveground biomass of category: Grassland In the ERP area, the grassland category consists mainly of shrublands as described in the land use class nomenclature available here .								
Data unit:	Ton of dry matter per hectare								
Source of data or description of the method for developing the data including the spatial level of the data (local, regional, national, international):	The data of the biomass for the grass category is taken from a regional study (Ilboudo, 2018) conducted in Burkina Faso (located north of Côte d'Ivoire). The author used inventory data (diameter at breast height and height measurements) in sample units to estimate the above-ground biomass of the grassland category using polynomial allometric equations (Mbow, 2009).								
Value applied:	<table><tr><th colspan="2">AGB</th></tr><tr><th>grassland</th><th>tdm/ha</th></tr><tr><td></td><td>35.33</td></tr></table>	AGB		grassland	tdm/ha		35.33		
AGB									
grassland	tdm/ha								
	35.33								
QA/QC procedures applied	The QA/QC procedure consisted of evaluating the differences between the applied value from Ilboudo (2018) and what has been done elsewhere by other authors. Thus, Amougou et al. (2016) obtained values close to Ilboudo (2018) in their study conducted on the carbon stock estimate in two land units in the savannah zone of Cameroon, available at this link . The results obtained were 15.47 tdm/ha and 32.58 tdm/ha. These values, slightly different from those of Ilboudo (2018), can be explained by the use of different allometric equations and the specificity of the different plant species. The values of these two studies being noticeably close, that of Ilboudo was retained because of the similar regional context with Côte d'Ivoire.								
Uncertainty associated with this parameter:	<table><tr><th colspan="2">AGB</th></tr><tr><td>SE (standard error)</td><td>44.09</td></tr><tr><td>90% CI [tdm/ha]</td><td>72.53</td></tr><tr><td>90% CI [%]</td><td>205.29</td></tr></table>	AGB		SE (standard error)	44.09	90% CI [tdm/ha]	72.53	90% CI [%]	205.29
AGB									
SE (standard error)	44.09								
90% CI [tdm/ha]	72.53								
90% CI [%]	205.29								

Any comment:	

Parameter:	BGB _{After,i}								
Description:	Belowground Biomass Category: Grassland								
Data unit:	Ton of dry matter per hectare								
Source of data or description of the method for developing the data including the spatial level of the data (local, regional, national, international):	Belowground biomass was calculated by applying the AGB stem-to-root ratio (Cairns et al., 1997). According to Cairns et al., 1997 study, belowground biomass can be calculated from aboveground biomass using a global model that they developed for forest root biomass estimation from total aboveground biomass. The study found that below-ground biomass accounts for about 26% of the total biomass. Complete study is available at this address.								
Value applied:	<table border="1"> <tr> <th colspan="2">BGB</th></tr> <tr> <th>grassland</th><th>tdm/ha</th></tr> <tr> <td></td><td>4.55</td></tr> </table>	BGB		grassland	tdm/ha		4.55		
BGB									
grassland	tdm/ha								
	4.55								
QA/QC procedures applied	See AGB grassland								
Uncertainty associated with this parameter:	<table border="1"> <tr> <th colspan="2">BGB</th></tr> <tr> <td>SE (standard error)</td><td>4.82</td></tr> <tr> <td>90% CI [tdm/ha]</td><td>7.93</td></tr> <tr> <td>90% CI [%]</td><td>174.26</td></tr> </table>	BGB		SE (standard error)	4.82	90% CI [tdm/ha]	7.93	90% CI [%]	174.26
BGB									
SE (standard error)	4.82								
90% CI [tdm/ha]	7.93								
90% CI [%]	174.26								
Any comment:									

Parameter:	AGB _{After,j}										
Description:	Above-ground biomass of the agroforest category										
Data unit:	Ton of dry matter per hectare										
Source of data or description of the method for developing the data including the spatial level of the data (local, regional, national, international):	The biomass for cocoa-based agroforests comes from the study by Asigbaase et al., (2021), available at this link . In their methodological approach, they relied on an inventory of different agroforestry systems in Ghana. Using diameter at breast height (DBH) measurements in the allometric equation of Chave et al., (2014) for shade trees and Andrade et al., (2008) for cocoa.										
Value applied:	<table><tr><th colspan="2">AGB</th></tr><tr><th>agroforest</th><th>tdm/ha</th></tr><tr><td></td><td>45.8</td></tr></table>			AGB		agroforest	tdm/ha		45.8		
AGB											
agroforest	tdm/ha										
	45.8										
QA/QC procedures applied	A literature review carried out on the theme related to the quantification of agroforestry systems was carried out in order to confirm our choice of the value applied above. Thus, taking the same approach in Ghana, Nimo et al., (2021) showed that agroforestry systems store around 74 tdm/ha. This difference results from the diversity of the forest species used but especially from the difference of the allometric equations.										
Uncertainty associated with this parameter:	<table><tr><th colspan="2">AGB</th></tr><tr><td>SE</td><td>2.6</td></tr><tr><td>90% CI [tdm/ha]</td><td>4.37</td></tr><tr><td>90% CI [%]</td><td>9.55</td></tr></table>			AGB		SE	2.6	90% CI [tdm/ha]	4.37	90% CI [%]	9.55
AGB											
SE	2.6										
90% CI [tdm/ha]	4.37										
90% CI [%]	9.55										
Any comment:											

Parameter:	$BGB_{After,j}$
Description:	Belowground biomass of the agroforest category

Data unit:	Ton of dry matter per hectare								
Source of data or description of the method for developing the data including the spatial level of the data (local, regional, national, international):	Belowground biomass was calculated by applying the AGB stem-to-root ratio (Cairns et al., 1997). The article is available at the following link .								
Value applied:	<table border="1"> <tr> <th colspan="2">BGB</th></tr> <tr> <th>agroforest</th><th>tdm/ha</th></tr> <tr> <td></td><td>8.4</td></tr> </table>	BGB		agroforest	tdm/ha		8.4		
BGB									
agroforest	tdm/ha								
	8.4								
QA/QC procedures applied	See AGB table agroforest								
Uncertainty associated with this parameter:	<table border="1"> <tr> <th colspan="2">BGB</th></tr> <tr> <td>SE</td><td>0.66</td></tr> <tr> <td>90% CI [tdm/ha]</td><td>1.11</td></tr> <tr> <td>90% CI [%]</td><td>13.22</td></tr> </table>	BGB		SE	0.66	90% CI [tdm/ha]	1.11	90% CI [%]	13.22
BGB									
SE	0.66								
90% CI [tdm/ha]	1.11								
90% CI [%]	13.22								
Any comment:									

Parameter:	AGB _{After} , RF _{reg}
Description:	Removals due to carbon sequestration due to creation of forest plantation
Data unit:	Ton of dry matter per hectare per year (tdm/ha)
Source of data or description of the method for developing the data including the spatial level of the data	The biomass sequestered due to the establishment of forest plantations in the ER-Program area was obtained using the value of aboveground biomass teak (<i>Tectona grandis</i>) default IPCC guidelines (2006) improved in 2019, volume 4 table 4.8 considering the humid tropical zone as an ecological zone.

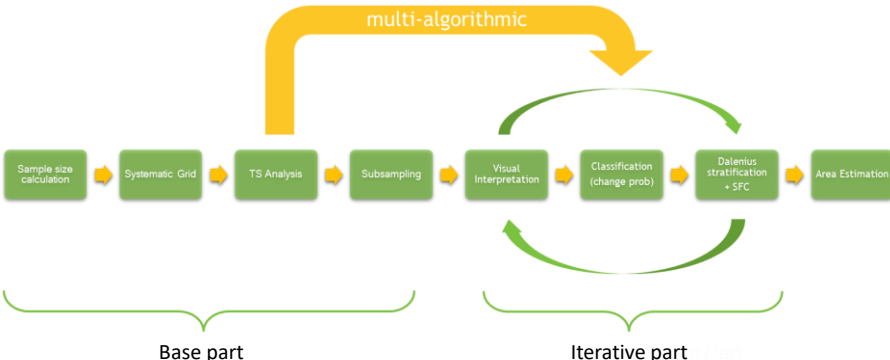
(local, regional, national, international):														
Value applied:	<table><tr><td rowspan="2">Category</td><td colspan="2">AGB</td></tr><tr><td colspan="2">tdm/ha</td></tr><tr><td>Forest plantations / reforestation < 20 yrs</td><td colspan="2">195.5</td></tr><tr><td>Forest plantations / reforestation > 20 yrs</td><td colspan="2">428.9</td></tr></table>			Category	AGB		tdm/ha		Forest plantations / reforestation < 20 yrs	195.5		Forest plantations / reforestation > 20 yrs	428.9	
Category	AGB													
	tdm/ha													
Forest plantations / reforestation < 20 yrs	195.5													
Forest plantations / reforestation > 20 yrs	428.9													
QA/QC procedures applied	N / A													
Uncertainty associated with this parameter:	<table><tr><td rowspan="2">Parameter</td><td colspan="2">AGB</td></tr><tr><td>Forest plantations / reforestation < 20 yrs</td><td>Forest plantations / reforestation > 20 yrs</td></tr><tr><td>90% CI [tdm/ha]</td><td>175.95</td><td>386.01</td></tr><tr><td>Relative error [%]</td><td>90</td><td>90</td></tr></table>			Parameter	AGB		Forest plantations / reforestation < 20 yrs	Forest plantations / reforestation > 20 yrs	90% CI [tdm/ha]	175.95	386.01	Relative error [%]	90	90
Parameter	AGB													
	Forest plantations / reforestation < 20 yrs	Forest plantations / reforestation > 20 yrs												
90% CI [tdm/ha]	175.95	386.01												
Relative error [%]	90	90												
Any comment:														

Parameter:	BGB After, RFreg
Description:	Removals in the BGB due to carbon sequestration due to creation of forest plantation
Data unit:	Ton of dry matter per hectare per year (tdm/ha)
Source of data or description of the method for developing the data including the spatial level of the data (local, regional, national, international):	The root shoot ratio developed by MOKANY, KAREL & Raison, RJ & Prokushkin, Anatoly in 2005 was used: Critical analysis of root: Shoot ratios in terrestrial biomes. Available at this address .

Value applied:	Category		BGB
			tdm/ha
	Forest plantations / reforestation < 20 yrs		45.94
	Forest plantations / reforestation > 20 yrs		100.8
QA/QC procedures applied	These data from the literature were confirmed by the MRV team in Côte d'Ivoire, which ensured the consistency of the values for the program area.		
Uncertainty associated with this parameter:	BGB		
	Parameter	Forest plantations / reforestation < 20 yrs	Forest plantations / reforestation > 20 yrs
	90% CI [tdm/ha]	3.68	8.06
	Relative error [%]	8	8
Any comment:			

Parameter:	$A(j, i)$
Description:	<i>Area converted from forest type j to non-forest type i during the reference period (2000-2015).</i>
Data unit:	<i>Hectare per year.</i>
Value monitored during this Monitoring / Reporting Period:	Deforestation between 2000 and 2015 (reference period)

	Transition	Mesophile Forest						Ombrophile Forest					
		2000-2010			2011-2015			2000-2010			2010-2015		
		Area (ha)	CI	%Error	Area (ha)	CI	%Error	Area (ha)	CI	%Error	Area (ha)	CI	%Error
Deforestation	AF-CC	3,126	2,289	73%	6,192	4,631	75%	6,389	4,385	69%	6,757	4,721	70%
	AF-GG	625	1,027	164%	625	1,027	164%	609	1,000	164%	609	1,000	164%
	AF-HH	-	-	-	-	-	-	1,217	1,414	116%	-	-	-
	AF-OC	1,875	1,776	95%	3,126	2,289	73%	2,737	3,640	133%	1,217	1,414	116%
	AF-OL	-	-	-	-	-	-	-	-	-	-	-	-
	AF-PC	-	-	-	-	-	-	-	-	-	609	1,000	164%
	DF-CC	26,224	8,098	31%	5,137	3,794	74%	81,269	13,201	16%	28,789	7,954	28%
	DF-GG	5,260	3,642	69%	-	-	-	12,059	5,177	43%	6,822	3,997	59%
	DF-HH	-	-	-	-	-	-	609	1,000	164%	-	-	-
	DF-OC	3,506	2,986	85%	625	1,027	164%	16,707	6,783	41%	8,039	4,239	53%
	DF-OL	-	-	-	625	1,027	164%	-	-	-	-	-	-
	DF-PC	-	-	-	-	-	-	609	1,000	164%	-	-	-
	PP-CC	-	-	-	-	-	-	-	-	-	-	-	-
	PP-GG	-	-	-	-	-	-	-	-	-	-	-	-
	PP-HH	-	-	-	-	-	-	-	-	-	-	-	-
	PP-OC	-	-	-	-	-	-	-	-	-	-	-	-
	PP-OL	-	-	-	-	-	-	-	-	-	-	-	-
	PP-PC	-	-	-	-	-	-	-	-	-	-	-	-
	SF-CC	32,893	9,816	30%	25,477	8,073	32%	58,149	12,568	22%	81,012	15,669	19%
	SF-GG	5,382	3,471	65%	11,255	6,267	56%	12,560	5,705	45%	8,866	4,992	56%
	SF-HH	-	-	-	625	1,027	164%	-	-	-	934	1,536	164%
	SF-OC	12,014	5,076	42%	12,065	6,966	58%	27,333	8,949	33%	12,625	5,120	41%
	SF-OL	-	-	-	2,060	3,388	164%	-	-	-	-	-	-
	SF-PC	-	-	-	2,685	3,540	132%	7,672	3,874	51%	12,188	6,856	56%
Degradation between 2000 and 2015 (reference period)													
	Transition	Mesophile Forest						Ombrophile Forest					
		2000-2010			2011-2015			2000-2010			2010-2015		
		Area (ha)	CI	%Error	Area (ha)	CI	%Error	Area (ha)	CI	%Error	Area (ha)	CI	%Error
Degradation	AF	104,091	18,981	18%	105,097	19,095	18%	155,153	25,166	16%	158,197	25,255	16%
	AF-DF	-	-	-	-	-	-	-	-	-	-	-	-
	AF-PP	-	-	-	-	-	-	-	-	-	-	-	-
	AF-SF	625	1,027	164%	-	-	-	-	-	-	609	1,000	164%
	DF	18,575	7,948	43%	7,749	5,525	71%	744,177	52,628	7%	682,492	51,449	8%
	DF-AF	4,009	3,341	83%	1,250	1,452	116%	3,369	2,521	75%	3,369	2,521	75%
	DF-PP	-	-	-	-	-	-	-	-	-	-	-	-
	DF-SF	13,082	6,271	48%	3,188	3,862	121%	67,090	12,779	19%	15,274	7,326	48%
	PP	-	-	-	-	-	-	-	-	-	-	-	-
	PP-AF	-	-	-	-	-	-	-	-	-	-	-	-
	PP-DF	-	-	-	-	-	-	-	-	-	-	-	-
	PP-SF	-	-	-	-	-	-	-	-	-	-	-	-
	SF	89,503	17,551	20%	45,732	13,038	29%	183,164	26,178	14%	120,595	21,512	18%
	SF-AF	5,186	4,089	79%	4,561	3,960	87%	7,649	4,790	63%	16,771	8,526	51%
	SF-DF	-	-	-	-	-	-	-	-	-	2,128	3,500	164%
	SF-PP	-	-	-	-	-	-	-	-	-	-	-	-
Forest between 2000 and 2015 (reference period)													
	Transition	Mesophile Forest						Ombrophile Forest					
		2000-2010			2011-2015			2000-2010			2010-2015		
		Area (ha)	CI	%Error	Area (ha)	CI	%Error	Area (ha)	CI	%Error	Area (ha)	CI	%Error
Forest Gain	SF-Before 00-10	103,210	18,411	18%	49,667	13,544	27%	250,255	28,719	11%	134,629	22,770	17%
	SF-00_10	1,250	1,452	116%	625	1,027	164%	2,128	3,500	164%	2,128	3,500	164%
	SF-10_15	-	-	-	3,936	3,825	97%	-	-	-	3,369	2,521	75%
	SF-15_20	-	-	-	-	-	-	-	-	-	-	-	-
	SF-20_21	-	-	-	-	-	-	-	-	-	-	-	-
	PP-Before 00-10	-	-	-	-	-	-	-	-	-	-	-	-
	PP-00_10	-	-	-	-	-	-	-	-	-	-	-	-
	PP-10_15	-	-	-	-	-	-	-	-	-	-	-	-
	PP-15_20	-	-	-	-	-	-	-	-	-	-	-	-
	PP-20_21	-	-	-	-	-	-	-	-	-	-	-	-
	AF-Before 00-10	113,287	19,584	17%	103,344	18,996	18%	166,779	25,707	15%	157,588	25,238	16%
	AF-00_10	1,753	2,120	121%	1,753	2,120	121%	-	-	-	-	-	-
	AF-10_15	-	-	-	8,056	6,114	76%	-	-	-	9,126	5,696	62%
	AF-15_20	-	-	-	-	-	-	-	-	-	-	-	-
	AF-20_21	-	-	-	-	-	-	-	-	-	-	-	-

	Dense Forest – DF; Secondary Forest – SF; Forest plantations / reforestation – PP; Agro-forest – AF; Cocoa – CC; Perennial crops – PC, Other crop – OC; Human settlement – HH; Grassland – GG; Other lands – OL. All these values are available here.
Source of data and description of measurement/ calculation methods and procedures applied:	The activity data used for the reference period was obtained from a sampling approach for estimating areas that incorporates the following characteristics: A sufficiently dense and balanced sample size to capture changes in land cover classes. Hybrid machine (algorithm) / human (visual) interpretation to assign land cover classes and changes: Several change detection algorithms, from several sources of satellite images and/or other spatially explicit information and visual interpretation were used to detect change classes. Cross-validation principle, both for machine interpretation (convergence of evidence) and human interpretation (elimination of subjective bias). This required the formalization of decision rules. Quality control and integrated quality assurance at all stages of the process. 5. The FAO technical team in charge of forest monitoring has developed tools to facilitate the design and implementation of this approach. All these tools and resources are available via this link: The figure below shows the different stages of the process:  <i>Figure 3: Steps in the methodological process for estimating activity data</i> Sampling design An empirical analysis with a reference product (ESA CCI map 2015-2020) shows that a systematic sampling of 1km x 1km over the ERP area is required to capture the changes with a relative sampling error of less than 15% on the land cover change classes. On this basis a rectangular systematic grid of 46,415 points was generated as illustrated in the figure below. The tool erp_01_sbae_design was developed to generate the samples.

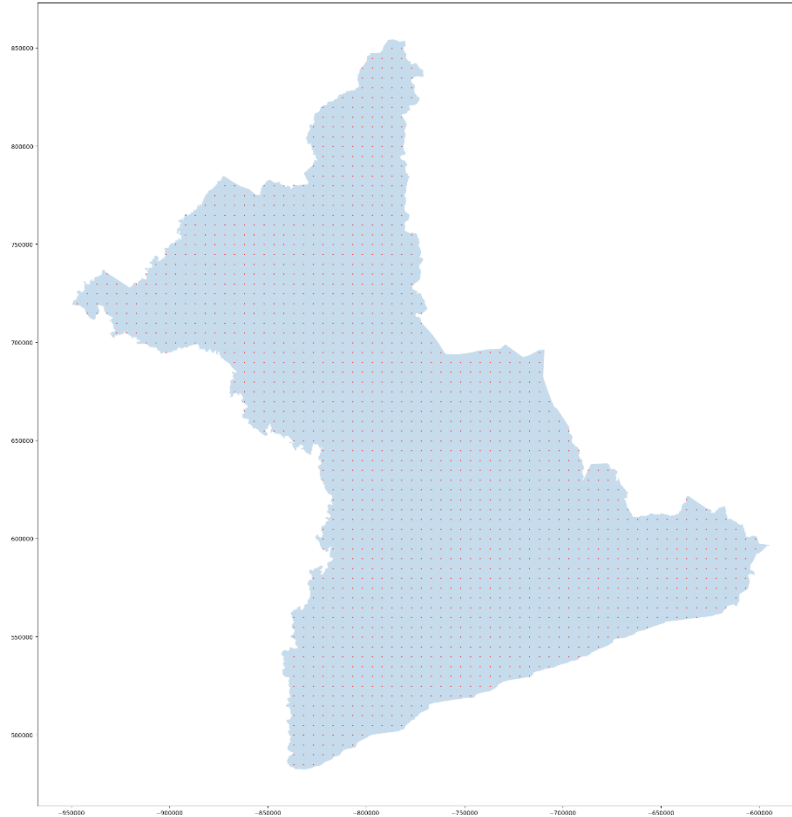


Figure 4: 1 sqkm grid adapted in the ERP

This established sampling system is stable over time and can be re-used for the regular updating of land cover change statistics.

Extraction of data (variables) from the assembly approach

Information from several global layers (TMF, GFC, ESA, DW, ESRI) is extracted for each of the points, as well as the normalized vegetation indices, from the entire Landsat archive. These index series are also analyzed with several algorithms (BFAST, CUSUM, CCDC, LandTrendR, and standard statistical descriptors). The list of variables used for this set approach is shown in the following table. These operations were performed using the notebook [erp_02_extract_ts.](#)

Name	Variables	Description	Reference	Link
Grid information	LON', 'LAT', 'PLOTID'	Coordinates and unique identifier of each point	Grid information	https://github.com/sepal-contrib/sbae_point_analysis
SRTM DEM	aspect', 'elevation', 'slope'	Digital elevation model variables	Farr et al. 2007	https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2005RG000183

	Dyna mic World	dw_class_mo de', 'dw_tree_pro b__max', 'dw_tree_pro b__min', 'dw_tree_pro b__stdDev', 'dw_tree_pro b__mean'	Dominant Dynamic World land cover class and tree probabilities	Brown et al., 2022	https://www.nature.com/articles/s41597-022-01307-4
	ESA LC 2020	esa_lc20'	Global land cover product at 10 m resolution for 2020 based on Sentinel-1 and 2 data	Zanaga et al. 2021	https://worldcover2020.esa.int/
	ESRI LC 2020	esri_lc20'	Sentinel-2 10m land cover time series of the world from 2017-2021	Karra, et al. 2021	https://www.arcgis.com/home/item.html?id=d3da5dd386d140cf93fc9ecbf8da5e31
	GFC	gfc_gain', 'gfc_loss', 'gfc_lossyear', 'gfc_tc00'	Global Forest Change variables	Hansen et al. 2013	https://earthenginepartners.appspot.com/science-2013-global-forest
	Canop y height model	lang_tree_he ight'	Tree height	Lang et al., 2022	https://arxiv.org/abs/2204.08322
	Forest canop y height	potapov_tree _height'	Tree height	Potapov et al., 2020	https://www.sciencedirect.com/science/article/pii/S0034425720305381
	TMF	tmf_20xx'.. 'tmf_20yy', 'tmf_defyear', 'tmf_degyear', 'tmf_main', 'tmf_sub'	Tropical Moist Forest variables, including yearly land cover	Vancutsem et al., 2021	https://www.science.org/doi/10.1126/sciadv.abe1603
	Lands at Time series	dates', 'ts', 'images', 'mon_images',	Dates, spectral values and total number of USGS Landsat 4 to 9 acquisitions, Level 2, Collection 2, Tier 1	USGS, 2008	https://www.usgs.gov/landsat-missions/landsat-collection-2-level-1-data
	CCDC	ccdc_change _date', 'ccdc_magnit ude'	Continuous change detection and classification of land cover using all available Landsat data	Zhu and Woodcock, 2014	https://www.sciencedirect.com/science/article/pii/S0034425714000248
	LandT rendR	ltr_magnitud e', 'ltr_dur', 'ltr_yod', 'ltr_rate',	Temporal segmentation for forest disturbance and recovery	Kennedy et al., 2010	https://www.sciencedirect.com/science/article/pii/S0034425710002245

	'ltr_end_year',			
BFAST	bfast_change_date', 'bfast_magnitude', 'bfast_means',	Near real-time disturbance detection using satellite image time series	Verbesselt et al., 2013	https://www.sciencedirect.com/science/article/pii/S0034425712001150?via%3Dihub
CUSUM	cusum_change_date', 'cusum_confidence', 'cusum_magnitude'	Cumulative Sum Test to Detect Land-Cover Changes	KelIndorfer, et al. 2019	https://gis1.serviglobal.net/TrainingMaterials/SAR/Ch3-Content.pdf
TS metrics	ts_mean', 'ts_sd', 'ts_min', 'ts_max'	Basic statistical metrics describing the time series	Vollrath, unpublished	https://github.com/sepal-contrib/sbae_point_analysis
Boots trap	bs_slope_mean', 'bs_slope_sd', 'bs_slope_max', 'bs_slope_min'	Basic statistical metrics describing the trend of the time series	Vollrath, unpublished	https://github.com/sepal-contrib/sbae_point_analysis

Using the tool [erp_02_extract_ts](#), made it possible to associate the information above with each sample.

Unsupervised aggregation of points

The information is injected into a cluster model that identifies points with similar trajectories for the different products. The clusters have different sizes, and correspond to homogeneous groupings of points, a priori distinguishing between change points and stable points. The goal is to make an unsupervised classification of the information on the points, to have different a priori batches of points with different trajectories of change. This allows points to be selected from all clusters to have a representative training dataset to be interpreted.

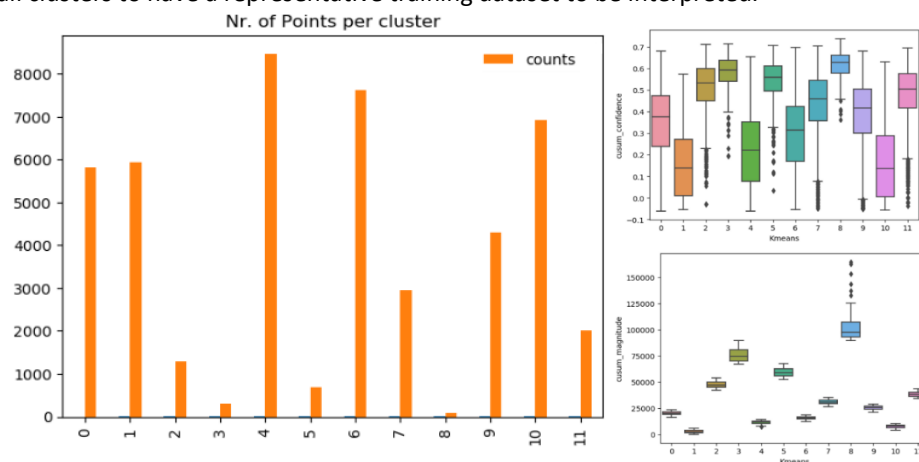


Figure 5 : Unsupervised cluster analysis (12 clusters 30 pts max / cluster 339 points)

The next step is to draw a small number of points (here ~30) in each of the clusters (339 in total) to produce a training dataset with descriptive variables of land use status and trends.
<https://app.collect.earth/collection?projectId=32912>

A project has been generated to collect this information by visual interpretation.



Figure 6: First interpreted dataset and survey form.

The collection of this reduced set of points is also an opportunity to check the robustness of the [interpretation keys](#).

Supervised classification 1

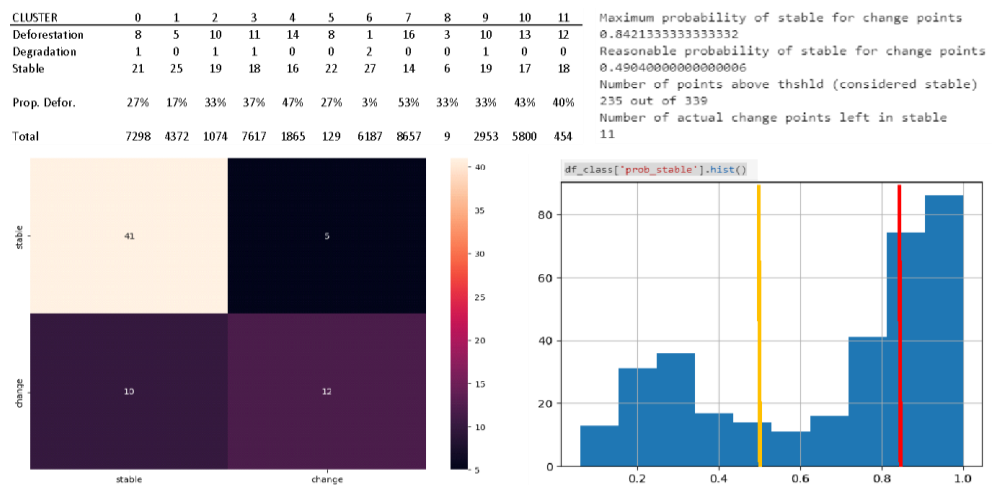


Figure 7 : Distribution of probabilities of being stable in the interpreted data set (339 points)

The data is then used to perform a supervised classification of the set of points with respect to land use change types.

Figure 7 illustrates the results of the supervised classification with two classes (deforestation and stable), through the distribution of the probabilities of being stable, for each of the 339 points. The red bar indicates the probability threshold (0.84) beyond which no change points

were recorded and the yellow bar indicates the 90% percentile (probability of 0.49). The 339 sample points were considered statistically insufficient to represent the entire sample.

To address this shortcoming a second training dataset with a number of points was determined based on the approach described by Hidiroglou, M.A. and Kozak, M. (2018) and Dalenius, T. and Hodges Jr, J.L.(1957). It increases the precision of estimates by assigning different sampling fractions to strata. For this dataset, we have 692 samples (Figure 8).

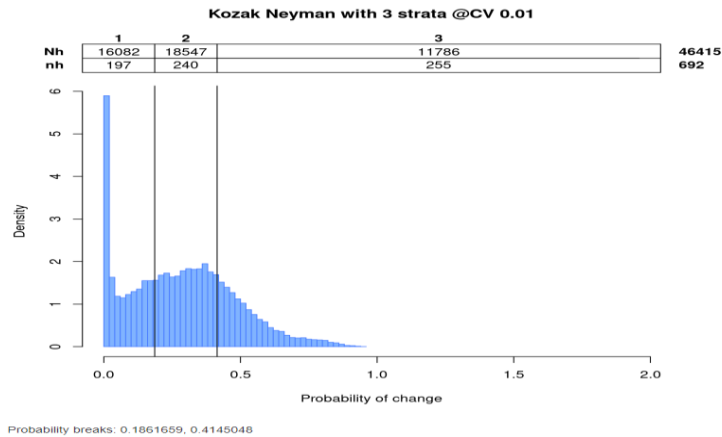


Figure 8: Change probability de changement according to Kozak Neyman

Supervised classification 2

The dataset of 692 points was interpreted according to the selection in the previous figure in order to serve as training for supervised classification using the *Random Forest* algorithm. This classification gives a good distribution and confirms the good representativeness of the 692 points in relation to the whole.

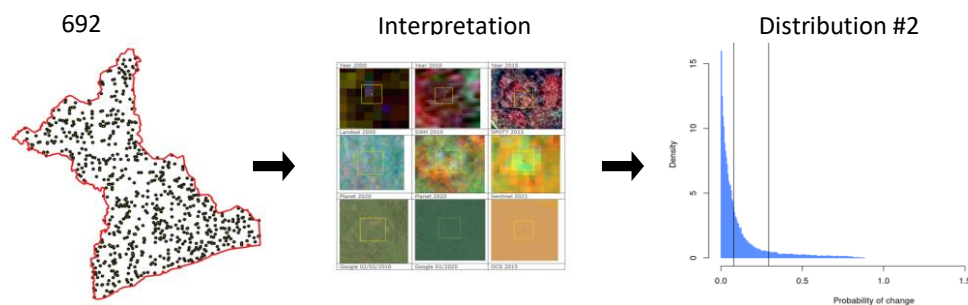


Figure 9: Supervised classification to achieve better class separation.

Final selection

Using the actual observed variance of the 692 points already interpreted, the combined Dalenius - Neyman method with 3 strata could be applied to arrive at the final selection of 3308 points, i.e. a total of 4000 points (with 692 points already interpreted) as illustrated in Figure 10. below.

These points were then interpreted in order to obtain the different classes of change in the ERP area over the period 2000 to 2021, thus covering the reference period (2000-2015) and the monitoring period (2020-2021).

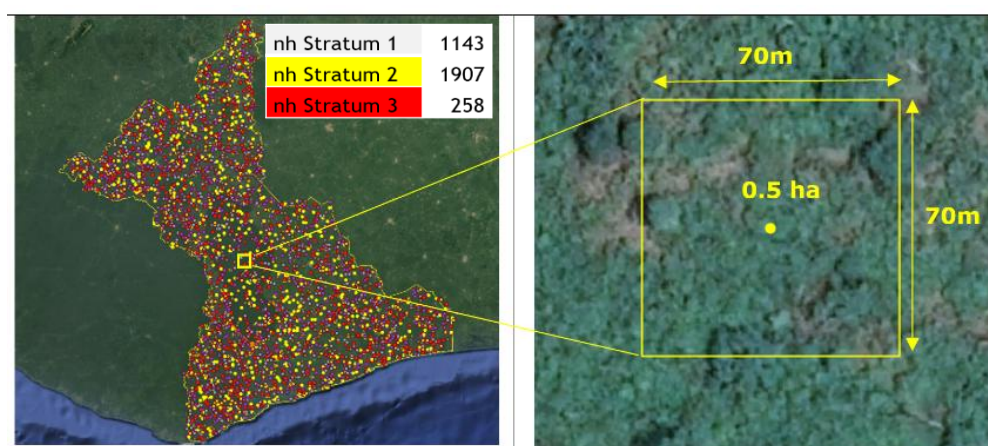


Figure 10 : Final Sample and exemple of a sample point

Sample Interpretation

The interpretation rules mentioned above were then presented and implemented during a workshop held in Paris, France from December 12 to 16, 2022 with the presence of IGN FI, World Bank and SEP REDD+ teams. This workshop helped harmonize the interpretations and reduce the margins of uncertainty. Following this workshop, all 4,000 selected points were interpreted. An analysis of the disagreements between interpretations was made possible by the double interpretation of the 692 points.

Following the analysis of the disagreements on the 692 points, it was necessary to perform a more thorough quality control in order to reduce the potential errors of interpretation as much as possible. Therefore, the points on which at least one change had been detected during the period 2000-2015 and 2020-2021 were reinterpreted representing 995 samples out of a total of 4,000.

Statistical analysis

All 4,000 samples, including those that were reinterpreted, were used as the basis for calculating area estimates and their uncertainty.

The estimation of activity data was done using the stratified random estimator based on the formulas described by Cochran (1977) and GFOI (2020). Estimates are made for each of the land use categories considered (11 classes) and in terms of changes from one period to another representing a total of more than 60 effective combinations.

Estimates and associated uncertainties are produced for each combination and for each phytogeographic zone (Mesophilic, Umbrophilic and Sub-Sudanian) considering the stratification applied. A detailed description of the calculation methods is available in the SOP_4_Data analysis_RCI.docx document.

QA/QC procedures applied:

The QA/QC procedures applied consisted of:

First, standard operating procedures (SOPs) were developed as described in section 2.1

Interpretation was done by highly qualified professionals from the Ingénierie Géographique Numérique Française à l'International (IGN-FI based in France) who are specialized in the interpretation of land cover with satellite imagery.

	Also, a cross-interpretation of the first series of sample points (692) was carried out by expert photo-interpreters from IGN-FI who had not taken part in the first interpretation and the MRV experts from SEP REDD+. This step made it possible to assess the accuracy and bias of the photointerpretation to ensure better calibration. Following the analysis of the disagreements of the cross-interpretation, it appeared necessary to reinterpret a little less than 1000 samples in order to minimize the potential interpretation errors. The statistics associated with the different land use changes to determine the Activity Data were carried out by IGN-FI. The accuracy of the calculations and formulas used were independently verified by the FAO using an experienced statistician.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Uncertainty for this parameter:	<i>Quantification of uncertainties over the reference period (2000-2015)</i> Uncertainty of deforestation between 2000 and 2015 (reference period) <table><tr><th rowspan="3">Transition</th><th colspan="6">Mesophile Forest</th><th colspan="6">Ombrophile Forest</th></tr><tr><th colspan="3">2000-2010</th><th colspan="3">2011-2015</th><th colspan="3">2000-2010</th><th colspan="3">2010-2015</th></tr><tr><th>Area (ha)</th><th>CI</th><th>%Error</th><th>Area (ha)</th><th>CI</th><th>%Error</th><th>Area (ha)</th><th>CI</th><th>%Error</th><th>Area (ha)</th><th>CI</th><th>%Error</th></tr><tr><td rowspan="25">Deforestation</td><td>AF-CC</td><td>3,126</td><td>2,289</td><td>73%</td><td>6,192</td><td>4,631</td><td>75%</td><td>6,389</td><td>4,385</td><td>69%</td><td>6,757</td><td>4,721</td><td>70%</td></tr><tr><td>AF-GG</td><td>625</td><td>1,027</td><td>164%</td><td>625</td><td>1,027</td><td>164%</td><td>609</td><td>1,000</td><td>164%</td><td>609</td><td>1,000</td><td>164%</td></tr><tr><td>AF-HH</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>1,217</td><td>1,414</td><td>116%</td><td>-</td><td>-</td><td>-</td></tr><tr><td>AF-OC</td><td>1,875</td><td>1,776</td><td>95%</td><td>3,126</td><td>2,289</td><td>73%</td><td>2,737</td><td>3,640</td><td>133%</td><td>1,217</td><td>1,414</td><td>116%</td></tr><tr><td>AF-OL</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>AF-PC</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>609</td><td>1,000</td><td>164%</td></tr><tr><td>DF-CC</td><td>26,224</td><td>8,098</td><td>31%</td><td>5,137</td><td>3,794</td><td>74%</td><td>81,269</td><td>13,201</td><td>16%</td><td>28,789</td><td>7,954</td><td>28%</td></tr><tr><td>DF-GG</td><td>5,260</td><td>3,642</td><td>69%</td><td>-</td><td>-</td><td>-</td><td>12,059</td><td>5,177</td><td>43%</td><td>6,822</td><td>3,997</td><td>59%</td></tr><tr><td>DF-HH</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>609</td><td>1,000</td><td>164%</td><td>-</td><td>-</td><td>-</td></tr><tr><td>DF-OC</td><td>3,506</td><td>2,986</td><td>85%</td><td>625</td><td>1,027</td><td>164%</td><td>16,707</td><td>6,783</td><td>41%</td><td>8,039</td><td>4,239</td><td>53%</td></tr><tr><td>DF-OL</td><td>-</td><td>-</td><td>-</td><td>625</td><td>1,027</td><td>164%</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>DF-PC</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>609</td><td>1,000</td><td>164%</td><td>-</td><td>-</td><td>-</td></tr><tr><td>PP-CC</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>PP-GG</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>PP-HH</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>PP-OC</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>PP-OL</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>PP-PC</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>SF-CC</td><td>32,893</td><td>9,816</td><td>30%</td><td>25,477</td><td>8,073</td><td>32%</td><td>58,149</td><td>12,568</td><td>22%</td><td>81,012</td><td>15,669</td><td>19%</td></tr><tr><td>SF-GG</td><td>5,382</td><td>3,471</td><td>65%</td><td>11,255</td><td>6,267</td><td>56%</td><td>12,560</td><td>5,705</td><td>45%</td><td>8,866</td><td>4,992</td><td>56%</td></tr><tr><td>SF-HH</td><td>-</td><td>-</td><td>-</td><td>625</td><td>1,027</td><td>164%</td><td>-</td><td>-</td><td>-</td><td>934</td><td>1,536</td><td>164%</td></tr><tr><td>SF-OC</td><td>12,014</td><td>5,076</td><td>42%</td><td>12,065</td><td>6,966</td><td>58%</td><td>27,333</td><td>8,949</td><td>33%</td><td>12,625</td><td>5,120</td><td>41%</td></tr><tr><td>SF-OL</td><td>-</td><td>-</td><td>-</td><td>2,060</td><td>3,388</td><td>164%</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>SF-PC</td><td>-</td><td>-</td><td>-</td><td>2,685</td><td>3,540</td><td>132%</td><td>7,672</td><td>3,874</td><td>51%</td><td>12,188</td><td>6,856</td><td>56%</td></tr></table> Uncertainty of degradation between 2000 and 2015 (reference period) <table><tr><th rowspan="3">Transition</th><th colspan="6">Mesophile Forest</th><th colspan="6">Ombrophile Forest</th></tr><tr><th colspan="3">2000-2010</th><th colspan="3">2011-2015</th><th colspan="3">2000-2010</th><th colspan="3">2010-2015</th></tr><tr><th>Area (ha)</th><th>CI</th><th>%Error</th><th>Area (ha)</th><th>CI</th><th>%Error</th><th>Area (ha)</th><th>CI</th><th>%Error</th><th>Area (ha)</th><th>CI</th><th>%Error</th></tr><tr><td rowspan="16">Degradation</td><td>AF</td><td>104,091</td><td>18,981</td><td>18%</td><td>105,097</td><td>19,095</td><td>18%</td><td>155,153</td><td>25,166</td><td>16%</td><td>158,197</td><td>25,255</td><td>16%</td></tr><tr><td>AF-DF</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>AF-PP</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>AF-SF</td><td>625</td><td>1,027</td><td>164%</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>609</td><td>1,000</td><td>164%</td></tr><tr><td>DF</td><td>18,575</td><td>7,948</td><td>43%</td><td>7,749</td><td>5,525</td><td>71%</td><td>744,177</td><td>52,628</td><td>7%</td><td>682,492</td><td>51,449</td><td>8%</td></tr><tr><td>DF-AF</td><td>4,009</td><td>3,341</td><td>83%</td><td>1,250</td><td>1,452</td><td>116%</td><td>3,369</td><td>2,521</td><td>75%</td><td>3,369</td><td>2,521</td><td>75%</td></tr><tr><td>DF-PP</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>DF-SF</td><td>13,082</td><td>6,271</td><td>48%</td><td>3,188</td><td>3,862</td><td>121%</td><td>67,090</td><td>12,779</td><td>19%</td><td>15,274</td><td>7,326</td><td>48%</td></tr><tr><td>PP</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>PP-AF</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>PP-DF</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>PP-SF</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>SF</td><td>89,503</td><td>17,551</td><td>20%</td><td>45,732</td><td>13,038</td><td>29%</td><td>183,164</td><td>26,178</td><td>14%</td><td>120,595</td><td>21,512</td><td>18%</td></tr><tr><td>SF-AF</td><td>5,186</td><td>4,089</td><td>79%</td><td>4,561</td><td>3,960</td><td>87%</td><td>7,649</td><td>4,790</td><td>63%</td><td>16,771</td><td>8,526</td><td>51%</td></tr><tr><td>SF-DF</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>2,128</td><td>3,500</td><td>164%</td></tr><tr><td>SF-PP</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>	Transition	Mesophile Forest						Ombrophile Forest						2000-2010			2011-2015			2000-2010			2010-2015			Area (ha)	CI	%Error	Area (ha)	CI	%Error	Area (ha)	CI	%Error	Area (ha)	CI	%Error	Deforestation	AF-CC	3,126	2,289	73%	6,192	4,631	75%	6,389	4,385	69%	6,757	4,721	70%	AF-GG	625	1,027	164%	625	1,027	164%	609	1,000	164%	609	1,000	164%	AF-HH	-	-	-	-	-	-	1,217	1,414	116%	-	-	-	AF-OC	1,875	1,776	95%	3,126	2,289	73%	2,737	3,640	133%	1,217	1,414	116%	AF-OL	-	-	-	-	-	-	-	-	-	-	-	-	AF-PC	-	-	-	-	-	-	-	-	-	609	1,000	164%	DF-CC	26,224	8,098	31%	5,137	3,794	74%	81,269	13,201	16%	28,789	7,954	28%	DF-GG	5,260	3,642	69%	-	-	-	12,059	5,177	43%	6,822	3,997	59%	DF-HH	-	-	-	-	-	-	609	1,000	164%	-	-	-	DF-OC	3,506	2,986	85%	625	1,027	164%	16,707	6,783	41%	8,039	4,239	53%	DF-OL	-	-	-	625	1,027	164%	-	-	-	-	-	-	DF-PC	-	-	-	-	-	-	609	1,000	164%	-	-	-	PP-CC	-	-	-	-	-	-	-	-	-	-	-	-	PP-GG	-	-	-	-	-	-	-	-	-	-	-	-	PP-HH	-	-	-	-	-	-	-	-	-	-	-	-	PP-OC	-	-	-	-	-	-	-	-	-	-	-	-	PP-OL	-	-	-	-	-	-	-	-	-	-	-	-	PP-PC	-	-	-	-	-	-	-	-	-	-	-	-	SF-CC	32,893	9,816	30%	25,477	8,073	32%	58,149	12,568	22%	81,012	15,669	19%	SF-GG	5,382	3,471	65%	11,255	6,267	56%	12,560	5,705	45%	8,866	4,992	56%	SF-HH	-	-	-	625	1,027	164%	-	-	-	934	1,536	164%	SF-OC	12,014	5,076	42%	12,065	6,966	58%	27,333	8,949	33%	12,625	5,120	41%	SF-OL	-	-	-	2,060	3,388	164%	-	-	-	-	-	-	SF-PC	-	-	-	2,685	3,540	132%	7,672	3,874	51%	12,188	6,856	56%	Transition	Mesophile Forest						Ombrophile Forest						2000-2010			2011-2015			2000-2010			2010-2015			Area (ha)	CI	%Error	Area (ha)	CI	%Error	Area (ha)	CI	%Error	Area (ha)	CI	%Error	Degradation	AF	104,091	18,981	18%	105,097	19,095	18%	155,153	25,166	16%	158,197	25,255	16%	AF-DF	-	-	-	-	-	-	-	-	-	-	-	-	AF-PP	-	-	-	-	-	-	-	-	-	-	-	-	AF-SF	625	1,027	164%	-	-	-	-	-	-	609	1,000	164%	DF	18,575	7,948	43%	7,749	5,525	71%	744,177	52,628	7%	682,492	51,449	8%	DF-AF	4,009	3,341	83%	1,250	1,452	116%	3,369	2,521	75%	3,369	2,521	75%	DF-PP	-	-	-	-	-	-	-	-	-	-	-	-	DF-SF	13,082	6,271	48%	3,188	3,862	121%	67,090	12,779	19%	15,274	7,326	48%	PP	-	-	-	-	-	-	-	-	-	-	-	-	PP-AF	-	-	-	-	-	-	-	-	-	-	-	-	PP-DF	-	-	-	-	-	-	-	-	-	-	-	-	PP-SF	-	-	-	-	-	-	-	-	-	-	-	-	SF	89,503	17,551	20%	45,732	13,038	29%	183,164	26,178	14%	120,595	21,512	18%	SF-AF	5,186	4,089	79%	4,561	3,960	87%	7,649	4,790	63%	16,771	8,526	51%	SF-DF	-	-	-	-	-	-	-	-	-	2,128	3,500	164%	SF-PP	-	-	-	-	-	-	-	-	-	-	-	-
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	DF-CC	26,224	8,098	31%	5,137	3,794	74%	81,269	13,201	16%	28,789	7,954	28%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	DF-GG	5,260	3,642	69%	-	-	-	12,059	5,177	43%	6,822	3,997	59%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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	DF-OC	3,506	2,986	85%	625	1,027	164%	16,707	6,783	41%	8,039	4,239	53%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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	SF-CC	32,893	9,816	30%	25,477	8,073	32%	58,149	12,568	22%	81,012	15,669	19%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SF-GG	5,382	3,471	65%	11,255	6,267	56%	12,560	5,705	45%	8,866	4,992	56%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SF-HH	-	-	-	625	1,027	164%	-	-	-	934	1,536	164%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SF-OC	12,014	5,076	42%	12,065	6,966	58%	27,333	8,949	33%	12,625	5,120	41%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SF-OL	-	-	-	2,060	3,388	164%	-	-	-	-	-	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SF-PC	-	-	-	2,685	3,540	132%	7,672	3,874	51%	12,188	6,856	56%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Transition	Mesophile Forest						Ombrophile Forest																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2000-2010			2011-2015			2000-2010			2010-2015																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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Degradation	AF	104,091	18,981	18%	105,097	19,095	18%	155,153	25,166	16%	158,197	25,255	16%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	AF-DF	-	-	-	-	-	-	-	-	-	-	-	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	AF-PP	-	-	-	-	-	-	-	-	-	-	-	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	AF-SF	625	1,027	164%	-	-	-	-	-	-	609	1,000	164%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	DF	18,575	7,948	43%	7,749	5,525	71%	744,177	52,628	7%	682,492	51,449	8%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	DF-AF	4,009	3,341	83%	1,250	1,452	116%	3,369	2,521	75%	3,369	2,521	75%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	DF-PP	-	-	-	-	-	-	-	-	-	-	-	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	DF-SF	13,082	6,271	48%	3,188	3,862	121%	67,090	12,779	19%	15,274	7,326	48%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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	SF	89,503	17,551	20%	45,732	13,038	29%	183,164	26,178	14%	120,595	21,512	18%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SF-AF	5,186	4,089	79%	4,561	3,960	87%	7,649	4,790	63%	16,771	8,526	51%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SF-DF	-	-	-	-	-	-	-	-	-	2,128	3,500	164%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	SF-PP	-	-	-	-	-	-	-	-	-	-	-	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

Uncertainty of forest gain between 2000 and 2015 (reference period)													
Transition	Mesophile Forest						Ombrophile Forest						
	2000-2010			2011-2015			2000-2010			2010-2015			
	Area (ha)	CI	%Error	Area (ha)	CI	%Error	Area (ha)	CI	%Error	Area (ha)	CI	%Error	
Forest Gain	SF-Before 00-10	103,210	18,411	18%	49,667	13,544	27%	250,255	28,719	11%	134,629	22,770	17%
	SF-00_10	1,250	1,452	116%	625	1,027	164%	2,128	3,500	164%	2,128	3,500	164%
	SF-10_15	-	-	-	3,936	3,825	97%	-	-	-	3,369	2,521	75%
	SF-15_20	-	-	-	-	-	-	-	-	-	-	-	-
	SF-20_21	-	-	-	-	-	-	-	-	-	-	-	-
	PP-Before 00-10	-	-	-	-	-	-	-	-	-	-	-	-
	PP-00_10	-	-	-	-	-	-	-	-	-	-	-	-
	PP-10_15	-	-	-	-	-	-	-	-	-	-	-	-
	PP-15_20	-	-	-	-	-	-	-	-	-	-	-	-
	PP-20_21	-	-	-	-	-	-	-	-	-	-	-	-
	AF-Before 00-10	113,287	19,584	17%	103,344	18,996	18%	166,779	25,707	15%	157,588	25,238	16%
	AF-00_10	1,753	2,120	121%	1,753	2,120	121%	-	-	-	-	-	-
	AF-10_15	-	-	-	8,056	6,114	76%	-	-	-	9,126	5,696	62%
	AF-15_20	-	-	-	-	-	-	-	-	-	-	-	-
AF-20_21	-	-	-	-	-	-	-	-	-	-	-	-	
Dense Forest – DF; Secondary Forest – SF; Forest plantations / reforestation – PP; Agro-forest – AF; Cocoa – CC; Perennial crops – PC, Other crop – OC; Human settlement – HH; Grassland – GG; Other lands – OL.													
Any comment:													

3.2 Monitored Data and Parameters

Parameter:	A(j,i)
Description:	Area converted from forest type j to non-forest type i during the monitoring periods (2022-2023). Calculation of emission reductions for the second ER-MR is monitoring periods: 1/1/2022 to 12/31/2023. Three activities were monitored during this period: A- Degradation B- Deforestation C- Forest gain
Data unit:	Hectare per year
Value monitored during this Monitoring / Reporting Period:	A-Monitoring degradation between 2022 and 2023

Transition	Mesophile Forest			Ombrohile Forest			
	2022-2023			2022-2023			
	Area (ha)	CI	%Error	Area (ha)	CI	%Error	
Degradation	AF	114,895	20,249	17.6%	193,889	27,809	14.3%
	AF-DF	-	-	-	-	-	-
	AF-PP	-	-	-	-	-	-
	AF-SF	-	-	-	-	-	-
	DF	5,689	4,372	76.9%	641,701	50,485	7.9%
	DF-AF	-	-	-	-	-	-
	DF-PP	-	-	-	-	-	-
	DF-SF	-	-	-	1,217	1,414	116.2%
	PP	2,060	3,388	164.4%	-	-	-
	PP-AF	-	-	-	-	-	-
	PP-DF	-	-	-	-	-	-
	PP-SF	-	-	-	-	-	-
	SF	23,676	9,785	41.3%	118,026	22,078	18.7%
	SF-AF	-	-	-	-	-	-
	SF-DF	-	-	-	-	-	-
	SF-PP	-	-	-	-	-	-

B- Monitoring deforestation between 2022 and 2023

Transition	Mesophile Forest			Ombrohile Forest		
	2022-2023			2022-2023		
	Area (ha)	CI	%Error	Area (ha)	CI	%Error
Deforestation	AF-CC	-	-	-	-	-
	AF-GG	-	-	-	-	-
	AF-HH	-	-	-	-	-
	AF-OC	-	-	-	-	-
	AF-OL	-	-	-	-	-
	AF-PC	-	-	-	-	-
	DF-CC	-	-	-	-	-
	DF-GG	-	-	-	-	-
	DF-HH	-	-	-	-	-
	DF-OC	-	-	-	-	-
	DF-OL	-	-	-	-	-
	DF-PC	-	-	-	-	-
	PP-CC	-	-	-	-	-
	PP-GG	-	-	-	-	-
	PP-HH	-	-	-	-	-
	PP-OC	-	-	-	-	-
	PP-OL	-	-	-	-	-
	PP-PC	-	-	-	-	-
	SF-CC	-	-	3,062	3,822	124.8%
	SF-GG	-	-	-	-	-
	SF-HH	-	-	-	-	-
	SF-OC	-	-	4,912	3,114	63.4%
	SF-OL	-	-	-	-	-
	SF-PC	-	-	-	-	-

C- Monitoring forest gain between 2022 and 2023							
	Transition	Mesophile Forest			Ombrophile Forest		
		2022-2023			2022-2023		
		Area (ha)	CI	%Error	Area (ha)	CI	%Error
Forest Gain	SF-Before 00-10	30,297	11,030	36.4%	86,985	18,643	21.4%
	SF-00_10	-	-	-	2,128	3,500	164.4%
	SF-10_15	1,250	1,452	116.1%	1,217	1,414	116.2%
	SF-15_20	-	-	-	1,826	1,732	94.8%
	SF-20_21	-	-	-	-	-	-
	PP-Before 00-10	-	-	0.0%	-	-	0.0%
	PP-00_10	-	-	-	-	-	-
	PP-10_15	-	-	-	-	-	-
	PP-15_20	-	-	-	-	-	-
	PP-20_21	2,060	3,388	164.4%	-	-	-
	AF-Before 00-10	-	-	-	-	-	-
	AF-00_10	-	-	0.0%	-	-	0.0%
	AF-10_15	89,662	17,929	20.0%	143,225	24,434	17.1%
	AF-15_20	1,753	2,120	120.9%	-	-	-
	AF-20_21	8,056	6,114	75.9%	9,126	5,696	62.4%
Dense Forest – DF; Secondary Forest – SF; Forest plantations / reforestation – PP; Agro-forest – AF; Cocoa – CC; Perennial crops – PC, Other crop – OC; Human settlement – HH; Grassland – GG; Other lands – OL. All these values are available here between columns AO and AU.							
Source of data and description of measurement /calculation methods and procedures applied:	The 4,000 sampling unit points interpreted for the estimation of activity data for the reference period (2000-2015) and the first monitoring period (2020-2021) were used for the interpretation of the second reporting period (2022 -2023). This is a fixed point grid. That is to say, the same sampling is used for the collection of past, current and future data in order to harmonize interpretations and minimize interpretation errors that could induce noise in the system. Thus, for the period 2022-2023, the experts of the MRV team of Côte d'Ivoire have recruited 10 photo-interpreter consultants for image interpretation in order to detect changes in land cover. The database of 4,000 sample points between 2022 and 2023 in addition to historical interpretations 2000-2021 is available here.						

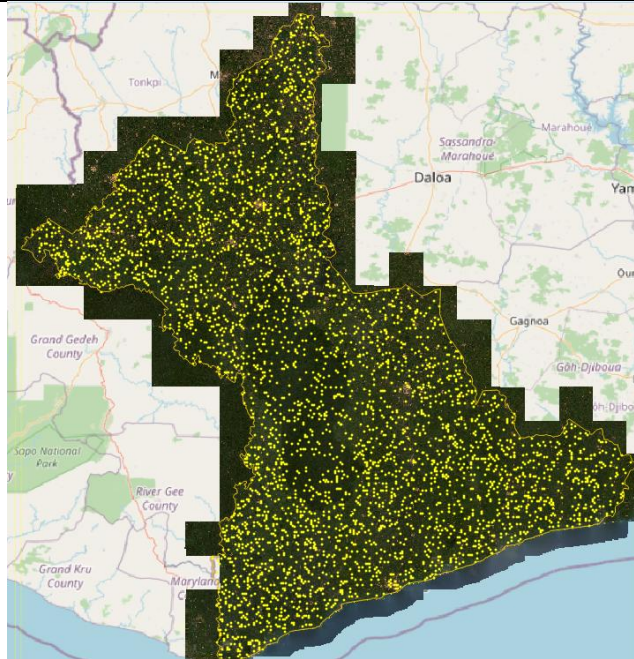


Figure 10 : Spatial distribution of the 4,000 points

**QA/QC
procedures
applied:**

The QA/QC procedures applied consisted of:

First, standard operating procedures (SOPs) were developed as described in section 2.1

Thus, for the period 2022-2023, the experts of the Côte d'Ivoire MRV team have [built the capacities of the 10 photo-interpreter consultants](#) in accordance with the SOPs initially defined for the first notification.

The interpretation was carried out by photo interpreters who are specialists in interpreting land use with satellite imagery.

Also, a cross-interpretation was carried out on 844 sampling points out of the 4000 or 21.1% by the MRV experts of the SEP REDD+ knowing that they did not participate in the first interpretation.

This step made it possible to evaluate the precision and bias of the photointerpretation to ensure better calibration.

Given that only a few land cover changes were identified between 2022 and 2023, the Ivory Coast MRV team agreed with FAO to update the change probabilities and select additional sampling of [452 points](#) different of the 4,000 points to ensure that deforestation was not underestimated or overestimated. Comparison of the deforestation trend in the 2 interpreted datasets is similar and confirms that the estimates are neither underestimated nor overestimated.

The statistics associated with the different land use changes to determine the Activity Data were produced by the MRV experts of the SEP REDD+. The accuracy of the calculations and formulas used has been independently verified by an international expert.

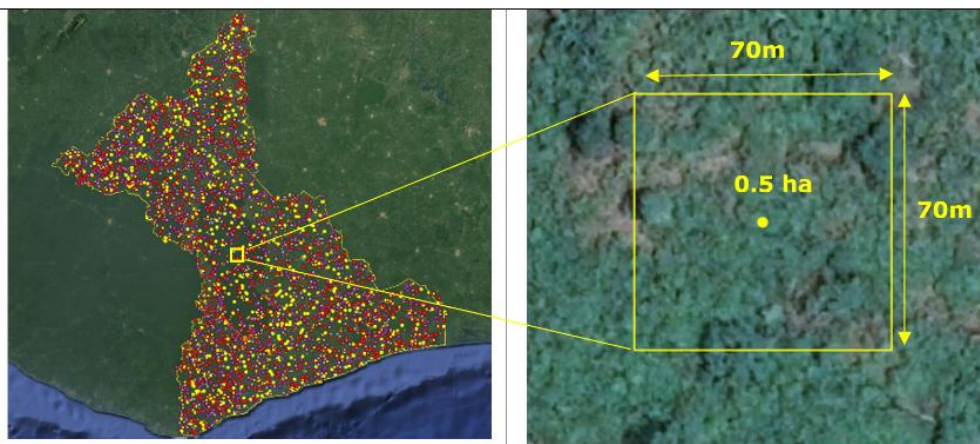


Figure 10 : Final Sample and exemple of a sample point

Statistical analysis

All 4,000 samples, including those that were reinterpreted, were used as the basis for calculating area estimates and their uncertainty.

The estimation of activity data was done using the stratified random estimator based on the formulas described by Cochran (1977) and GFOI (2020). Estimates are made for each of the land use categories considered (11 classes) and in terms of changes from one period to another.

Estimates and associated uncertainties are produced for each combination and for each phytogeographic zone (Mesophilic, Ombrophilic and Sub-Sudanian) considering the stratification applied. A detailed description of the calculation methods is available in the [SOP4](#).

Uncertainty
for this
parameter:

Quantification of uncertainties

degradation uncertainties

Transition	Mesophile Forest			Ombrohile Forest		
	2022-2023			2022-2023		
	Area (ha)	CI	%Error	Area (ha)	CI	%Error
AF	114,895	20,249	17.6%	193,889	27,809	14.3%
AF-DF	-	-	-	-	-	-
AF-PP	-	-	-	-	-	-
AF-SF	-	-	-	-	-	-
DF	5,689	4,372	76.9%	641,701	50,485	7.9%
DF-AF	-	-	-	-	-	-
DF-PP	-	-	-	-	-	-
DF-SF	-	-	-	1,217	1,414	116.2%
PP	2,060	3,388	164.4%	-	-	-
PP-AF	-	-	-	-	-	-
PP-DF	-	-	-	-	-	-
PP-SF	-	-	-	-	-	-
SF	23,676	9,785	41.3%	118,026	22,078	18.7%
SF-AF	-	-	-	-	-	-
SF-DF	-	-	-	-	-	-
SF-PP	-	-	-	-	-	-

Deforestation uncertainties						
Transition	Mesophile Forest			Ombrohile Forest		
	2022-2023			2022-2023		
	Area (ha)	CI	%Error	Area (ha)	CI	%Error
Deforestation	AF-CC	-	-	-	-	-
	AF-GG	-	-	-	-	-
	AF-HH	-	-	-	-	-
	AF-OC	-	-	-	-	-
	AF-OL	-	-	-	-	-
	AF-PC	-	-	-	-	-
	DF-CC	-	-	-	-	-
	DF-GG	-	-	-	-	-
	DF-HH	-	-	-	-	-
	DF-OC	-	-	-	-	-
	DF-OL	-	-	-	-	-
	DF-PC	-	-	-	-	-
	PP-CC	-	-	-	-	-
	PP-GG	-	-	-	-	-
	PP-HH	-	-	-	-	-
	PP-OC	-	-	-	-	-
	PP-OL	-	-	-	-	-
	PP-PC	-	-	-	-	-
	SF-CC	-	-	3,062	3,822	124.8%
	SF-GG	-	-	-	-	-
	SF-HH	-	-	-	-	-
	SF-OC	-	-	4,912	3,114	63.4%
	SF-OL	-	-	-	-	-
	SF-PC	-	-	-	-	-

Forest gain uncertainties						
Transition	Mesophile Forest			Ombrohile Forest		
	2022-2023			2022-2023		
	Area (ha)	CI	%Error	Area (ha)	CI	%Error
SF-Before 00-10	30,297	11,030	36.4%	86,985	18,643	21.4%
SF-00_10	-	-	-	2,128	3,500	164.4%
SF-10_15	1,250	1,452	116.1%	1,217	1,414	116.2%
SF-15_20	-	-	-	1,826	1,732	94.8%
SF-20_21	-	-	-	-	-	-
PP-Before 00-10	-	-	0.0%	-	-	0.0%
PP-00_10	-	-	-	-	-	-
PP-10_15	-	-	-	-	-	-
PP-15_20	-	-	-	-	-	-
PP-20_21	2,060	3,388	164.4%	-	-	-
AF-Before 00-10	-	-	-	-	-	-
AF-00_10	-	-	0.0%	-	-	0.0%
AF-10_15	89,662	17,929	20.0%	143,225	24,434	17.1%
AF-15_20	1,753	2,120	120.9%	-	-	-
AF-20_21	8,056	6,114	75.9%	9,126	5,696	62.4%

	Dense Forest – DF; Secondary Forest – SF; Forest plantations / reforestation – PP; Agro-forest – AF; Cocoa – CC; Perennial crops – PC, Other crop – OC; Human settlement – HH; Grassland – GG; Other lands – OL.
Any comment:	All these values are available here between columns AO and AU.

4 QUANTIFICATION OF EMISSION REDUCTIONS

4.1 ER Program Reference level for the Monitoring / Reporting Period covered in this report

Year of Monitoring/Reporting period t	Average annual historical emissions from deforestation over the Reference Period (tCO _{2-e} /yr)	If applicable, average annual historical emissions from forest degradation over the Reference Period (tCO _{2-e} /yr)	If applicable, average annual historical removals by sinks over the Reference Period (tCO _{2-e} /yr)	Adjustment, if applicable (tCO _{2-e} /yr)	Reference level (tCO _{2-e} /yr)
2022	7,692,978	1,779,971	-41,281	0	9,431,668
2023	7,692,978	1,779,971	-46,442	0	9,426,507
Total	15,385,956	3,559,942	-87,723	0	18,858,175

Excel table with FRL full calculation can be viewed at following links:

- Integration tool: available [here](#) ;
- Integration tools including Monte Carlo simulation: available [here](#) ;
- Integration tools including sensitivity analysis: available [here](#);
- Activity Data tool: available [here](#).

4.2 Estimation of emissions by sources and removals by sinks included in the ER Program's scope

Year of Monitoring/Reporting Period	Emissions from deforestation (tCO _{2-e} /yr)	If applicable, emissions from forest degradation (tCO _{2-e} /yr)*	If applicable, removals by sinks (tCO _{2-e} /yr)	Net emissions and removals (tCO _{2-e} /yr)
2022	870,707	139,190	-497,984	511,913
2023	870,707	139,190	-497,984	511,913
Total	1,741,414	278,380	-995,968	1,023,826

Note: The Reference Level and emissions monitoring methods have been shared publicly in the first ER-MR report, which can be found on the FCPF website

(https://www.forestcarbonpartnership.org/sites/default/files/documents/civ_1st_fcpf_emission_reductions_moni

[toring_report_v1.2_19.03.2024_final_0.pdf](#)). The report also contains links that allow unrestricted access to all the data and calculation tools.

4.3 Calculation of emission reductions

	Deforestation	If applicable, forest degradation	If applicable, enhanced removals from afforestation/reforestation (A/R)	Total (tCO _{2-e})
Emission or removals in the Reference Level (tCO _{2-e})	15,385,956	3,559,942	-87,723	18,858,175
Emission or removals under the ER Program during the Reporting Period (tCO _{2-e})	1,741,414	278,380	-995,968	1,023,826
Emission Reductions during the Monitoring Period (tCO _{2-e})	13,644,542	3,281,562	908,245	17,834,349^[1]

^[1] Jan 1st, 2022, to Dec 31st-2023.

Excel table with emission reduction full calculation can be viewed at following [link](#).
All calculation including Monte Carlo and sensitivity analysis are available [here](#).

The ratio between the **emission reductions resulting from the increase in absorptions linked to afforestation** ¹⁶in relation to the **total reduced emissions** ¹⁷ made it possible to determine the contribution of the absorptions in the reduction of project emissions over the monitoring period. This absorption contribution is in the following table.

Emission reductions from enhanced removals from afforestation/reforestation as a percentage of the total removals (%)	5.09 %
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5 UNCERTAINTY OF THE ESTIMATE OF EMISSION REDUCTIONS

5.1 Identification, assessment and addressing sources of uncertainty

¹⁶ emission reductions resulting from the increase in absorptions linked to afforestation (908,245 tCO_{2-e})

¹⁷ total reduced emissions (17,834,350 tCO_{2-e})

Sources of uncertainty	Systematic	Random	Analysis of contribution to overall uncertainty	Contribution to overall uncertainty (High / Low)	Addressed through QA/QC?	Residual uncertainty estimated?
Activity Data						
Measurement	☒	☒	The AD measurement's contribution is largely considered to be influenced by bias factors. However, the impact of random factors has been minimized by optimizing the sample size and location in land use change classes that were previously defined using satellite imagery information. The primary factor that remains significant is linked to the visual photointerpretation process, which poses a challenge in determining land use changes based on color, size, shape, structure, texture, and their arrangement with neighboring objects observed in the satellite imagery. The identification of the 4,000 points was carried out by visual interpretation of the satellite images. For each point and on each reference date (2000, 2005, 2010, 2015, 2020 and 2021) and for the years of the second notification (2022 and 2023) , a land cover class code was assigned according to the 11 classes defined in the nomenclature (to refer to SOP2 - response design). The photo-interpreter should especially indicate whether the nature of the point has changed over time if there has been a real land cover/land use changes at that location. Photointerpretation is a probabilistic science whose certainty of the choice of the land cover/use class can vary according to the difficulty of identifying this class. Indeed, a land cover class is characterized by its colour, size, shape, structure, texture, and its arrangement with neighboring objects. On a satellite image, an object class can appear under different colours and shapes and the same colour can belong to different land cover classes. The same class can be represented by several colours depending on	High (bias) & Low random)	Yes	No

Sources of uncertainty	Systematic	Random	Analysis of contribution to overall uncertainty	Contribution to overall uncertainty (High / Low)	Addressed through QA/QC?	Residual uncertainty estimated?
			the nature of the soil and the nature, structure, and composition of the vegetation cover. Moreover, in tropical and subtropical regions seasonality phenomena have a strong influence on the radiometry and spectral signature of biophysical objects, which sometimes can be confused and considered as a real change of land cover/land use between two dates. The difficulties to interpret these land cover classes can lead to confusions between the 11 land cover classes which are summarized in the confusion matrices provided in the FORM 3. Interpretation difficulties may be more prevalent for some land cover classes. As seen from the confusion matrices provided in FORM 3. In the forest classes (class 11, 12, 13, 14), it is obviously the mixed heterogeneous classes where the confusions are the most important especially the transition forest class (class 12) and agroforestry (class 14). Agroforestry (class 14) is a complex system composed of an association of forest species forming a tree layer and shrubby / perennial crops (including palm trees) and/or rainfed crops. In Ivory coast a cocoa plot (class 21) with tree cover will be assigned to this class and the tree density should be comprised between 20% and 70%. Concerning the secondary forest (class 12), the tree crowns are no longer joined but are still important and are still made up of local natural tree species. The tree density should be comprised between 30% and 70% resulting from degradation of a natural forest or regeneration or a secondary status to a forest stage. Hence, the difference between these two classes (class 12 and class 14) concern the lower strata of shrub and grass			

Sources of uncertainty	Systematic	Random	Analysis of contribution to overall uncertainty	Contribution to overall uncertainty (High / Low)	Addressed through QA/QC?	Residual uncertainty estimated?
			and therefore whether this stratum is cultivated or not. The confusion of these two classes is understandable. In a few cases some confusion between class 12 transitional woodland and class 50 Grass, scrub and shrub land have been found. This class 50 refers to a mixed formations composed of grassy, shrubs and thickets stratum. The shrub layer may be more or less dense and associated with scattered trees and according to the density of trees, this class could be confused with class 12. Less fundamental to the ERP but quite frequent are the confusions between the cropping systems (class 21, 22, 23) and class 50 Grass, scrub and shrub land. Indeed, these shrubby formations may be the result of natural regeneration of agricultural land through rotation or shifting cultivation. According to the age of the fallow land (old or young fallow land) confusion between these two classes (class 12 and class 50) may be possible. The SOPs describe in detail the treatments carried out. They are available here for checking.			
<i>Representativeness</i>	☒	☒	Sampling was carried out over the entire study area and all reference and monitoring periods. It can therefore be concluded that the impact of this source of uncertainty is low.	Low (bias)	Yes	No
<i>Sampling</i>	☒	☒	The sampling method is probabilistic based on a stratified approach with an optimal allocation of samples by strata according to Neyman's method on the basis of a first sub-sample to estimate the variance of each stratum in order to estimate the variance of each stratum in terms of characterization of changes. However, the changes are numerous, diffuse and individually cover relatively small areas in the study area. Therefore, they are difficult to	Low (random)	Yes	Yes

Sources of uncertainty	Systematic	Random	Analysis of contribution to overall uncertainty	Contribution to overall uncertainty (High / Low)	Addressed through QA/QC?	Residual uncertainty estimated?
			characterize and despite the collection of large number of samples, some categories of change show high variance. The selection of the estimator follows the recommendations of Cochran (1977) available at this link and the GFOI MGD (2020) available here .			
<i>Extrapolation</i>	☒	☒	The estimates were made on the basis of the samples collected and for which the interpretation of the land cover classes are exhaustive and cover the whole reference and monitoring periods. This source of error is therefore unlikely to be present in the approach adopted.	Low (bias)	Yes	No
<i>Approach 3</i>	☒	☒	This source of uncertainty exists when there is no land monitoring or Approach 3 of the IPCC monitoring, which is the case for Côte d'Ivoire. Indeed, Côte d'Ivoire uses country-specific and spatially explicit data whose estimation is described above in the measurement section of this table	Low (bias)	Yes	No
Emissions factors						
<i>DBH measurement</i>	☒	☒	In order to guarantee the quality of data, the following QA/QC procedures have been applied: • Design of a field data collection manual to serve as a guide ; • Training of data collection teams; • Conducting a pilot phase that allowed teams to understand the collection process; • Field data collection in 2 formats, paper (field sheet) and digital (tablets on which the Collect tool was installed); • Verification of the conformity of the data collected on the field sheets and tablets, allowing for corrections if necessary;	Low (random)	YES	NO
<i>H measurement</i>	☒	☒		High (bias) & Low (random)	YES	NO

Sources of uncertainty	Systematic	Random	Analysis of contribution to overall uncertainty	Contribution to overall uncertainty (High / Low)	Addressed through QA/QC?	Residual uncertainty estimated?
			- The creation of 2 mixed teams for on-site verification of 8% of the total sample units already inventoried. These teams were made up of SEP-REDD+, universities and research centers, and civil society organizations. - Data cleaning based on a cross-check between the 2 information sources (digital file and paper format) allowed for error correction.			
<i>Plot delineation</i>	☑	☑	Sampling units are clusters of 500 m x 500 m consisting of four rectangular observation plots of 25 m x 200 m. Each SU thus covers an area of 25 hectares. The coordinates of the center of these units correspond to those of the points on the survey plan. The inventory teams were trained in delimiting and installing the sampling units. Tools such as GPS, compasses, and marking equipment were used for this purpose. All procedures are described in the inventory guide.	<i>Low (random)</i>	YES	NO
<i>Wood density estimation</i>	☑	☑	The allometric equation for biomass prediction involves the specific wood density. A correspondence to obtain wood densities of these species has been established based on tree measurements. For each species, a correspondence is sought in the Global Wood Density Database and a mean wood density is associated with each tree, at the lowest level (species, genus or family). For all trees whose scientific names do not correspond or do not have known scientific names, a default value of the basic wood density of 0.58 g.m-3 which is the average value for tropical Africa (Reyes et al., 1992 and FAO,1997).	<i>High (bias) & Low (random)</i>	YES	NO

Sources of uncertainty	Systematic	Random	Analysis of contribution to overall uncertainty	Contribution to overall uncertainty (High / Low)	Addressed through QA/QC?	Residual uncertainty estimated?
<i>Biomass allometric model</i>	☑	☑	In the absence of allometric equations specific to forest formations in Côte d'Ivoire, the use of Globalometry has been put to use. The estimation of above-ground biomass (AGB) was made using a pantropical allometric equation. Queries made in the Globalometree database showed that at least 73 allometric equations are specific to Côte d'Ivoire. Most of these equations are specific to forest plantations (Teak, Gmelina, Acacia, etc.) and/or certain timber and woodworking species (Mahogany, Niangon, etc.). However, these equations are not suitable for national-scale application and all phytogeographic zones of the country. In order to represent all types of forests, the pantropical allometric equation (4) developed by Chave et al. (2014) was used to convert field measurements into estimates of above-ground biomass as it is estimated to be more robust and includes data from other pantropical equations including Brown's equation (1997), Chave's equation (2005) and Fayolle's equation (2013). This equation includes tree data from Africa. It is based on diameter at breast height (DBH), tree height, and wood basic density. This process is described in the biomass study report.	<i>High (bias) & Low (random)</i>	YES	NO
<i>Other parameters (e.g. Carbon Fraction, root-to-shoot ratios)</i>	☑	☑	The QA/QC process applied to biomass from the literature consisted first of a comparison with results from other authors who worked under the same conditions and ecological zones. The idea here is to ensure that the results are substantially similar. Then a check of the calculations was carried out by redoing the calculations. The objective is to obtain the same values as the author using their data.	<i>High (bias) & Low (random)</i>	YES	NO

Sources of uncertainty	Systematic	Random	Analysis of contribution to overall uncertainty	Contribution to overall uncertainty (High / Low)	Addressed through QA/QC?	Residual uncertainty estimated?
			The values for each of the parameters considered are detailed in section 3.1 of the document (fixed parameters).			
<i>Representativeness</i>	☒	☒	Data used within ERP are at the Tier 2 level (country-specific data) and come from the national forest inventory of 2017 for forests (dense and secondary forest of the ombrophilic sector; dense and secondary forest of the mesophilic sector). There are a total of 150 sample units, each with 4 plots, for a total of 600 plots. The data are sufficiently representative of the program area and have allowed for precise estimates of emission factors. Details can be found in section 3.1 and via this link .	<i>Low (bias)</i>	<i>YES</i>	<i>NO</i>
Integration						
<i>Model</i>	☒	☒	Control Mechanisms of material errors have been included in emission and removal calculation tools, i.e., sums of sampling points by forest type coincide with sample size ensuring no double counting in the sample-based activity data estimate. See the check of deforested areas in cells O29-S29 and the check of Forest Gain areas in cells S271-W271 in the Integration Tool. QA/QC procedure during ERs estimates includes ensuring all these cells show an "Ok" label before reporting ER estimates.	<i>Low (bias)</i>	<i>YES</i>	<i>NO</i>
<i>Integration</i>	☒	☒	Activity Data and Emission Factors are comparable. Carbon densities have been estimated according to the forest types, and non-forest land uses interpreted in the visual assessment.	<i>Low (bias)</i>	<i>YES</i>	<i>NO</i>

5.2 Uncertainty of the estimate of Emission Reductions

Parameters and assumptions used in the Monte Carlo method

Ivory Coast's ER Program applied Monte Carlo methods (IPCC Approach 2) for quantifying the Uncertainty of the Emission Reductions. Because the MC propagation analysis includes 146 parameter values, it has been provided access to uncertainty and emission factor calculation tool⁺⁺⁺⁺ to see all parameter values used in the analysis. The sources of uncertainty propagated in the Monte Carlo (MC) analysis are provided in the following Table.

Parameter included in the model	Parameter values	Error sources quantified in the model (e.g. measurement error, model error, etc.)	Probability distribution function	Assumptions
Deforestation and Degradation Emission Factors	The MC analysis included 13 Carbon density values for forest types and non-forest land uses categories considered in emission estimate. See all values in the Uncertainty calculation tool "Input_data&Models" Sheet – (cells F6-f15 and F17-F19)	90% Confidence Interval.	Normal	Truncated Normal distribution (values > 0).
Removal factors	The MC analysis included 4 Removal factors. See all values in the Uncertainty calculation tool "Input_data&Models" Sheet cells F22, F24, F26 and F28	90% Confidence Interval.	Normal	Truncated Normal distribution (values > 0).
Deforestation Activity Data	Forty-six values for the Reference Period, 29 activity data for the first Monitoring Periods 2 activity data for the second Monitoring Periods were included in MC analysis. See all values in the Uncertainty calculation tool, "Input_data&Models" sheet, cells G32..G127 for Reference Period, cells G128..G223 for the first Monitoring Periods and G224..G271 for the second Monitoring period.	90% Confidence Interval.	Normal	Truncated Normal distribution (values > 0).
Activity Data for estimating inherited removals	The MC analysis included 32 Activity Data values for estimating inherited removals for the first monitoring periode and 16 for the second monitoring period. See all values in the Uncertainty calculation tool "Input_data&Models" sheet, cells G275..G394.	90% Confidence Interval.	Normal	Truncated Normal distribution (values > 0).
Permanent Forest's Degradation	Fifteen values for the Reference Period and 56 activity data for the first Monitoring Periods and 8 for the second monitoring period were included in MC analysis. See all values	90% Confidence Interval.	Normal	Truncated Normal distribution (values > 0).

⁺⁺⁺⁺ Uncertainty calculation tool can be accessed at the following link: [here](#)

	in the Uncertainty calculation tool, "Input_data&Models" sheet, cells G398..G393 for Reference Period, cells G394..G525 for the first Monitoring Periods and cells G526..G557 for the second Monitoring period.			
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Quantification of the uncertainty of the estimate of Emission Reductions

		Reporting Period	Crediting Period
		Total Emission Reductions*	Total Emission Reductions*
A	Median	17,219,668	24,453,089
B	Upper bound 90% CI (Percentile 0.95)	21,048,087	30,302,071
C	Lower bound 90% CI (Percentile 0.05)	13,604,661	19,164,206
D	Half Width Confidence Interval at 90% (B – C) / 2	3,721,713	5,568,933
E	Relative margin (D / A)	22%	23%
F	Uncertainty discount	4%	4%

*Remove forest degradation from the estimate if forest degradation has been estimated with proxy data.

**Remove the column if forest degradation has not been estimated using proxy data.

5.3 Sensitivity analysis and identification of areas of improvement of MRV system

The following table shows the contribution of each parameter to the uncertainty of emissions reduction. Three parameters contribute to 53.3% of the total ER uncertainty: i. Carbon density of the stratum of dense forests (37.8%), ii. Activity data Deforestation 2022-2023 rain stratum Conversion of secondary forest to other crops (8.8%) and iii. Activity data Deforestation 2022-2023 rain stratum Conversion of secondary forest into cocoa (6.9%). Details of the sensitivity analysis are available from [here](#). Future improvements include maintaining the pool of national photointerpreter experts and building their capacity to collect activity data for the next monitoring cycle. We intend to disseminate the standard operating procedures (SOPs) to ensure quality in the data collection and analysis process.

Input Variable	Corresponding Input Value			Swing	Percent Swing ²
	Low Output	Base Case	High Output		
CD-Dense Forest-ombrophileDF	248.45	280.26	312.07	3,160,321	37.8%
AD-Defo_2022-2023_ombrophile_SF-OC	8025.30	4911.53	1797.76	1,524,344	8.8%
AD-Defo_2022-2023_ombrophile_SF-CC	6884.53	3062.46	-759.60	1,345,868	6.9%
AD-Defo_2000-2010_ombrophile_DF-CC	68067.38	81268.77	94470.15	1,295,045	6.3%
CD-Grassland-GG	84.23	39.88	-4.47	1,250,387	5.9%
RF-Agro-foret-<20 yr	-2.90	-11.59	-20.28	1,131,519	4.8%
AD-Defo_2010-2015_ombrophile_DF-CC	20834.15	28788.64	36743.12	858,554	2.8%
CD-Secondary Forest-ombrophileSF	131.02	147.57	164.11	836,516	2.6%
AD-Defo_2000-2010_ombrophile_DF-OC	9923.35	16706.53	23489.70	778,385	2.3%
AD-Defo_2010-2015_ombrophile_SF-CC	65343.65	81012.16	96680.68	735,650	2.0%

CD-Cocoa-CC	50.27	45.40	40.53	715,269	1.9%
AD-StableForest_2000-2010_ombrophile_DF-SF	54311.61	67090.13	79868.65	708,264	1.9%
AD-StableForest_2022-2023_ombrophile_DF-SF	2631.54	1217.32	-196.91	646,821	1.6%
CD-Dense Forest-mesophileDF	141.76	165.30	188.84	629,255	1.5%
AD-Defo_2000-2010_ombrophile_SF-CC	45580.78	58148.89	70717.00	536,319	1.1%
AD-Defo_2010-2015_ombrophile_DF-OC	3799.87	8039.35	12278.83	535,259	1.1%
AD-Defo_2000-2010_ombrophile_SF-OC	18384.32	27333.00	36281.68	530,890	1.1%
AD-Defo_2000-2010_ombrophile_DF-GG	6882.35	12059.02	17235.69	519,762	1.0%
AD-StableForest_2010-2015_ombrophile_DF-SF	7948.24	15273.97	22599.71	446,741	0.8%
AD-Defo_2010-2015_ombrophile_DF-GG	2824.74	6822.03	10819.32	441,580	0.7%
CD-Secondary Forest-mesophileSF	71.65	81.46	91.28	421,669	0.7%
AD-Defo_2000-2010_mesophile_DF-CC	18126.24	26224.11	34321.97	405,537	0.6%
AD-StableForest_2010-2015_ombrophile_SF-AF	8244.72	16770.57	25296.42	365,817	0.5%
AD-Defo_2010-2015_ombrophile_SF-OC	7505.18	12625.42	17745.65	334,215	0.4%
AD-ForestGain_2022-2023_mesophile_10_15-AF	1942.17	8055.94	14169.70	283,353	0.3%
CD-Perennial crops-PC	129.59	104.10	78.61	269,554	0.3%
AD-ForestGain_2022-2023_ombrophile_10_15-AF	3429.91	9125.96	14822.00	263,993	0.3%
AD-ForestGain_2022-2023_ombrophile_15_20-AF	2278.27	7950.90	13623.54	262,908	0.3%
AD-StableForest_2010-2015_ombrophile_DF-AF	848.20	3368.75	5889.30	261,858	0.3%
AD-Defo_2000-2010_ombrophile_SF-GG	6854.71	12560.06	18265.41	256,619	0.2%
AD-Defo_2010-2015_ombrophile_SF-GG	3873.43	8865.85	13858.27	247,063	0.2%
AD-Defo_2010-2015_mesophile_SF-OC	5098.81	12065.31	19031.81	243,098	0.2%
AD-StableForest_2000-2010_ombrophile_DF-AF	848.20	3368.75	5889.30	238,000	0.2%
AD-StableForest_2000-2010_mesophile_DF-SF	6811.42	13082.36	19353.31	219,588	0.2%
AD-StableForest_2010-2015_ombrophile_SF-DF	5628.33	2128.35	-1371.64	213,438	0.2%
AD-ForestGain_2022-2023_mesophile_15_20-PP	-1327.70	2060.20	5448.11	210,186	0.2%
AD-Defo_2010-2015_mesophile_DF-CC	1343.50	5137.46	8931.42	209,046	0.2%
AD-Defo_2000-2010_mesophile_DF-OC	520.23	3506.39	6492.55	199,274	0.2%
AD-Defo_2000-2010_mesophile_DF-GG	1617.48	5259.59	8901.70	190,792	0.1%
AD-StableForest_2000-2010_ombrophile_SF-AF	2858.99	7648.53	12438.07	186,780	0.1%
AD-ForestGain_2022-2023_ombrophile_00_10-SF	-1371.64	2128.35	5628.33	168,886	0.1%
AD-Defo_2000-2010_mesophile_SF-OC	6937.64	12013.66	17089.67	160,990	0.1%

AD-ForestGain_2022-2023_mesophile_20_21-AF	-1327.70	2060.20	5448.11	157,018	0.1%
AD-StableForest_2000-2010_mesophile_DF-AF	668.00	4009.37	7350.75	155,053	0.1%
AD-StableForest_2010-2015_mesophile_DF-SF	-674.07	3188.29	7050.65	148,805	0.1%
AD-Defo_2000-2010_mesophile_SF-CC	23077.70	32893.24	42708.78	147,850	0.1%
AD-Defo_2010-2015_ombrophile_SF-PC	5332.43	12188.42	19044.41	136,948	0.1%
AD-Defo_2010-2015_mesophile_SF-CC	17404.12	25476.87	33549.62	133,788	0.1%
AD-ForestGain_2000-2010_ombrophile_00_10-SF	5628.33	2128.35	-1371.64	130,503	0.1%
AD-ForestGain_2022-2023_ombrophile_20_21-AF	496.13	3085.55	5674.98	120,011	0.1%
AD-Defo_2010-2015_mesophile_SF-GG	4988.47	11255.32	17522.18	119,757	0.1%

The second table shows the sensitivity analysis on cumulative emissions reductions for the first and second reporting periods.

Input Variable	Corresponding Input Value			Swing	Percent Swing ²
	Low Output	Base Case	High Output		
CD-Dense Forest-ombrophileDF	248.45	280.26	312.07	4,724,426	38.7%
AD-Defo_2000-2010_ombrophile_DF-CC	68067.38	81268.77	94470.15	2,052,498	7.3%
CD-Grassland-GG	84.23	39.88	-4.47	1,853,988	6.0%
RF-Agro-forest-<20 yr	-2.90	-11.59	-20.28	1,772,819	5.5%
AD-StableForest_2020-2021_ombrophile_DF-SF	5628.33	2128.35	-1371.64	1,600,783	4.4%
CD-Secondary Forest-ombrophileSF	131.02	147.57	164.11	1,559,654	4.2%
AD-Defo_2022-2023_ombrophile_SF-OC	8025.30	4911.53	1797.76	1,524,344	4.0%
AD-Defo_2010-2015_ombrophile_DF-CC	20834.15	28788.64	36743.12	1,360,709	3.2%
AD-Defo_2022-2023_ombrophile_SF-CC	6884.53	3062.46	-759.60	1,345,868	3.1%
AD-Defo_2000-2010_ombrophile_DF-OC	9923.35	16706.53	23489.70	1,233,650	2.6%
AD-Defo_2010-2015_ombrophile_SF-CC	65343.65	81012.16	96680.68	1,165,921	2.4%
CD-Cocoa-CC	50.27	45.40	40.53	1,108,553	2.1%
CD-Dense Forest-mesophileDF	141.76	165.30	188.84	986,791	1.7%
AD-Defo_2020-2021_mesophile_SF-OC	5448.11	2060.20	-1327.70	886,665	1.4%
AD-Defo_2000-2010_ombrophile_SF-CC	45580.78	58148.89	70717.00	850,004	1.3%
AD-Defo_2010-2015_ombrophile_DF-OC	3799.87	8039.35	12278.83	848,324	1.2%
AD-Defo_2000-2010_ombrophile_SF-OC	18384.32	27333.00	36281.68	841,400	1.2%
AD-Defo_2000-2010_ombrophile_DF-GG	6882.35	12059.02	17235.69	823,764	1.2%
AD-Defo_2010-2015_ombrophile_DF-GG	2824.74	6822.03	10819.32	699,854	0.8%
AD-StableForest_2022-2023_ombrophile_DF-SF	2631.54	1217.32	-196.91	646,821	0.7%
AD-Defo_2000-2010_mesophile_DF-CC	18126.24	26224.11	34321.97	642,730	0.7%
AD-StableForest_2000-2010_ombrophile_DF-SF	54311.61	67090.13	79868.65	561,259	0.5%
AD-Defo_2010-2015_ombrophile_SF-OC	7505.18	12625.42	17745.65	529,692	0.5%
CD-Secondary Forest-mesophileSF	71.65	81.46	91.28	507,039	0.4%
AD-Defo_2020-2021_ombrophile_SF-OC	1608.99	608.66	-391.67	489,711	0.4%
CD-Perennial crops-PC	129.59	104.10	78.61	421,667	0.3%

AD-Defo_2000-2010_ombrophile_SF-GG	6854.71	12560.06	18265.41	406,711	0.3%
AD-Defo_2010-2015_ombrophile_SF-GG	3873.43	8865.85	13858.27	391,567	0.3%
AD-Defo_2010-2015_mesophile_SF-OC	5098.81	12065.31	19031.81	385,282	0.3%
AD-Defo_2020-2021_ombrophile_SF-HH	1608.99	608.66	-391.67	371,279	0.2%
AD-StableForest_2010-2015_ombrophile_DF-SF	7948.24	15273.97	22599.71	354,017	0.2%
AD-Defo_2010-2015_mesophile_DF-CC	1343.50	5137.46	8931.42	331,315	0.2%
AD-StableForest_2020-2021_mesophile_SF-AF	5448.11	2060.20	-1327.70	318,346	0.2%
AD-Defo_2000-2010_mesophile_DF-OC	520.23	3506.39	6492.55	315,826	0.2%
AD-Defo_2000-2010_mesophile_DF-GG	1617.48	5259.59	8901.70	302,384	0.2%
AD-StableForest_2010-2015_ombrophile_SF-AF	8244.72	16770.57	25296.42	289,889	0.1%
AD-Defo_2000-2010_mesophile_SF-OC	6937.64	12013.66	17089.67	255,151	0.1%
AD-Defo_2000-2010_mesophile_SF-CC	23077.70	32893.24	42708.78	234,325	0.1%
AD-Defo_2010-2015_ombrophile_SF-PC	5332.43	12188.42	19044.41	217,047	0.1%
AD-Defo_2010-2015_mesophile_SF-CC	17404.12	25476.87	33549.62	212,039	0.1%
AD-StableForest_2010-2015_ombrophile_DF-AF	848.20	3368.75	5889.30	207,508	0.1%
AD-Defo_2015-2020_ombrophile_DF-OC	12441.20	6385.04	328.88	194,716	0.1%
AD-Defo_2010-2015_mesophile_SF-GG	4988.47	11255.32	17522.18	189,801	0.1%
AD-ForestGain_2000-2010_ombrophile_00_10-SF	5628.33	2128.35	-1371.64	189,452	0.1%
AD-StableForest_2000-2010_ombrophile_DF-AF	848.20	3368.75	5889.30	188,601	0.1%
AD-StableForest_2000-2010_mesophile_DF-SF	6811.42	13082.36	19353.31	174,010	0.1%
AD-Defo_2020-2021_mesophile_AF-OC	1652.50	625.11	-402.28	172,344	0.1%

6 TRANSFER OF TITLE TO ERS

6.1 Ability to transfer title

In Côte d'Ivoire, **the State is the owner of the ER titles**, as described in Article 1 of Decree 2021-674 dated 03 November 2021. A legal and regulatory framework has been put in place specifically for the transfer of ER titles resulting from the implementation of the ERP and is exclusive to the geographical scope and duration of the ERP. It is reflected in Decree 2021-674 of 03 November 2021. This decree can be viewed at the following [link](#).

Which stipulates that a contractual volume of 10 million tonnes of carbon equivalent are exclusively transferred to the carbon fund for the FCPF in accordance with the provisions of the Tranche A and B ERPAs signed on 30 October 2020. This agreement can be viewed at the following [link](#).

The terms and conditions for the management of ERs are specified in the interministerial decree 0183/MEF/MEMINADER/MINEF/MBPE/MINEDD dated 16 February 2022. It can be viewed at the following [link](#).

Subsequently, the carbon credits resulting from the additional volume of ERs under this programme are transferred to the FCPF's carbon fund after negotiation and approval by the parties of the ERPAs.

The government of Côte d'Ivoire, through the Ministry of Economy and Finance (MEF), is the only legal entity that holds and transfers ER titles to a third party.

6.2 Implementation and operation of Program and Projects Data Management System

The SEP REDD+ is in charge of supervising REDD+ projects at the national level. To fully play this role, it is necessary to ensure that the REDD+ activities that are implemented in the territory comply with the guidelines and commitments made in the National REDD+ Strategy. To meet this requirement, and in accordance with its mission according to its creation decree. It can be viewed at the following [link](#).

The SEP-REDD+ key role is the following :

- Manages the national data management system for REDD+ programs and projects (precise geographic limits of the target area or geolocation to avoid possible overlap, description of planned activities, scope and carbon pools concerned, MRV data, applicable environmental and social safeguards, etc.);
- Communicates all ER information generated by REDD+ projects to the entity in charge of the ER transaction registry, in this case the MEF;

Avoids multiple reporting of emissions reductions or double counting. A recording and geolocation register of emissions reduction initiatives has been developed to record the reduced emissions of the project and thus ensure that they are not counted twice. This [register](#) allows. This register is integrated into the national [geoportal](#) .

- Gather all the basic information relating to REDD+ projects and programmes, including the ERP (it will make it possible to specify: who owns the emissions reductions; what the precise geographical boundaries are with geolocation; the planned activities, the duration of the project, the emissions reduced, etc.);
- Resolve problems of possible overlap between projects and initiatives to avoid double counting;
- Specify the technical elements of the project (carbon pools selected, baseline scenario, etc.).
- Make all information relating to projects and initiatives underway in the region available in a clear, centralised and free manner.

The information's are available online, in the country's official language (French).

6.3 Implementation and operation of ER transaction registry

In order to be able to issue its own legal documents, Côte d'Ivoire needs a so-called transaction registry. That is, a registry that allows for the issuance, serialisation and management of legal titles evidencing ERs. This registry, which is required by international carbon standards, is more akin to the control and legitimacy that the project owner must exercise in the intervention area. It is different from the one described in section 6.2 above. In the absence of such

an instrument, Côte d'Ivoire has decided to rely on the FCPF-CF's transaction register (*Carbon Assets Trading System (CATS)*). However, as per article 3 of the [inter-ministerial decree](#) on ERs of 16 February 2022 0183/MEF/MEMINADER/MINEF/MBPE/MINEDD, which specifies the legal provisions taken by the country for the development of its own National Carbon Credit Registry. Thus, the MEF is in charge of setting up and managing the future Carbon Credit Registry for the purpose of registering each carbon credit, individualising it by means of serialisation and converting it into a carbon certificate, as well as ensuring its monitoring.

Currently, the development of this registry has not yet started. It is planned to build on the experiences of using the FCPF CATS registry during the implementation of the ERP for the development of own registry which can be used for future transactions with other partners.

6.4 ERs transferred to other entities or other schemes

The ERP is the first emission reduction programme in Côte d'Ivoire. Côte d'Ivoire has signed, in 2020, an ERPA for 10 million TeqCO₂ that will be fully (100%) transferred to the FCPF and an additional call option for 6.5 million TeqCO₂. The transfer has therefore not been made to date, neither to third parties nor to other programs.

[7,016,884](#) TeqCO₂ are to be transferred to the FCPF as part of the performance of the first notification report for the period 2020-2021. In this program, only the transfer to the FCPF will be valid. These ERs have already been registered in the CATS register and will soon be transferred.

An agroforestry project developed by RABOBANK in the Nawa region reportedly sold 122,457 emission reduction credits during the first reporting period (2020-2021). These volumes were temporarily subtracted from the total emissions reduced in the first reporting period to avoid the risk of double counting. However, in this second reporting period (2022-2023), the Government of Côte d'Ivoire by [letter](#) requested RABOBANK to suspend all its emission reduction activities in the ERP area to avoid the risk of double counting. In response to the Government, RABOBANK confirmed the [suspension](#) of its activities in the ERP area. As a result, RABOBANK did not generate any emission reductions during this second reporting period (2022-2023). All reduced emissions are the property of the State of Côte d'Ivoire, which may transfer them to the FCPF in accordance with the purchase agreement.

7 REVERSALS

7.1 Occurrence of major events or changes in ER Program circumstances that might have led to the Reversals during the Reporting Period compared to the previous Reporting Period(s)

There have not been any major events or changes in ER Program circumstances that have led to the Reversals during the Reporting Period

7.2 Quantification of Reversals during the Reporting Period

Intentionally left blank because no reversals occurred during the current reporting period.

7.3 Quantification of pooled reversal buffer replenishments

This section is not applicable given that no reversals occurred during previous reporting periods.

7.4 Reversal risk assessment

Risk Factor	Risk indicators	Default Reversal Risk Set-Aside Percentage	Discount	Resulting reversal risk set-aside percentage

Default risk		10 %		10 %
Lack of broad and sustained stakeholder support	The National Federation of Networks, NGOs and Associations for the Environment and Sustainable Development (FEREAD) has been carrying out awareness-raising and beneficiary mapping actions taking gender into account since 2023. The preparation and training workshops of this network of NGOs carried out in 2023 are available here. Traditional authorities are actively involved in raising awareness and mobilizing communities. Certain public administration services in the project area were contacted with the aim of taking part in raising awareness among populations in their respective regions, including prefectures and sub-prefectures, regional councils, town halls, ministries in charge of the environment, water and forests and agriculture. For the proper conduct of this mission, a standard model of agreement describing the tasks to be carried out in 2023. The latest version of the benefit sharing plan was accepted by all stakeholders during a national workshop in October 2023. As part of the national land security program (PNSFR), a Project to Strengthen Rural Land Security in Côte d'Ivoire (PRESFOR) was developed by AFOR and the World Bank in 2022. It is currently being implemented 16 regions of the country including 3 regions in the ERP zone (Nawa, Guémon and Cavally)	10 %	<i>Medium risk -5%.</i>	5 %
Lack of institutional capacities and/or ineffective vertical/cross sectorial coordination	All sectoral administrative entities involved in the PRE participate in the meetings of the national REDD+ committee (Copil, which is the decision-making body of the project) and the interministerial technical committee (Cotech); As such, they regularly participate in the various meetings organized by these 2 bodies, i.e. 6 workshops between 2022 and 2023. The private cocoa sector, through the cocoa and forest initiative, facilitates collaboration at the national and regional levels, with the Regional REDD+ Committees in each Region of the ERP zone As part of a public-private partnership.	10 %	<i>Medium risk -5 %</i>	5 %
Lack of long term effectiveness in addressing underlying drivers	ERP interventions are directly focused on two of the main drivers and agents of deforestation and degradation in the region (cocoa farming and unsustainable logging). The ERP incorporates a series of measures that maintain the production levels of the	5 %	<i>Medium risk -2 %</i>	3%

	main commodities causing deforestation and degradation while streamlining their territorial space. The measures listed in section 1 and table 2 address these factors. In general, the actions can be summarised as follows: • The establishment of a legal and regulatory framework conducive to the achievement of long-term REDD+ objectives is underway; • The monetary benefit sharing plan validated in 2023 by all parties provides financial incentives that can encourage the support of populations and are capable of contributing to the economic decoupling due to deforestation and forest degradation, including beyond the life of the project; • This benefit sharing plan also takes into account non-carbon benefits for beneficiaries and stakeholders; The promotion of sustainability programmes and the development of possible emission reduction projects are also underway.			
Exposure and vulnerability to natural disturbances	The ERP sees no significant natural risks due to fire, drought, extreme weather events or other natural hazards regarding this study. The forest areas remain wet even during dry periods and therefore have a low fire risk. For fires, the FIP 1 (2018-2022) and FIP 2 (2022-2029) has strengthened SODEFOR's monitoring resources for classified forests and OIPR's for the Tai National Park and protected areas. The Special Surveillance and Intervention Unit of the Directorate of Water and Forests has also been set up and a squadron of aircraft has been created for surveillance, intervention and mapping. In addition, actions aimed at mitigating any risk linked to natural disturbances Various actions have also been carried out. • In 2022, a climate change adaptation system (global MRV system) was developed to correlate mitigation efforts (deforestation reduction) with MRV adaptation measures implemented at the multi-sectoral level; In 2023, a training workshop for national stakeholders on the use of this system was carried out.	5 %	<i>Low risk</i> -5 %	<i>0 %</i>

	• The national fire and bushfire control program is still operating; • Existence of a valid Plague management plan, available here.			
		Total reversal risk set-aside percentage		23 %
		Total reversal risk set-aside percentage from previous monitoring report		23%

8 EMISSION REDUCTIONS AVAILABLE FOR TRANSFER TO THE CARBON FUND

A.	Emission Reductions during the Reporting period (tCO ₂ -e)	<i>from section 4.3</i>	17,834,349
B.	If applicable, number of Emission Reductions from reducing forest degradation that have been estimated using proxy-based estimation approaches (use zero if not applicable)		
C.	Number of Emission Reductions estimated using measurement approaches (A-B)		17,834,349
D.	Percentage of ERs (A) for which the ability to transfer Title to ERs is clear or uncontested	<i>from section 6.1</i>	100%
E.	ERs sold, assigned or otherwise used by any other entity for sale, public relations, compliance or any other purpose including ERs accounted separately under other GHG accounting schemes or ERs that have been set-aside to meet Reversal management requirements under other GHG accounting schemes	<i>from section 6.4</i>	0
	If applicable, any buffer replenishments	<i>section 7.3 P</i>	0
F.	Total ERs [(B+C)*D-E] minus, if applicable, any replenishments as per section 7.3, Q		17,834,349
G.	Conservativeness Factor to reflect the level of uncertainty from non-proxy based approaches associated with the estimation of ERs during the Crediting Period	<i>from section 5.2</i>	4%
H.	Quantity of ERs to be allocated to the Uncertainty Reversal Buffer $(0.15*B/A*F)+(G*C/A*F)$		713,373

I.	Total reversal risk set-aside percentage applied to the ER program	<i>from section 7.4</i>	23%
J.	Quantity of ERs to be allocated to the Pooled Reversal Buffer (F-H)*I		3,937,824
K.	Number of FCPF ERs (F- H – J)		13,183,152
L.	Percentage of Emission reductions from enhanced removals from afforestation/reforestation as a percentage of the total removals [Optional if the country wishes to generate enhanced removals]	<i>From section 4.3</i>	5.09%
M	Number of FCPF ERs from enhanced removals from afforestation/reforestation (L * K) [Optional if the country wishes to generate enhanced removals]		671,022

ANNEX 1: INFORMATION ON THE IMPLEMENTATION OF THE SAFEGUARDS PLANS

1. Entities that are responsible for implementing the Safeguards Plans are adequately resourced to carry out their assigned duties and responsibilities as defined in the Safeguards Plans.

1.1 Summarize the key institutional arrangements, such as decision procedures, institutional responsibilities, budgets, and monitoring arrangements that are required under the Safeguards Plans.

- Institutional arrangements (decision-making procedures, institutional responsibilities and monitoring arrangements).

The institutional arrangements for managing the program concerning environmental and social safeguards are presented in Figure 1 below. The details of the roles and responsibilities of each of the structures involved in the process are presented in Table 1.

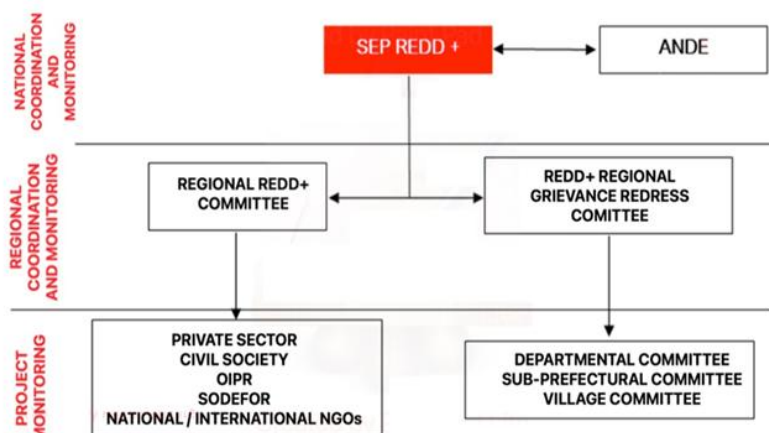


Figure 1: Institutional arrangement for implementing environmental and social safeguards under the ERP

Table 1 : Summary of the main stakeholders involved in the project's environmental management

Players	Roles	Interactions
SEP REDD+ / ERP (a)	One Environmental safeguards specialist and One social safeguards specialist working for SEP-REDD+ are responsible for the coordination and day-to-day management of the ERP's environmental and social activities. Both are responsible for: ■ Ensuring the supervision and coordination of programs, projects and actions of the SN REDD+ in accordance with national provisions and the World Bank's Environmental and Social Framework; ■ Ensuring the development and implementation of environmental and social safeguard instruments for all REDD+ programs, projects and sub-projects developed; ■ Assisting promoters and organizations (OIPR, SODEFOR, ANADER, etc.) implementing REDD+ programs, projects, sub-projects and initiatives to take account of environmental and socio-economic aspects in the planning-design, implementation and evaluation of said REDD+ activities; ■ Ensuring the development and operationalization/operation of the Information System on Environmental and Social Safeguards (SIS) of the REDD+ CI process as part of the implementation and monitoring of REDD+ programs, projects, sub-projects and initiatives; ■ Collaborating with other projects/programmes contributing to ERs, such as the Forest investment project phase 2 (FIP2) in particular (on activities, GRM, monitoring and information systems...).	(b), (c), (d), (e), (f).
ANDE (b)	ANDE is a National Public Establishment of an administrative nature (EPA) created by decree no. 97-393 dated 09 July 1997. It is an organization under the authority of the Ministry in charge of the environment. Its mission is to:	(a)

Players	Roles	Interactions
	■ Ensure that environmental and social concerns are taken into account in development policies, plans and programs (PPP) and projects initiated in Côte d'Ivoire; ■ Coordinating the implementation of environmental development projects; ■ Set up and manage a portfolio of environmental investment projects; ■ Ensure the implementation and management of a national environmental and social information system; ■ Implement the impact assessment procedure and the environmental et social impact assessment of macro-economic policies, plans, programs and development projects; ■ Implement the environmental and social audit procedure; ■ Implement international conventions in the environmental and social field; ■ Inform, educate and raise awareness/communicate on environmental protection and the promotion of sustainable development. As part of the ERP, it provides support for the management of all safeguard instrument and the E&S certification the ERP beneficiaries database in collaboration with the SEP-REDD+ safeguard unit.	
REDD+ Regional Committee (c)	As provided for by Decree 2012-1049 of 24 October 2012, the regional committees are responsible for implementing decisions taken by the CN-REDD+ and the CTI-REDD+ at regional level. Within these regional REDD+ committees, safeguard focal points are chosen to act as regional relays, responsible for monitoring E&S activities. REDD+ Focal Points are individuals appointed by the Permanent Executive Secretariat, acting as an interface between the Permanent Executive Secretariat and the dispute settlement bodies. The installation of REDD+ Regional Committees in the ERP zone began as part of the REDD+ readiness phase, with the regions of Cavally Guémon, Nawa and San-Pedro, and was completed during program implementation. Their capacities have been strengthened (by project specialists) to enable them to participate in both implementing and monitoring the implementation of the environmental and social safeguards plan. The responsibilities of the REDD+ Regional Committees are to: ■ Ensure the implementation and harmonization of REDD+ E&S safeguarding activities at regional level. ■ In conjunction with the CN-REDD+, they provide close support to the various committees set up to ensure the success of their mission. ■ Facilitate the circulation and sharing of information between the mechanism's various players. ■ In liaison with the chairmen of the bodies, they monitor the implementation of solutions to disputes.	(a), (d), (e), (f).
Regional Grievance Redress Committee (d)	These committees are tasked with managing complaints/litigations relating to the implementation of the REDD+ mechanism, through a dedicated system and procedures. Headed by the regional prefect, its purpose is to: ■ Listen to the parties or receive their defense memorandum, ■ Appease the parties and initiate immediate investigations and discussions, ■ Negotiate rapid amicable solutions to disputes, ■ Conducting all necessary investigations with third parties, ■ Carry out all necessary checks, including the reliability of documents provided by the parties, ■ Prepare and submit periodic reports on the handling and management of disputes to the National Steering Committee, ■ Ensure the implementation of solutions found to disputes within set deadlines, ■ Conduct awareness-raising and conflict prevention activities at the request of REDD+. ■ NAWA's regional grievance redress committee has been in place since the REDD+ preparation phase, strengthened during the implementation of the FIP (phase 1) and is operational. However, no complaint has been recorded by the Grievance management committees (GMC) that were established and operational. It should be noted that the operationalization of the committees that were not operational began in February 2024, funded by the ER advance initial payment, and is ongoing. This process is expected to be completed by the end of 2025. Their operationalization will be further strengthened with the implementation of FIP (phase 2)..	(a), (b), (c), (e), (f).
Project implementation actors (e)	The main stakeholders involved in the implementation of the program are the national institutions in charge of forests and natural parks & reserves, the private sector (agribusiness, mining and the timber sector), agricultural cooperatives, NGOs and local communities. Their role is to develop and implement activities contributing to the reduction of greenhouse gas emissions. In our case, these are reforestation, agroforestry and forest conservation activities. In the program area, the various potential beneficiaries will have a focal point for managing E&S activities who will be responsible for daily monitoring of activities and reporting on their activities.	(a), (b), (c), (d), (f).
Departmental and village grievance redress committees (f)	Led by the prefect, the sub-prefect or the village chief, depending on the case, these committees aim to: ■ Receive and record complaints in the complaints register, ■ Listen to the parties or receive their defense memorandum, ■ Appease the parties and initiate immediate investigations and discussions, ■ Negotiate rapid amicable solutions to the dispute, ■ Carry out all necessary investigations with third parties,	(a); (b); (c): (d); e

Players	Roles	Interactions
	- Carry out all the necessary checks including the reliability of the documents provided by the protagonists, - Conduct mediation between parties for the acceptance of the solutions envisaged; - Develop and transmit periodic conflict processing and management reports to the Regional Grievance Redress Committee, - Ensure the implementation of solutions found to disputes according to set deadlines, - Conduct awareness-raising and conflict prevention activities at the request of REDD+ Building on the eight GRM established during the REDD+ preparatory phase, a network of seventy-two (72) village-level GRM was created and strengthened under the DGM. The ERP further reinforces this network by capitalizing on the nine (09) Participatory Management Committees of classified forests established under FIP 1, and by collaborating with FIP2 on their updated GRM, promoting a more coordinated approach to forest management.	

■ Planned budgets

The budget for activities carried out for the implementation of ERP activities is recorded in the following table.

Table 2 : Costs in CFA of environmental and social measures of the ERP in the period from Janvier 2022 to December 2023

No	ACTIVITIES	Unit	Qty	Unit cost (CFA)	TOTAL (CFA)
1	Implementation of the Environmental and Social Management Framework				
1.1	Ensure support for PIU environmental and social safeguard specialists (1)	nb	48	4 000 000	192 000 000
1.2	Monitoring and supervision mission for E&S activities	nb	1	1 680 000	13 440 000
1.3	Environmental and social screening mission - Peripheral track (Taï National Park) (1), - Rehabilitation of the living base (OIPR) (1); - Lowland development (1); - Reforestation of category 4 classified forests (1); - Income-generating activities of DGM (2)	nb	117	1 680 000	196 560 000
1.4	Implementation of the Pest Management Plan ((1))	nb	5	2 761 600	13 808 000
1.5	Training on the World Bank ESF	nb	1	0	0
1.6	Development of Environmental and Social Safeguard Instruments under the PIF2(1)	Nb	1	30 000 000	30 000 000
2	Implementation of the Grievance Redress Mechanism				
	Establishment of the 9 Participatory Forest Management Committees (1)				
2.1	Establishment of the 9 Participatory Forest Management Committees (1)	nb	14	2 761 600	38 662 400
2.2	Setting up of the 72 Village Committees under the DGM (2)	nb	72	1 680 000	120 960 000
2.3	Equipment and training of Grievance Redress committees (2)	nb	72	200 000	14 400 000
	COMPONENT TOTAL (CFA)				606 022 400
	COMPONENT TOTAL (USD****)				1 212 044,8

Note : (1) activities funded by FIP and (2) activities funded by DGM)

1.2 Confirm whether the institutional arrangements summarized above have been put in place.

At the national level: A National REDD+ Committee was created by decree no. 2012-1049 of October 24, 2012, for the implementation of REDD+. The permanent Executive Secretariat of this committee is operational and coordinates the ERP. It has the necessary personnel to perform ERP activities and is operational. From 2020 to 2023, environmental and social specialists responsible for overseeing ERP activities were part of an integrated PIU and managed various forest-related projects. Since August 2023, the ERP has had its own staff dedicated to the environmental and social issues.

**** 1 USD = 500 F CFA

The National Environment Agency (ANDE) is a structure under the supervision of the Ministry of the Environment Sustainable Development and Ecological Transition and has been consulted with and on board to fulfil its role within the ERP. A contractual agreement laying out its roles and responsibilities is currently under negotiations for signature.

At the regional level: decree 2012-1049 of October 24, 2012, establishes regional REDD+ committees, who are responsible for implementing the decisions taken by the CN-REDD+ and the CTI-REDD+ at the regional level. Focal points for safeguards will be designated at for each of the regional committees.

In the Nawa Region, management of complaints has been assigned to the regional REDD+ committee, which acts as the only regional committee for managing complaints.

At the Project level: The actors in the implementation of the projects are in place (State structures, private sector, NGOs). The designation and training of focal points for the management of environmental and social activities have been ongoing since 2017.

As part of the REDD+ mechanism, the Grievance Redress Mechanism was deployed in 10 department, 2 sub-prefectures and 78 villages (From 2019 to 2022).

1.3 Confirm that the implementing entities and stakeholders understand their respective roles; have the technical capacity to execute their responsibilities; and have adequate human and financial resources.

The monitoring organisations at the national level (SEP-REDD+ & ANDE) have full understanding of their respective roles and responsibilities and have adequate financial and human resources to carry out their various missions. In fact, they carry out these missions on a daily basis which are part of their sovereign responsibilities.

For other entities, one of the major challenges was their capacity building, to ensure full autonomy of their responsibilities and the proper execution of the functions assigned. So, the various training and consultations held within the framework of REDD+ in general, projects/initiatives contributing to the objectives of the ERP (FIP, DGM, Nawa Payments for ecosystem services Project, Cocoa and Forest Initiative ICF, etc.), and the ERP in particular helped to agree on the program requirements for E&S safeguards and their roles and responsibilities in their implementation. Furthermore, this training (REDD+ mechanism, the grievance redress mechanism, the World Bank Environmental and Social Standards) has been carried out for these structures since preparation for REDD+ (2015) and these have been reinforced during the implementation phases of the initiatives, projects and programs (PIF 1 & 2, DGM, PSE Nawa, ...) taken into account in the ERP.

The grievance redress committees established during the REDD+ readiness phase (8) (held in february 2019) and the DGM implementation (72) (2019 -2020), received training on the GRM of REDD+ as part of their deployments. and tools and instruments for alternative management of complaints/disputes during the period from May to November 2022.

What remained to be done at the end of 2022-2023 period was the designation and training of E&S management focal points at the regional REDD+ committees' level and project implementation actors (SODEFOR, OIPR, ANADER). This activity took place at the end of March 2024.

1.4 Where specific capacity building measures (e.g., training and professional development) have been required by the ER Program or Safeguards Plans, describe the extent to which these measures have been carried out.

All program actors received capacity building on safeguards-related topics throughout 2022 and 2023. In addition, Stakeholders received continuous support from implementing entities (Cocoa Coffee Council, Earthworm Foundation, etc.) to comply with program provisions.

Table 3 : Capacity building of ERP stakeholders

Structures	Types and objectives of training	Target group	Period	Locations Type Number (M/F)
Word Bank	To provide countries with knowledge on the implementation of the ERP by sharing lessons learned thus far and to establish and strengthen partnerships among ERP countries.	ERP-PMU	February 2023	Accra, Ghana Specialist from SEP-REDD+ 5 persons (4 male/1 female)
	E&S safeguards guidelines	FIP-PMU	July 2023	Abidjan, Ivory Coast E&S Safeguards Specialist from SEP-REDD+ 2 persons (male)
SEP-REDD+	- Grievance Redress Mechanism; - The resources required to promote MGP committees within communities; - The necessity of preventing or addressing disputes caused by PIF	GMC	November 2022	Nawa regions, Ivory coast Member of the Grievance Redress Committee 190 (No details on gender distribution)
FIP1&2	- Presentation of the general context of the World Bank's Environmental and Social Framework; - Environmental and social screening, - Review of the project's Environmental and Social Management Plan (ESMP)	SODEFOR / OIPR / CARE / ANDE	August 2023	Abidjan, Ivory Coast UCP-PIF & Focal point FIP + 478-(295/183)
Care / DGM	- Agroforestry techniques and tree planting techniques, - Good governance, social cohesion, women's leadership, conflict prevention, and community-based conflict management, - Organic compost production; - Grievance redress mechanism	GMC DGM committees IGA promoter	Mai 2022 June 2022 October 2022 November 2022	Cavally, Gboklê, Guemon, Nawa and San pedro regions, Ivory coast Member of the Grievance Redress Committee and DGM beneficiaries 244 (No details on gender distribution)
Café Cacao council	- Project environmental and social management, - Development of terms of reference for an environmental impact assessment, - Projects Environmental and social impacts, - Implementation of environmental and social management plans	Environmental services of CCC	February 2023	Abidjan, Ivory Coast Environmental Department of the CCC+ 2 persons -(1male/1 female)
PES- Nawa	- GRM; - Transition to zero-deforestation cocoa farming, - Good agricultural practices and environmental stewardship (PPMP), - Forest restoration and expansion policy, and payments for ecosystem services	Association Cooperative	2022 2023	San Pedro, Ivory Coast Local communities + 190 (No details on gender distribution)

2. ER Program activities are implemented in accordance with management and mitigation measures specified in the Safeguards Plans.

2.1 Confirm that environmental and social documents prepared during Program implementation are based on the Safeguards Plans. Provide information on their scope, main mitigation measures specified in the plans, whether the plans are prepared in a timely manner, and whether disclosure and consultation on the plans are carried out in accordance with agreed measures.

The environmental and social safeguard documents developed (2017), as part of the preparation of the ERP are the (1) Environmental and Social Commitment Plan (ESCP), (2) Environmental and Social Management Framework (ESMF), (3) Resettlement Policy Framework (RPF), (4) Process Framework (PF), (5) Pest Management Plan (PMP), (6) Labor Management Procedures (LMP); (7) Stakeholder Engagement Plan (SEP), (8) Cultural and Physical Resources Management Framework (CPRMF) and (9) REDD Grievance Redress Mechanism (GRM). They were developed in accordance with the World Bank's Environmental and Social Framework. They were subject to stakeholder consultation and then disseminated ([EESS REDD+ – REDD+ Côte d'Ivoire](#); Table 3)

In addition to the ERP's E&S safeguard instruments, the Projects and/or activities evaluated during this reporting period have, for the implementation of their activities, (1) environmental and social documents or (2) E&S standards or certifications, which are fully in line with the World Bank's Environmental Framework.

For this reporting period, the activities that were evaluated are:

Table 4 bis : stakeholder consultation.

Date	Location	Objective / Theme	Participants (type / number)
04/07/2016	Abidjan	Roles and responsibilities in the implementation of the ERP	Forestry administration, WCF, MINEF (7)
05/07/2016	Abidjan	Roles and responsibilities of industrial forest operators	Industrial forestry sector (13)
06/04/2016	Abidjan	Roles and responsibilities of OIPR	OIPR (7)
07-14/04/2016	Abidjan	Roles and responsibilities of SEP-REDD+	SEP-REDD+ (10)
10/04/2016	Abidjan	Roles of NGOs in the ERP	NGOs (21)
11/04/2016	Abidjan	Roles and expectations of UNDP, ICRAF, AFD	UNDP (6), ICRAF (4), AFD (5)
12/04/2016	Abidjan	Participation of regional directorates (Cavally, Guémon)	MDP/DPS (11), CEM NGOs (6)
13-19/04/2016	Abidjan	Private sector consultation (Cargill, CEMOI, Mondelez, OLAM, SIFCA)	Companies (11)
23/05/2016	Abidjan	Role of NGOs in safeguards (Impactum-TFT)	NGOs (8)
12/07/2018	Abidjan	Presentation of the ERPD document to NGOs, local authorities, and central government	NGO representatives, local and central administration (55)
09/11/2018	Abidjan	Meeting for analysis and validation of the ERP document	Experts, administration, partners (25)
18-19/09/2018	Guiglo, Soubré	ERPD workshops and benefit-sharing options	Local communities, local authorities, NGOs (46)
25/09/2018	Abidjan	Planning meeting on the benefit-sharing plan	SEP-REDD+, ONFI (16)
28/09/2018	Abidjan	Identification of beneficiaries of the benefit-sharing plan	Experts, authorities, civil society (32)
04/01/2019	Abidjan	Local validation workshops of the ERP	Local elected officials, traditional authorities, communities (22)
05/01/2019	Abidjan	Same as above	Same as above (27)
04/07/2016	Abidjan	Roles and responsibilities in the implementation of the ERP	Forestry administration, WCF, MINEF (7)

Table 5 : Les Normes et/ou documents Environnementaux et sociaux utilisés dans le cadre des activités de la zone du projet

Project	Activity	Sustainability standards/documents or activities	Correlation with the World Bank's Environmental and Social Framework
FIP (2 nd phase) 2022-2029	The Development Objective is to conserve and increase the forest stock and improve access to sources of income from sustainable forest management for selected communities in target zones. The objectives are: ■ Support the development of participatory forest management plans (PFMP); ■ Support the implementation of participatory forest management plans; ■ Support the sustainable management of national parks and nature reserves.	■ ESCP ■ ESMF, ■ RPF, ■ OF, ■ PMP, ■ LMP; ■ SEP ; ■ CPRMF https://environnement.gouv.ci/instruments-de-sauvegarde-environnementale-du-pif-2/	The FIP 2 E&S safeguards were developed in compliance with the World Bank's Environmental and Social Framework.
FIP (1 st phase) 2018-2023	The objective is to conserve and increase the forest stock and to improve the access of communities in the targeted areas to sources of income induced by sustainable forest management. The objectives are: ■ Restoration of forest cover in classified forests and riparian zones; ■ Sustainable management of the Taï National Park (TNP);	■ ESCP ■ ESMF, ■ RPF, ■ OF, ■ PMP, ■ LMP; ■ SEP ; ■ CPRMF Fichiers EESS REDD+ – REDD+ Côte d'Ivoire	The FIP 1 E&S safeguards were developed in compliance with the World Bank's Environmental and Social Policy, have been operating under the Operational policies
Payment for Environmental Services (PES) Nawa 2017-2020	PES pilot project as part of the Cocoa Life program operating in the Nawa region. The objectives are: - eliminate deforestation in the supply chain; And - contribute to the objective of restoring Ivorian forest cover through a PES-type incentive instrument	Cocoa Life aims to: ■ Ensure a sustainable supply of cocoa for Mondelez International, ■ Improve the living conditions of cocoa farmers and their families, ■ Preserve the environment and natural resources upon which cocoa cultivation depends.	The application of the Cocoa Life Standard can generate a significant positive impact: Improving the living conditions of cocoa farmers: By addressing the root causes of poverty and inequality in cocoa-growing communities, both initiatives contribute to improving the well-being of farmers and their families. Strengthening the sustainability of the cocoa supply chain: By promoting sustainable agricultural practices and respecting community rights, the World Bank's Environmental and Social Framework and the Cocoa Life Standard contribute to a more sustainable and environmentally friendly cocoa production. Contributing to the Sustainable Development Goals: By aligning with the principles of sustainability and social responsibility, the World Bank's Environmental and Social Framework and the Cocoa Life Standard contribute to the World Bank's Sustainable Development Goals, including the fight against poverty, environmental protection, and the promotion of peaceful and inclusive societies.
Dedicated Grant Mechanism (DGM) for	This project, which supports the FIP, aims to strengthen the capacity of targeted local communities (living around forests) to participate in the sustainable management	■ ESMF, ■ RPF, ■ OF.	The DGM E&S safeguards were developed in compliance with the World Bank's Environmental and Social Policy, have been operating under the ESF

Project	Activity	Sustainability standards/documents or activities	Correlation with the World Bank's Environmental and Social Framework
Cote d'Ivoire 2020-2024	of forests and lands, as well as in the REDD+ processes at the local, national, and global levels; and maintain and increase forest cover in targeted areas. It is structured around three components: ■ capacity building of local communities, ■ development and implementation of an incentive system to reduce pressure on forest resources ■ project management, monitoring and communication (information and awareness).	https://reddplus.ci/20170320presentation-du-dgm/	
Nestle	The activities carried out by the company are related to: ■ Agroforestry (distribution of seedlings to cocoa producers and tree planting). ■ Reforestation and forest protection (reforestation projects are also implemented to restore degraded forests). ■ Optimization of agricultural practices (reduction of chemical fertilizers). ■ Improvement of smallholder farmers' agricultural practices (training in agroforestry techniques, distribution of improved seedlings, combatting child labor, access to quality inputs).	Nestlé Cocoa Plan: The Nestlé Cocoa Plan is a program aimed at improving the sustainability and quality of cocoa production. The requirements include sustainable agricultural practices, farmer training, and investments in local communities.	The Environmental and Social Framework (ESF) of the World Bank, along with initiatives like the Nestlé Cocoa Plan, the ARS 1000 standard, the Olam Livelihood Charter, and Ferrero Farming Values, share common goals regarding sustainability, environmental protection, and improving social conditions in supply chains, especially in agricultural sectors. 1. Nestlé Cocoa Plan: Shared Objective: The Nestlé Cocoa Plan aims to improve the sustainability of cocoa production by focusing on sustainable agricultural practices and traceability. This aligns with the ESS 6 of the World Bank's ESF, which focuses on biodiversity conservation and sustainable management of natural resources. Link to ESS 2 (Labor and Working Conditions): The Nestlé Cocoa Plan also implements practices aimed at combatting child labor, which is a key objective of the ESF as well. 2. ARS 1000 (Sustainable Cocoa Standard): Shared Objective: The ARS 1000 standard, which focuses on sustainable cocoa production, aims to protect the environment and improve the livelihoods of farmers, aligning with the environmental and social principles of the World Bank's ESF. Link to ESS 1 (Assessment and Management of Environmental and Social Risks and Impacts): ARS 1000, like the ESF, requires the evaluation of the environmental and social impacts of agricultural activities. 3. Olam Livelihood Charter: Shared Objective: The Olam Livelihood Charter seeks to improve smallholder farmers' livelihoods while emphasizing sustainable resource management and reducing environmental risks, similar to the goals of ESS 3 (Resource Efficiency and Pollution Prevention) of the ESF. Link to ESS 5 (Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement): This standard relates to how projects impact agricultural lands, a key concern for Olam, which supports sustainable farming practices without compromising local livelihoods.
Cargill West Africa		<i>Pratiques</i>: A sustainability label created by Cargill, which aims to promote sustainable and responsible agricultural practices for cocoa production.☐	
Ferrero		Ferrero farming values cocoa: This label is awarded by Ferrero and ensures that cocoa is produced sustainably while respecting workers' rights and the environment	
OFI		Olam Livelihood Charter: The Olam Livelihood Charter label is a sustainability program aimed at improving the livelihoods of cocoa producers and promoting sustainable agricultural practices. The requirements include environmental and social standards, farmer training, and investments in local communities.	
CCC		ARS 1000 : This Standard aims to structure Producer Management Systems as Entities/Producer Groups/Producer Cooperatives to improve the	

Project	Activity	Sustainability standards/documents or activities	Correlation with the World Bank's Environmental and Social Framework
		performance of sustainable cocoa production and the livelihoods of Recognized Entities. The requirements focus particularly on economic, social, and environmental aspects.	4. Ferrero Farming Values (Cocoa): Shared Objective: Ferrero promotes sustainable farming and strengthens traceability, goals that align with ESS 6 (Biodiversity Conservation) and ESS 10 (Stakeholder Engagement) in the World Bank's ESF. Link to ESS 10 (Stakeholder Engagement): Ferrero collaborates with local communities and stakeholders to enhance sustainability in the supply chain, just as the ESF encourages stakeholder consultations in project planning. 5. Cargill West Africa Practices: Shared Objective: Cargill implements farming practices that promote forest protection and rural community welfare while improving farming techniques, reflecting the goals of the ESF in terms of environmental and social protection. Link to ESS 4 (Community Health and Safety): Cargill's initiatives, such as introducing improved cookstoves and promoting agroforestry, align with the ESF principles aimed at safeguarding rural communities. All these programs and standards share sustainability goals that align with the fundamental principles of the Environmental and Social Framework of the World Bank, particularly regarding environmental protection, natural resource management, and improving the livelihoods of local communities.

2.2 Confirm if entities responsible for implementing the Safeguards Plans maintain consistent and comprehensive records of ER Program activities such as records of administrative approvals, licenses, permits, documentation of public consultation, documentation of agreements reached with communities, records of screening process, due diligence assessments, and records of handling complaints and feedback under the Feedback and Grievance Redress Mechanism (FGRM).

As part of the activities of the ERP, the entities responsible for implementing the safeguards plans document and record all activities of the emissions reduction program using consistent and complete records. For example:

- The environmental and social safeguard instruments of the REDD+ mechanism (2017) (SESA, ESMF, RPF, PF, PMP, GRM, CGRCP), FIP 1 (2018) (PF, PMP, CGRCP, ESMF, RPF, etc.), ERP (2020) (ESMF, RPF, etc.), PF, PMP, GRM, CGRCP, SEP, LMP) have been validated by the World Bank (Banquemonde.org/projects). All of these documents, archived at the regional REDD+ Committee level and on the SEP-REDD+ servers (<http://reddplus.ci>). In the process of developing each of these documents and projects, an extensive public consultation process was conducted. This process involved various stakeholders, including local communities, private sector representatives, civil society organizations, and governmental authorities. Each consultation aimed to gather feedback and concerns from stakeholders, ensuring that the instruments address both environmental and social impacts. Additionally, validation workshops were organized at different levels to validate the proposals and ensure that the documents meet local and international sustainability standards. All reports related to these consultations and validation workshops are available and can be accessed by anyone interested.
- From 2017 to 2023, the minutes of stakeholder consultations (Throughout the project) carried out (1) as part of the establishment of the GRM, FIP 1 and DGM were developed and archived, (2) the stakeholder capacity building workshops carried out within the framework of the FIP, DGM and PES of NAWA, (3) the monitoring activities of the GRM of FIP1 and Screening of 03 activities of the FIP, were documented and archived at the level of the coordination unit .
- As part of the REDD+ mechanism, a Grievance Redress Mechanism (GRM) was designed, implemented and then operationalized in the NAWA region (one of the five program regions) during the implementation of the Forest Investment Project (FIP1) (2020). The nine (09) GRMs were trained and equipped (provided with complaint registers and other operating tools). In total, thirteen (13) complaints were recorded during this period and managed by SODEFOR, a member of the GRM. These mainly concern complaints about late payments of reforestation contracts by SODEFOR. The other GRMs will be installed gradually as the various projects are implemented in order to be operational before the first ERPA payments.
- In the context of resolving complaints related to emission reduction activities in the project implementation area, 90 GMC were installed (78 villages (Established and operational.), 2 sub-prefectural (Established but not operational) and 10 departmental (Established but not operational)). Within the framework of the PIF 1 and DGM projects, from 2020 to 2022. The capacities of these entities were strengthened, and they were equipped with educational materials^{§§§§§} for the recording and follow-up of grievances. Non-operational committees are planned to be operationalized in 2025 following distribution of the 2nd ER Payment to SEP-REDD+ and PIF2 to support complaints that may be received.
- For certain indirect beneficiaries such as the Cocoa and Coffee Board, the IT department in charge of the website is responsible for archiving all study reports, activity reports, technical sheets, and standards issued by the environmental and social management service. For example, for the year 2023, elements related to the ARS 1000 standard were uploaded to the Cocoa and Coffee Board's website ([Norme Africaine ARS 1000 pour le cacao durable \(conseilcafecacao.ci\)](http://NormeAfricaineARS1000pourlecacaodurable.conseilcafecacao.ci)). The department also stores paper documents in secure physical archives. These documents include production records, study reports, certificates of conformity, and audit reports. The CCC also uses physical storage media, such as hard drives, to store digital data. These storage media are kept in secure facilities and are regularly backed up.

^{§§§§§} a Grievance registration and follow-up register, Grievance forms, standard Grievance resolution meeting minutes, copies of laws governing natural resources

2.3 Summarize the extent to which environmental and social management measures set out in the Safeguards Plans and any subsequent plans prepared during Program implementation are implemented in practice, the quality of stakeholder engagement, as well as whether field monitoring and supervision arrangements are in place.

Table 6 : Summary of responsibilities in the environmental and social management of the Program and the status of implementation of activities

NO	Steps/Activities	Responsible	Support/Collaboration	Implementation status
1.	Identification of the site location and main technical characteristics of the sub-project	REDD+ project beneficiaries	Prefectural body Regional and departmental Technical Services City hall	<i>Several activities eligible for the ERP were identified within the framework of the FIP, DGM and the IMPACTUM PES project and the activities of the cocoa and forests initiative. Also, it is only after the Call for Expressions of Interest that their location will be specified.</i>
2.	Environmental and social screening and determination of the type of specific safeguard instrument	Project Environmental and Social Safeguarding Unit	REDD+ project beneficiaries Prefectural body City hall Departmental and regional technical services	<i>As part of the FIP Project, three (03) sub-projects were screened (2023):</i> ■ Sub-project for the rehabilitation of life bases in the Tai national park and its surroundings; ■ Under project to rehabilitate 32 km of access roads, 33 km of perimeter tracks and 35 km of internal tracks (PNT); ■ Under project to develop lowlands formerly gold panned into rice-growing lowlands
3.	Approval of the classification of environmental and social risks	Project coordinator	E&S Department	<i>The various screening reports for the above sub-projects have been drawn up and submitted to ANDE and the WB for approval; The risks of the submitted reports were judged to be low (2023)</i>
4.	Preparation of the specific instrument of the “moderate” or “low” risk sub-project E&S framework			
	Carrying out the study including consultation of stakeholders and PAPS		PMS ANDE Project beneficiaries Prefectural body, Town hall, regional council, local technical services; NGO	<i>No specific E&S safeguard instrument was carried out during this period as part of the ERP's activities.</i>
	Validation of the report and obtaining the environmental certificate		PMS	<i>N / A</i>
	Publication of the document		Coordinator	<i>N / A</i>
5	(i) Integration of all measures of the work phase that can be contracted with the company/private operator in the sub-project DAO, (ii) approval of the site ESMP	Technical Activity Manager (RTA)	E&S Department PMS	<i>The activities (FIP, DGM, PES) carried out within the framework of the ERP were not the subject of an AML. The indirect beneficiaries proceeded with awareness sessions for the choice of direct beneficiaries and the implementation of the activities. However, under the DGM, direct beneficiaries submitted technical offers incorporating a section relating to the E&S Management Plan (2022 – 2023)</i>
6	Execution/Implementation of measures not contractualized with the construction company/Private operator	E&S Department	PMS / RAF / RTA REDD+ project beneficiaries PFES	<i>N / A</i>
7	Internal monitoring of the implementation of environmental and social measures	E&S Department	E&S Department/ ANDE	<i>This activity devolved to the PFE was carried out at the level of FIP 1 and the DGM by the PFEs of the OIPR and SODEFOR designated within the framework of the FIP. However, internal monitoring was not carried out at the level of the NAWA PES project. 2022 - 2023</i>
	Distribution of the internal monitoring report	Coordinator	Program implementation structures and bodies	<i>The E&S Department transmits an E&S monitoring report to the World Bank every three months, after receipt, verification and compilation of the regional PFE monitoring reports and those of the project stakeholders.</i>
	External monitoring of the implementation of environmental and social measures	ANDE	E&S Department NGO	<i>Regular monitoring missions(Every 3 months) for E&S activities of the ERP, DGM and GRM are organized by E&S Department in charge of the ERP.</i>

NO	Steps/Activities	Responsible	Support/Collaboration	Implementation status
8	Strengthening the capacities of stakeholders for Environmental and Social implementation	E&S Department	ANDE / CIAPOL world Bank Local Technical Services; SPM/RAF	<i>Confer 1.4</i>
9	Audit of the implementation of environmental and social measures*****	E&S Department	SPM/RAF Prefectural body ANDE / CIAPOL REDD+ project beneficiaries Other Technical Services NGO	<i>The PIF project underwent an E&S audit in May 2023 : Rapport d'audit sud-ouest_VF.docx</i>

***** An environmental and social audit conducted as part of the Forest Investment Project (FIP) revealed delays in the implementation of certain activities, particularly the screening missions related to the development of lowlands and the rehabilitation of roads, which were postponed due to the late issuance of required authorizations. Eight additional safeguards instruments for FIP have been developed and amended following comments from the World Bank, and the harmonization process is ongoing. Five complaints were recorded, mainly related to payment issues, but complainants bypassed the Grievance Redress Mechanism (GRM), highlighting the need to strengthen community awareness. Furthermore, focal points from partner institutions lack training and resources to effectively carry out their duties. It is recommended to accelerate the execution of the screenings, strengthen the GRM through training of local committees and outreach efforts, build the capacity of E&S focal points, and finalize the harmonization of safeguard instruments in accordance with the Bank's requirements.

It should be noted the implementation of audit recommendations is already underway. Efforts have been initiated to expedite the completion of screenings, while the Grievance Redress Mechanism (GRM) is being enhanced through targeted training sessions and community awareness initiatives. Regular technical monitoring is being conducted by SEP-REDD+ Environmental and Social (E&S) specialists to assist partner institutions in effectively implementing the recommended measures. Furthermore, review and coordination sessions are scheduled to ensure the safeguard mechanisms are continuously improved through a participatory approach.

2.4 Confirm that the FGRM is functional, supported with evidence that the FGRM tracks and documents grievances, is responsive to concerns, complaints or grievances.

The objective of the grievance redress mechanism is to handle complaints/disputes related to the implementation of the ERP. The system in place is based on existing structures at the local level (customary, administrative, socio-economic stakeholders) and takes into account their geographical, hierarchical, and usage links. The complaints management procedure is based on existing practices and favors amicable resolution. However, the parties involved, or complainants are free to resort to legal proceedings or any other body while preferring to use the REDD+ grievance redress mechanism.

FGRM system is illustrated in the figure below.



Each body (except CN-REDD+ whose composition is defined in the decree establishing it) is composed of various predefined categories of members (addendum 1).

Each FGRM body's role is:

- receive, record, or transcribe complaints at the village level;
- appease the parties, initiate discussions, and conduct mediation;
- conduct necessary verifications and investigations;
- negotiate amicable solutions to the complaint;
- ensure the implementation of resolutions and close the file;
- develop and submit periodic reports to higher authorities (including archiving all documents);
- conduct awareness and conflict prevention activities. In case a complaint is not resolved by a body, the complaint is forwarded to the higher authority for processing.

In 2022 and 2023, the activities of the Grievance Redress Mechanism (GRM) primarily focused on the revitalization of existing Village Grievance Management Committees (CGP) within the framework of the DGM. This involved restoring the operational capacity of local structures responsible for handling grievances to ensure better consideration of community concerns. Additionally, these activities included raising awareness among stakeholders, improving mechanisms for receiving, recording, and tracking complaints, as well as processing and resolving disputes related to program activities. Special emphasis was placed on training CGP members to strengthen their ability to analyse and effectively handle grievances in accordance with program requirements and good governance principles.

In 2024, the program aims to expand and strengthen the grievance management system on a broader scale. Thus, in addition to the village-level CGPs, five new regional CGPs and twelve departmental CGPs have been created and revitalized to ensure broader coverage and better coordination of the grievance redress mechanism. These new structures will be provided with appropriate equipment (tracking registers, documentation and communication tools) to ensure a structured and efficient grievance handling process.

Moreover, enhanced training will be provided to members of the regional and departmental CGPs, focusing on understanding the Emission Reduction Program (ERP) and the Grievance Redress Mechanism (GRM). This training will aim to standardize grievance management procedures, improve transparency, and ensure greater responsiveness in addressing stakeholder concerns. The grievance recorded in 2022 and 2023, mainly related to the DGM, are summarized in the table below.

Tableau 7: Grievance register ⁺⁺⁺⁺⁺

Complaint Filing Date	Complaint Subject	Site	Proposed Corrective Measures	Complaint Resolved?	Complaint Closure Date
22/06/2023	fraud and embezzlement	GOH (San Pedro)	Full reimbursement of embezzled funds. 140000FCF	Yes	30/06/2023
22/06/2023	Frustration of group members with their president who tended to appropriate the project	Trahé (San Pedro)	Re-establishment of the group's executive committee	Yes	23/06/2023
16/06/2023	Theft of 2 bags of banana rejects that the group had been able to bring back from Para, a locality located about 20 km from Djouroutou	Djouroutou (San Pedro)	Recommendation to the promoter to report the matter to the gendarmerie	Pending	N/A
22/06/2023	fraud and embezzlement	GOH (San Pedro)	Full reimbursement of embezzled funds. 140000FCFA already reimbursed	Yes	07/09/2023
16/06/2023	Theft of 2 bags of banana rejects that the group had been able to bring back from Para, a locality located about 20 km from Djouroutou	Djouroutou (San Pedro)	Recommendation to the promoter to report the matter to the gendarmerie		08/07/2023
13/09/2023	Disappearance of members of a group after receiving the second installment	Ziglo (Cavally)	It was recommended to the village chief to put a warrant out for the missing group president and her group members	Ongoing	Ongoing
07/10/2023	Lack of accountability for activities	DIBOBY (GUEMON)	- Organize weekly meetings to account for amounts received, spent and activities carried out. - Participation of members in all group activities	Yes	09/11/2023
26/11/2023	Theft of chickens from the farm	NANANDY (GUEMON)	The chieftdom has been informed but has not yet convened a meeting due to the chief's ill health	No	N/A

3. The objectives and expected outcomes in the Safeguards Plans have been achieved.

3.1 Assess the overall effectiveness of the management and mitigation measures set out in the Safeguards Plans.

The level of compliance with the safeguard measures of the Institutions and Projects listed in section 2 of this annex following the safeguard plans of the Emissions Reduction Program, resulted in (i) the implementation of activities in accordance with the management and mitigation specified in the safeguards plans; (ii) integrated management of pests and rational use of pesticides (in accordance with the PMP) ⁺⁺⁺⁺⁺; (iii) community safety and health ^{§§§§§} and farmers (in accordance with the LMP); (iv) waste management (pesticide packaging, in accordance with the ESMF) ^{*****}; (v) prioritization of organic inputs; (vi) compliance with the GRM procedure; and (vii) non-restriction of access to land (in accordance with the PF). Table 7 : Sample results of monitoring done based on the ESMP and screening checklist developed

⁺⁺⁺⁺⁺ The grievance register lacks sufficient detail. The report offers a mere synopsis of the key points

⁺⁺⁺⁺⁺ Awareness raising within the framework of FIP 1 and DGM of sectoral ministries and technical implementation structures on the pest and pesticide management plan in the ERP zone

^{§§§§§} Raising public awareness on good agricultural practices and the use of personal equipment (PPE), as part of the implementation of the DGM IGAs.

^{*****} For example, at the DGM level, waste from the construction of livestock building activities is stored and eliminated. These resulting from livestock activities (droppings) are composted and reused in the agricultural sector.

Project	Summary of progress achieved	Risk	Mitigation measures	means of verification
FIP (2 nd phase) 2022-2029	■ framework for the resettlement of populations infiltrated in gazetted forests was developed based on the Environmental and Social Standard of the World Bank. The document is available from this link. ■ Livelihood Restoration Strategy for People Affected by Forest Restoration has been developed for the classified forests of: Haute Dodo, Rapides Grah and Scio.	Risk of development of poaching and disappearance of certain animal specie	Have authorization from classified forest surveillance agents before any activities Raise awareness among workers about the ban on hunting in the classified forest	Site observation
		Risk of opposition due to the reduction of cultivation areas	Raise awareness among populations of the importance of reforestation Train local residents on other farming techniques respecting the principles of Sustainable Development (agroforestry) RPs and LRPs to be done in case of involuntary resettlement	Sensibilization report and surveys E&S monitoring reports
FIP (1 st phase) 2018-2023	■ 14, 289.34 hectares of agroforestry established in classified forests. This value can be checked in the report here, specifically on page 24. The geolocation of these parcels is in progress, to date only 4,875.8 hectares have been completed. The database in shapefile format is available from this link ; ■ 5,000 ha of agroforestry have been established in the rural area, the activity report can be consulted from this link. However, we would point out that only 3,077.32 ha have already been mapped, and the database in shapefile format is available here. ■ participatory management plans for classified forests (Haute dodo and Rapide grah)	Risk of development of poaching and disappearance of certain animal specie	Have authorization from classified forest surveillance agents before any activities Raise awareness among workers about the ban on hunting in the classified forest	Site observation
		Risk of opposition due to the reduction of cultivation areas	Raise awareness among populations of the importance of reforestation Train local residents on other farming techniques respecting the principles of Sustainable Development (agroforestry) RPs and LRPs to be done in case of involuntary resettlement	Sensibilization report and surveys E&S monitoring reports
Earthworm et Nestle (2020-2026)	■ 1,500 hectares of reforestation were realised in the Cavally forest reserve between 2021 and 2022, of which 1,159.394 ha have been mapped. The boundaries of these plots are available here. ■ 777 hectares of assisted regeneration completed. These values can be checked in the activity report on page 7.	Risk of opposition due to the reduction of cultivation areas	Raise awareness among populations of the importance of reforestation Train local residents on other farming techniques respecting the principles of Sustainable Development	Sensibilization report
		Risk of development of poaching and disappearance of certain animal species	Have authorization from classified forest surveillance agents before any activities Raise awareness among workers about the ban on hunting in the classified forest	Site observation
ICF (1 st phase) 2018–2021	All this information is contained in the Côte d'Ivoire cocoa and forest initiative 2021 annual report, which can be accessed via this link: ■ More than 12,945,000 trees distributed for agroforestry and reforestation (this value is available on page 10); ■ More than 22,000 hectares of forests restored in rural areas (this value is available on page 10) ; ■ 193,395 hectares of cocoa agroforestry under development (this value is available on page 24); ■ More than 12,700 farmers benefiting from payments for environmental services (this value is available on page 10); ■ More than 387,200 farmers trained in good agricultural practices: more cocoa on less land (this value is available on page 11); ■ 249,807 farmers trained in smart practices in the face of climate change (this value is available on page 11) ;	None	None	None

Project	Summary of progress achieved	Risk	Mitigation measures	means of verification
	■ More than 114,200 farmers benefiting from financial products and services (this value is available on page 11) ; ■ Improved traceability with mapping of more than 465,400 farms (this value is available on page 11) ; ■ Improved livelihoods of farmers through income-generating activities (production and sale of other agricultural products than cocoa, livestock, or non-agricultural activities). Page 27. The reports of activities carried out in ICF are available here			
Payment for Environmental Services (PES) Nawa 2017-2020	■ Feasibility study of PES and practical guide to PES ; ■ Establishment of a national working group on PES, a regional steering committee and installation of 5 groups of foresters in 2 regions ; ■ Training of 200 women on forest tree production techniques with production of 240,571 trees. This figure can be checked here on page 7 section 4-3; ■ 18 cooperative relay trainers and 903 cocoa producers trained in agroforestry techniques and 71 young people from communities trained in forestry techniques (checked here on page 6 section 4-4); ■ Installation of nursery groups with supplies of seeds, materials, and equipment in 5 localities in the region ■ 2,071 hectares of agroforestry carried out and signing of 1,020 Agroforestry PES contracts (checked here on page 6 section 4-4) ; ■ Reforestation of 26 hectares; ■ Conservation of 34 hectares of individual natural forests. These reforestation and conservation areas can be checked here page 6 section 4-5.	Non-adherence of the populations to agroforestry	Raise awareness among local communities about agroforestry benefits	Sensibilization report
		Risks of environmental pollution (soil, water, air, etc.) through excess or inadequate use of phytosanitary products and other agricultural inputs	Support training in the use of agricultural inputs	Sensibilization report
		Reduction in the capacity of actors to take their own initiatives without external support	Develop rational farm management techniques	report
		Risk of opposition due to the reduction of cultivation areas	Raise awareness among populations of the importance of reforestation Train local residents on other farming techniques respecting the principles of Sustainable Development	report
		Risk linked to low profitability due to non-compliance with the technical itinerary	Train populations on the technical route of agroforestry through the project as part of the training	report
		Exclusion of women and vulnerable people	Mapping and raising awareness of women and vulnerable people	observation
ISLA (Initiative for Sustainable Land Use) IDH 2021-2025	■ Development of a Regional Scheme for Planning and Sustainable Development of the Cavally Territory (SRADT) with a green growth strategy; ■ Promotion of agroforestry practice ■ Restoration of forest cover ; ■ Diversification of producers' activities ; ■ Development of financial incentive measures and the creation of a public-private investment mechanism for sustainable and ecological land development. The report is available here	Land use conflicts between different stakeholders (producers, local communities, private companies).	Integration of local communities into the decision-making process to prevent land conflicts.	report
Regional Indicative Program - 11th EDF Union 2021-2027	■ Protection and conservation of Taï National Park (TNP) ; ■ Development of the territory around TNP ; ■ Support for local development around TNP ; ■ Fight against land degradation ; ■ Improvement of the productivity of food and energy wood sectors (agroforestry), to sustainably generate production surpluses and jobs, particularly for women in both rural and peri-urban areas ;	Restrictions on communities' access to natural resources.	Consultation of local communities to ensure their inclusion in decision-making	Report

Project	Summary of progress achieved	Risk	Mitigation measures	means of verification
	■ Integration of trees into production systems for their contribution to soil management ; ■ Respect for sustainable land management techniques, including measures related to sustainable natural resource management. ■ National indicative program report can be found below for : ■ 2014-2020 ■ And 2021-2027			
Dedicated Grant Mechanism (DGM) for Cote d'Ivoire 2020-2024	■ Capacity building of 157 promoters (86 women and 61 men) in their fields of activity through training in microproject management in agropastoralism ; ■ Development and implementation of a performance-based system to reduce pressure on forest resources ; ■ Establishment of grievance redress mechanism in different localities ; ■ Strengthening the capacities of local communities in agroforestry and forest restoration and REDD+ activities ■ Continuous awareness-raising on the prohibition of pesticides and any other chemical products in the implementation of income-generating agricultural activities. The project report can be found here (DGM 2023 Annual Report Now Available! — The Dedicated Grant Mechanism for Indigenous Peoples and Local Communities)	Low participation of marginalized groups including women, youth,	Implement specific actions to prevent the marginalization of certain groups	Quarterly E&S monitoring report Attendance List
		Risk of community conflict	Improve communication about the project and its goals to prevent disputes	Report
		Risk of expanding cocoa cultivation	Ensure that producers comply with the contract terms; Implement the communication plan; Monitor land areas to prevent the expansion of plantations	Observation
		Land-use conflicts	Implement the GRM	Observation Report
		Risk of misappropriation of funds intended for investments	Establish a transparent management and monitoring and evaluation system	Report
Spatial Forest Monitoring and Deforestation Early Warning System	Consultations with various national stakeholders enabled finalizing the specifications for the Land Monitoring and Early Warning System for deforestation. It was adopted by the government in March 2023. The next step is to recruit a service provider for the development of the platform planned in 2024.	Reliability of data and risk of errors	Improvement of accuracy and validation of data to avoid misinterpretation in monitoring.	Report

NB : the Bank's environmental and social standards (ESS) applicable to each of the activities of OIPR, SODEFOR, Impactum and the private sector mentioned above are as follows: ESS1 "[Assessment and Management of Environmental and Social Risks and Impacts](#)"; ESS2 "[Labor and Working Conditions](#)"; ESS3 "[Resource Efficiency and Pollution Prevention and Management](#)"; ESS4 "[Community Health and Safety](#)"; ESS5 "[Land Acquisition, Restrictions on Land Use and Involuntary Resettlement](#)"; ESS6 "[Biodiversity Conservation and Sustainable Management of Living Natural Resources](#)"; ESS8 "[Cultural Heritage](#)"; and ESS10 "[Stakeholder Engagement and Information Disclosure](#)"

3.2 Are the arrangements for quality assurance, monitoring, and supervision effective at identifying and correcting shortcomings in cases when ER Program activities are not implemented in accordance with the Safeguards Plans?

The Arrangements to ensure quality, monitoring and supervision, aimed at identifying and correcting potential shortcomings when the ER program activities are not implemented in accordance with the safeguard plans are summarized as following :

The verification method is carried out on the basis of a checklist which traces the key parameters for implementing the safeguard plans developed as part of the emissions reduction program.

Which safeguards plans align with the environmental and social standards of the World Bank, the United Nations Framework Convention on Climate Change (UNFCCC) and the Forest Carbon Partnership Facility (FCPF). In other words, these key parameters contain most of the environmental and social monitoring indicators contained in the ESMF, around the following monitoring themes:

- Preservation of physical cultural resources
- Safe and rational management of used pesticides and their empty packaging
- Absence of unjustified restrictions on access to natural resources, Prevention and management of complaints
- Gender inclusion and vulnerable people
- The health and safety of people (workers and communities).

Potential direct beneficiaries must meet certain key parameters of the checklist to be eligible for payment from the emissions reduction program.

Furthermore, in the context of their activities/projects, it is possible that many do not take into account compliance with the bank's environmental and social safeguard plan. Thus, arrangements will be made to identify and correct gaps in activities/programs that are not implemented in accordance with the safeguards plans, within a maximum of 45 days after the compliance assessment.

Environmental and social monitoring begins at the project's design stage and extends throughout the duration of the activity, with several entities ensuring the integration of Environmental and Social Safeguards in the activities of the ERP. The Environmental and Social Safeguards specialists of the project are responsible for coordinating and managing the daily environmental and social activities of the ERP. They work in collaboration with ANDE to monitor the various activities contributing to the achievement of the program's objectives. These two entities are responsible for complying with the World Bank's Environmental and Social Standards (project specialist) and Ivorian legislation in environmental matters (ANDE). The National Environmental Agency (ANDE) is responsible for certifying the database of direct beneficiaries of the project, ensuring the reliability and compliance of the collected information. In this context, a contract will be signed in 2024 between the Foundation and the Structure to formalize this collaboration. This agreement aims to strengthen the control and validation of data, ensuring that it complies with applicable environmental and social standards while guaranteeing transparency and fairness in the identification of beneficiaries.

Direct institutional and indirect beneficiaries have received capacity building on E&S standards in the context of previous programs/projects and ensure compliance with the World Bank's E&S standards during the implementation of their activities, which are verified by ANDE and the ERP E&S specialists.

This involves assessing the compliance of the various standards that the projects concerned have used within the framework of their activities/programs, with the environmental and social standards of the World Bank. Direct beneficiaries will be responsible for monitoring indirect beneficiaries and ensuring their compliance and providing sufficient support to facilitate the proper implementation of safeguards.

3.3 Describe the supervision and oversight arrangements to ensure that the Safeguards Plans and, if any, subsequent environmental and social documents prepared during Program implementation are implemented. Are these supervision and oversight arrangements effective (e.g., provide meaningful feedback mechanism to implementing entities to allow for corrective actions)?

The supervision and control of E&S safeguards measures from 2022 to 2023 took place at two levels.

- Complaints management took place through the creation of a grievance redress committee. Its committees benefited from capacity building sessions to properly record and manage complaints arising from activities related to emissions reductions. Furthermore, the SEP-REDD+ organized several missions to revitalize existing grievance redress committee. The last one took place in August 2023 with the Care team in charge of the DGM Project.
- On a day-to-day basis, Environmental and social monitoring of emission reduction activities is the responsibility of OIPR and SODEFOR responsible for managing two components of FIP 1 and the DGM. For private companies and the IMPACTUM NGO it was based on the technical managers of activities related to their emission reductions.

Activities supervision missions are also organized quarterly by SEP-REDD+ and care

Also, it should be noted that the NGO Impactum and Earthworm Foundation aligns itself with the Environmental and Social Standards of the structures with which it contracts (Table 3). The consideration of the environmental and social safeguard standards of the structure is notified in its various reports.

4 Program activities present emerging environmental and social risks and impacts not identified or anticipated in the Safeguard Plans prepared prior to ERPA signature.

4.1 Is the scope of potential risks and impacts identified during the SESA process continue to be relevant to ER Program activities?

The environmental and social (E&S) safeguard instruments developed during the preparation phase of the REDD+ mechanism clearly define the roles and responsibilities of stakeholders, as well as the monitoring and reporting procedures to be adopted to ensure effective management of environmental and social issues related to project interventions. They identify potential risks and impacts and propose appropriate mitigation measures to minimize their negative effects. The identified potential risks and impacts were reassessed during the preparation phase of the PRE through new safeguard instruments (ESMF, RPF, LMP, SEP, PMP, GRM) in August 2020. Mitigation measures for risks and impacts are implemented through various projects/initiatives contributing to the ERP. These measures are reassessed and strengthened after each certification phase of the beneficiary database by ANDE and follow-up missions of E&S safeguard specialists of the PRE.

4.2 During implementation, has any ER Program activities led to risks or impacts that were not previously identified in those Safeguard Plans prepared prior to ERPA signature? If so, what are the proposed actions to manage such risks and impacts that were not anticipated previously?

Emerging risks identified during the implementation phase are linked to (1) the exclusion of women in project activities, (2) the exclusion of certain direct beneficiaries due to the lack of identity document for payments, and (3) the absence of a SIM card registered in the name of the direct beneficiary with the selected mobile operator (MTN) for processing the payment.

Regarding point 1, the project plans to carry out a mapping of vulnerable women and raise awareness among them to join the project activities.

For point 2, the project plans to explore the following points:

- Use the Universal Health Coverage (UHC) card as a valid document for the mobile transfer process;
- Carry out an emergency operation to establish supplementary judgments and consular cards through mobile hearing operations and in conjunction with the embassies of the beneficiaries concerned,

For electronic payments, the project must enter into a contractual agreement with another operator, such as Orange CI, to ensure the payment of direct beneficiaries.

Table 8 : Implementation schedule

Risks	Risks Management	Managers	Time limit
the exclusion of women in project activities	carry out a mapping of vulnerable women	Social safeguard specialist	Q1 2024
	raise awareness among women to join the project activities	Communication specialist	Q2 2024
the exclusion of certain direct beneficiaries due to the lack of identity document for payment	Use of alternative valid document for mobile transfer process	FPRCI	Before the payment period
Absence of an MTN SIM card registered in the name of the direct beneficiary.	Enter into agreements with other mobile network operators.	FPRCI	Before the payment period

5. Corrective actions and improvements needed to enhance the effectiveness of the Safeguards Plans.

5.1 Provide a self-assessment of the overall implementation of the Safeguards Plans

Table 9 : Self-assessment of the implementation of E&S instruments under the ERP

Activities	Managers	Status of implementation
Development of safeguard instruments (ESMF, RPF,FF, etc.)	Coordinator	<i>realized</i>
Identification of the location/site and main technical characteristics of the sub-project	Project beneficiary	<i>a call for expressions of interest was launched on December 15, 2023 (www.projetpre.ci) to identify potential beneficiary sites.</i>
Environmental and social selection	E&S Safeguards cell	<i>Carried out for the activities of the PIF and the DGM:</i> ■ <i>Peripheral track (Taï National Park),</i> ■ <i>Rehabilitation of the living base (OIPR) ;</i> ■ <i>Lowland development;</i> ■ <i>Reboisement de forêt Classé de catégorie 4 ;</i> ■ <i>Income-generating activities of DGM</i>
Designation of E&S focal points	E&S Safeguard cell	<i>Not realized</i> <i>The regional departments in charge of the environment act as regional focal points for ES safeguarding. This will involve formalizing them and designating focal points at the level of institutional beneficiaries (Collaboration contract sent).</i>
Internal monitoring of the implementation of environmental and social measures	Safeguard E&S cell / ESFP	<i>In progress</i>

Activities	Managers	Status of implementation
t Transmettre le rapport de E&S devant être annexé au rapport de la première phase de rapportage avant mi-janvier 2022 pour avis technique de la Banque mondiale et un processus d'amélioration participatif de la qualité du document jusqu'à sa soumission en février 2023;	Coordinator	<i>Not Realized</i>
Establishment of grievance redress committees in other areas of intervention of the ERP	E&S Safeguard cell	Several GMC have been created: ■ 8 GMC in the REDD+ preparation phase ■ 9 PMC during PIF 1 ■ 72 GMC during the DGM
Operationalization of grievance redress committee	E&S Safeguard cell	<i>In progress</i>
Integrate key institutions for E&S management among the indirect beneficiaries of the PPB to support the SEPRED+ verification processes and ensure that the FPRCI includes obligations related to this support in the standard contracts of the targeted institutions	FPRCI SEPRED+	<i>In progress</i>
Integrate specific elements into the standard expressions of interest reports for direct beneficiaries to facilitate the applicant's demonstration of compliance with the requirements of E&S instruments	FPRCI	<i>In progress</i>
Recruit an environmental specialist and a social development specialist.	SEP-REDD+	<i>Realized</i>
Integrate responsibilities related to supporting the safeguard management of the Program into the PIF 2 safeguard management framework.	SEP-REDD+ BM	<i>Not realized</i>
Analyze the feasibility of merging the national REDD+ Safeguard Information System initiative with the establishment of an electronic safeguard management platform for PIF 2.	SEP REDD+ BM	<i>Not realised</i>

5.2 List any corrective actions and areas for improvements. Take care to distinguish between: (i) corrective actions to ensure compliance with the Safeguards Plans; and (ii) improvements needed in response to unanticipated risks and impacts

Table 10: Corrective actions

Activities	Corrective actions & areas for improvements
External Monitoring of E&S Safeguard Activities S	<i>Designation of E&S focal points: Contracts between FPRCI and the beneficiaries are being signed to finalize the selection of ESPF</i>
	<i>Organize a technical meeting with ANDE to define the form of collaboration and the expectations of the PRE.</i>
External monitoring of the implementation of environmental and social measures	<i>Signing of contracts between FPRCI and ANDE to enable the External Evaluation of E&S Safeguard activities</i>

Activities	Corrective actions & areas for improvements
Grievance Management	To set up, in collaboration with the PIF 2, the electronic platform (web platform) to strengthen the procedure for the management of complaints <i>Establish a monthly working group between the safeguarding specialists of the ERP and FIP 2 with the focal points on specific topics related to the MGP</i>
Consideration of vulnerable persons	Establish synergies between ENABLE activities (studies, training, extension) and the PPB implementation process (consultant, SEPP-REDD+ safeguard specialists and PIF 2 specialists).
E&S Safeguard Reports	Submit to the World Bank the monitoring reports on E&S safeguards detailing the activities carried out since the signing of the ERPA, in accordance with the payment agreements. Submit to the World Bank the monitoring reports on E&S safeguards detailing the activities carried out since the signing of the ERPA, in accordance with the payment agreements.
Capacity building	Conduct training for institutional beneficiaries to support them in completing standard reports on E&S safeguards and integrate into beneficiaries' contractual obligations the designation of E&S safeguard focal points for the preparation of E&S monitoring reports.

5.2 Describe the timeline to carry out the corrective actions and improves identified above.

Table 11 : Implementation schedule of corrective actions

Corrective actions	Responsible	Time limit
FPRCI is working to quickly sign agreements with the beneficiaries to confirm the chosen ESPF	FPRCI	Q1 2024
Organize a technical meeting with ANDE to define the form of collaboration and the expectations of the PRE.	SEP-ERDD+	January 2024
Establish, in collaboration with PIF 2, an electronic platform (web platform) to strengthen the grievance management procedure.	SEP REDD+ / UCP PIF 2	Immediate
Establish a monthly working group between the safeguard specialists of the PRE and PIF 2, along with the focal points, to discuss specific topics related to the GRM.	SEP REDD+ / UCP PIF 2	Immediate
Accelerate the execution of contracts between FPRCI and ANDE to validate the External Evaluation of E&S Safeguards	FPRCI	Q1 2024
Submit to the World Bank the monitoring reports on E&S safeguards detailing the activities carried out since the signing of the ERPA, in accordance with the payment agreements.	SEP REDD+	Immediate
Finalize and submit the annex of the monitoring report for the first reporting period on the implementation of E&S safeguards under the Program from October 2020 to December 2021, including all activities carried out in the program area.	SEP REDD+	Immediate
Conduct training for institutional beneficiaries to support them in completing standard reports on E&S safeguards and integrate into beneficiaries' contractual obligations the designation of E&S safeguard focal points for the preparation of E&S monitoring reports	SEP REDD+	Immediate

Corrective actions	Responsible	Time limit
Establish synergies between ENABLE activities (studies, training, outreach) and the implementation process of the PPB (consultant, SEP-REDD+ E&S safeguard specialists, and PIF 2 specialists).	SEP REDD+	January 2024

ANNEX 2: INFORMATION ON THE IMPLEMENTATION OF THE BENEFIT-SHARING PLAN

I. Requirements of FCPF on Benefit Sharing Plans

BSP Implementation Status Report is the primary tool for the Program Entity to provide evidence on whether the BSP has been implemented in accordance with the terms of the agreed BSP, in line with the relevant applicable laws, including national laws and any legally binding national obligations under relevant international law, and that such information is provided in a transparent manner. This requirement is specified in the FCPF Methodological Framework (Criterion 29-33) and in the General Conditions applicable to Emission Reductions Payment Agreement (ERPA), and in the ERPA itself.

The BSP Implementation Status Report should include core information and data that Program Entities are required to report, as specified in this template. Any additional information can be provided in an annex to the report depending on the specific content of the BSP. The Program Entity should submit the report six months after receiving the first payment and every year thereafter²⁶. The report will be considered valid and accepted only after all the core sections of the report using this template are filled with relevant details.

II. BSP Implementation Status

This report was compiled using a methodological approach that integrates various sources of data collection and verification. It relies primarily on a detailed desk review of technical and operational documents related to the Benefit Sharing Plan (BSP), including the revised BSP, quarterly implementation reports from beneficiaries, payment records provided by the FPRCI, and supporting documentation from specific operations such as ONECI and SIM card distribution. This review facilitated the creation of a structured and verifiable status of implementation.

Furthermore, targeted interviews and consultations were conducted, predominantly via telephone, with operational teams from SEP-REDD+, FPRCI, Regional Councils, cooperatives, as well as partner NGOs and traditional authorities involved in project implementation. These interactions aided in collecting qualitative information regarding the challenges faced, adjustments made during implementation, and feedback from beneficiaries concerning the initial stages of payment distribution.

²⁶ The first **BSP Implementation Status Report** should be submitted six months after the Program Entity receives the first payment and every year thereafter (as of June 30). The Emission Reduction Monitoring Report (ERMR) can refer to the latest annual BSP Implementation Status Report before a payment is made (where this template will replace Annex 2 of the ERMR). Countries that are still undergoing their first reporting period validation and verification (and, therefore, haven't received a first payment yet) will continue to maintain Annex 2 to report on the **readiness** of the BSP.

Finally, field visits were conducted as part of community awareness missions in the targeted villages, and during regional coordination meetings. These visits made it possible to document progress observed on the ground, verify the effective receipt of payments by beneficiaries, and assess the level of local ownership of the mechanisms put in place.

Reporting Period:	Date of Submission:
01/2024 to 02/2025	06/03/2025

1. Overall fund disbursement: *[information below is extracted from the detailed excel Table 1 from Tab 2 prepared and submitted with this report]*

Table 4: Summary of the funds distributed by the Program Entity (PE) as per the BSP (includes advance payments)

Source of funds	Total commitment (contract value) (1)	Total received by PE - Payment 1 (2)	Total received by PE – Payment 2 (3)	Total disbursed by PE (4)	% Disbursed (5) = (4)/((2)+(3))	Comments
FCPF ERPA	50 000 000	35 000 000	0	10 308 215,48	29 %	

The tracking table also provides the implementation schedule for the BSP activities.

Activity	Provisional Timeline	Main Responsible Entity
Finalization of payments to indirect beneficiaries (Notification 1)	Q1 2025	FPRCI / SEP-REDD+
Finalization of payments to direct institutional beneficiaries (Notification 1)	Q2 2025	FPRCI / SEP-REDD+
Finalization of payments to communities (Notification 1)	Q3 2025	FPRCI / SEP-REDD+
Deployment of ONECI for the distribution of national ID cards to ERP beneficiaries	Q2 2025	SEP-REDD+ / ONECI
Deployment of the mobile telecom operator (opening of Mobile Money accounts)	Q2 2025	SEP-REDD+ / Mobile Operator
Processing of residual ineligible cases	Q3 2025	SEP-REDD+ / FPRCI
External audit of payments (for 1st reporting period)	Q1 2026	FPRCI
Start of payments for 2 nd and 3 rd reporting period	Q1 2026	FPRCI / SEP-REDD+

2. BSP revision²⁷: were there any changes made to the BSP during the Reporting Period (as specified above in section II): ☒ Yes ☐ No

²⁷ Any revisions to the BSP whether major and/or minor changes should be documented in this report, and the revised BSP should be submitted to the World Bank including the FCPF Facility Management Team (FMT).

If **yes**, please explain what changes have been made, why, and how they were consulted with the stakeholders.

The Benefit Sharing Plan was significantly revised during the reporting period to better reflect field realities, improve the inclusiveness of beneficiaries, and align roles and responsibilities with the actual institutional and community-level implementation of the Emission Reductions Program (ERP) around the Taï National Park (PRE). The revision also aimed to ensure compliance with the Emission Reductions Payment Agreement (ERPA) and the Forest Carbon Partnership Facility (FCPF) Methodological Framework.

Key Changes Made to the BSP:

- Updated list of beneficiaries:
 - Inclusion of new indirect beneficiaries such as regional REDD+ committees, regional councils, traditional authorities, ANADER, and rural land commissions (AFOR).
 - Reclassification of SODEFOR and OIPR as direct institutional beneficiaries, recognizing their roles in supervision, reforestation, and forest protection.
 - Clarification of the status of NGOs that can act as both direct (implementation) and indirect (support) beneficiaries.
- Revised allocation percentages:
 - Adjustment of shares allocated to each beneficiary category to reflect the updated number and type of actors.
 - Harmonization of the distribution table with performance expectations and safeguard compliance obligations.
- Enhanced performance evaluation system:
 - Differentiated monitoring mechanisms for direct, institutional, and indirect beneficiaries, based on clear and measurable performance metrics.
 - Integration of compliance with environmental and social safeguard standards into the performance assessment.
- New beneficiary identification mechanism:
 - Introduction of a Call for Expression of Interest (AMI) to be conducted via a digital platform, with support for illiterate or digitally excluded beneficiaries.
- Institutional role clarification:
 - Detailed responsibilities for SEP-REDD+ (technical coordination), FPRCI (financial payments), CN-REDD (oversight), and implementation actors (communities, NGOs, local authorities, and technical services).

Consultation Process with Stakeholders:

The BSP revision followed an inclusive and participatory consultation process conducted by SEP-REDD+ in collaboration with key national institutions and stakeholders between June and November 2023. It included technical working sessions, stakeholder outreach, and formal validation at both technical and political levels:

Date	Consultation Type / Structure	Stakeholders Involved	Purpose / Outcome
June – Oct. 2023	Technical and sectoral consultations	SEP-REDD+, FPRCI, SODEFOR, OIPR, ANADER, ICF, AFOR, NGOs	Review of the initial BSP, integration of lessons learned, and formulation of revised performance criteria
23 Nov. 2023	Meeting of the Technical Committee (COTECH)	Ministry of Environment, CN-REDD, SEP-REDD+, national experts, civil society	Presentation of BSP revisions and technical validation
24 Nov. 2023	Meeting of the Steering Committee (COPIL)	Line ministries, local government, civil society, development partners, traditional authorities, CN-REDD	Official validation of the revised BSP and Project Operations Manua
30 Nov. 2023	Official publication on REDD+ platform	National stakeholders and international partners	Dissemination of validated documents for implementation in 2024

During these sessions, participants raised important questions regarding eligibility criteria, payment mechanisms, registration procedures, and grievance redress mechanisms. All concerns were addressed by the project coordination unit, and the revised BSP was unanimously validated.

The revised BSP, officially validated on 24 November 2023, incorporates institutional, operational, and legal adjustments to ensure a fair, transparent, and performance-based distribution of emission reduction payments. It is now the official framework guiding benefit allocation under the PRE and is fully aligned with FCPF guidelines and national REDD+ priorities.

3. Overall summary of the BSP implementation during the reporting period.

Please include a brief overview of the status of BSP implementation. Detailed information can be included in an annex to this report. Please avoid repeating the same information from the BSP and provide links to external documents when possible.

3.1 Have there been any challenges faced in the distribution of funds to beneficiaries? If yes, please describe them and how they will or have been addressed.

One of the main challenges encountered in distributing funds to beneficiaries was related to identification and compatibility with payment methods:

Incompatibility with the selected mobile operator:

The majority of direct beneficiaries did not have SIM cards from the chosen operator for processing payments, making the transfer of funds difficult. To address this issue, several actions were implemented:

- Distribution of compatible SIM cards to beneficiaries.
- Diversification of payment methods by involving other mobile operators.
- Use of the Producer Card issued by the Coffee-Cocoa Council as an alternative to facilitate transactions.

Lack of official identification documents:

Another major challenge was the lack of identification documents for some beneficiaries, which made their registration and identification complex, particularly for acquiring SIM cards in their names. To resolve this, we engaged the National Office of Civil Status and Identification (ONECI) to organize a special operation ([PRE Communiqué ONECI.pdf](#)). While this initiative helped beneficiaries obtain identification documents, the primary goal was to assist them in acquiring SIM cards registered in their names, a key requirement to access payments.

3.2 Are the governance and funds flow arrangements as described in the BSP and operations manuals (if relevant) functioning well? Please provide as an annex a summary of meetings, consultations with stakeholders and decisions undertaken during the reporting period to implement and monitor the benefit sharing plan.

Aside from the challenge mentioned in section 3.1, the implementation of the Benefit Sharing Plan (BSP) is progressing smoothly. Following the validation of the BSP with stakeholders in December 2023, discussions and consultations have continued until the start of payments and are ongoing. Key activities undertaken include :

- Meetings of the Technical and Steering Committees related to the BSP, aimed at ensuring the monitoring of the plan.
- Information sessions organized as part of the Expression of Interest (EOI) process, which clarified the objectives and modalities of the BSP.
- The installation tour of the Grievance Management Committees, during which a condensed version of the BSP was distributed to raise awareness among local stakeholders.

Additionally, a large-scale communication operation was carried out as part of an information, awareness-raising, and mapping mission for women on the activities of the Emissions Reduction Program (PRE) in the five regions covered by the program. This mission also helped to strengthen the understanding and ownership of the BSP within local communities.

Here is the summary of the activities carried out below.

Date	Activity Title	Type of Activity	Number of Participants
November 23, 2023	Technical validation of the Benefit Sharing Plan (BSP) by the Technical Committee (COTECH)	Technical Workshop / BSP Validation	26
November 24, 2023	Validation of the BSP and the Operational Manual by the Steering Committee (COFIL)	High-Level Workshop / Governance Validation	24
December 18-19, 2023	Training Workshop for FEREADD Focal Points	Capacity Building / Information on the BSP	25
January 07-13, 2024	Launch of the Awareness and Mapping Mission for Women	Awareness Raising / Community Support / Information on the BSP	200

January 13 –April 20, 2024	Field Mission of FEREADD Focal Points for Women's Mapping	Awareness Raising / Community Mapping / Information on the BSP	307
February 25 – March 02, 2024	Capacity Building for Regional REDD+ Committees (CR-REDD) and PRE Focal Points on the Call for Expressions of Interest (EOI)	Workshop / Institutional Strengthening / Information on the BSP	125
February 25 – March 02, 2024	Installation of Regional Grievance Committees (CGP)	Workshop / Institutional Strengthening / Information on the BSP	125
October 27 – November 1 st , 2024	Revitalization of departmental Grievance Redress Committees	Capacity Building / Grievance Management / Information on the BSP	100

3.3 Is the FGRM functioning and accessible to people in the target areas with uptake channels? Is there evidence on the number and types of feedback and grievances, and how they were addressed? Please briefly describe them here and as relevant please also include links.

As part of the implementation of the Emissions Reduction Program (ERP), a comprehensive grievance management mechanism has been established to ensure the effective and transparent handling of stakeholders' concerns. Specifically:

- Five regional grievance management committees were created, trained, and equipped with didactic materials to address the specific needs of communities in their respective areas.
- Nine departmental grievance management committees were also set up, benefiting from tailored training and appropriate equipment to handle grievances at the local level.

Additionally, the project relies on existing structures to enhance the coverage and effectiveness of the mechanism:

- Thirteen participatory forest management committees, established under the second phase of the Forest Investment Program (FIP 2), contribute to participatory management and the resolution of disputes related to activities in classified forests.
- Seventy-two village committees, implemented under the Dedicated Grant Mechanism for Indigenous Peoples and Local Communities (DGM), provide grassroots support in collecting, analyzing, and addressing grievances at the community level.

This multi-sectoral and inclusive organization ensures that all stakeholders, including local communities, have accessible and tailored channels to express their concerns and receive timely and effective responses. It also helps strengthen the transparency and credibility of the ERP among beneficiaries and the actors involved.

Complaints were raised by both indirect beneficiaries and local populations. For some indirect beneficiaries, these complaints were primarily related to a lack of knowledge or misunderstanding of the performance calculation methods. This issue was brought to light by the Coffee-Cocoa Council, as well as the Regional Councils of Cavally, Guémon, Nawa, and San Pedro during the working session held on December 4, 2024, concerning the status of deliverable submissions.

In response to these concerns, the parties involved were advised to refer to the Benefit Sharing Plan (BSP), annexed to the various contracts, which outlines in detail the performance evaluation criteria and the methods used to calculate the allocated gains. Additionally, it was

suggested that they contact the Project Coordination Unit to obtain detailed explanations of the methods used and to clarify any ambiguities ([PRE CR recontreBI 051224.pdf](#)).

Regarding local communities, two complaints were recorded: one from Mr. Dogba Edgard in the Soubré department on December 6, 2024, and another from Mr. Fehon Laurent in the Guiglo department on December 31, 2024. These complaints, submitted via telephone, concerned delays in payments related to emission reductions and issues with certain members of their community being registered on the Expression of Interest (EOI) platform of the Emission Reductions Program (ERP).

The social safeguards specialist, who received and logged the complaints, took the time to explain the ongoing procedure that would lead to the payment of the amounts owed. He then asked them to remain patient while ensuring follow-up actions to promptly address their concerns.

	Number of Complaints	Type of Complaint	Complaint Processing Level	Complainant
indirect beneficiaries	4	knowledge or misunderstanding of the performance calculation methods	Referral to the Benefit Sharing Plan (BSP) and the Project Coordination Unit for clarification	Coffee-Cocoa Council Regional Councils of Cavally, Guémon, Nawa, and San Pedro
local populations	2	Payment delays and registration issues on the EOI platform	Explanation of the ongoing process and confirmation that they will be paid after verification.	M. Dogba Edgard (Soubré) M. Fehon Laurent (Guiglo)

As of now, the Grievance Redress Mechanism (GRM) established under the Emission Reductions Program (ERP) is operational through a structured network of regional, departmental, and village-level committees, enabling the registration and resolution of complaints submitted by stakeholders. However, this mechanism is not yet integrated into a public online platform that would allow open access to information regarding submitted grievances, their processing status, or any associated corrective measures.

In addition, while internal monitoring of grievances is ensured by the SEP-REDD+ teams and is occasionally documented, no standalone consolidated report specifically dedicated to grievance management has been officially published to date. The available information remains limited to sections included in the semiannual reports on environmental and social (E&S) safeguard activities, which present examples of recorded grievances, the responses provided, and ongoing efforts to improve the mechanism.

To strengthen transparency, traceability, and accessibility of this system for external stakeholders, the online publication of a grievance register, accompanied by disaggregated summary statistics (by type of grievance, status, region, resolution time, etc.), is planned. This initiative will be part of the gradual integration of the GRM into the ERP's Integrated Environmental and Social Management System (IESMS), which is currently under development under the coordination of SEP-REDD+. Once fully operational, this system will centralize safeguard-related data for the program, support dynamic monitoring, and facilitate access to information for beneficiaries, technical partners, and donors.

3.4 In cases where capacity building initiatives are ongoing, confirm whether the Program Entity has completed required capacity building measures to ensure system effectiveness. What other measures are still outstanding?

Between April and November 2024, several capacity-building initiatives were carried out to strengthen stakeholder knowledge and operational readiness regarding the Benefit Sharing Plan (BSP) of the Emission Reductions Program (ERP) around Taï National Park. These sessions were designed to promote inclusive understanding, improve field-level execution, and ensure alignment with safeguard standards and benefit eligibility criteria. The table below summarizes the key sessions conducted, with a focus on how each activity contributed to BSP implementation:

Session Title	Date	Target Audience	BSP-Related Content	Participants
Regional Workshop for CR-REDD+ and CGP Setup	25 Feb – 2 Mar 2024	Regional REDD+ Committees, Local Authorities	Detailed presentation of revised BSP, eligibility criteria, beneficiary categories, and CEI procedures	125
Training of FEREADD Focal Points on BSP & CEI	18–19 Dec 2023	FEREADD focal points (5 regions)	Key BSP messages, CEI registration support, community outreach strategies	25
Gender & Social Inclusion Session – PRE / ENABLE	25 Feb – 2 Mar 2024	CR-REDD+, NGOs, local stakeholders	Targeting women and vulnerable groups within the BSP, equity in benefit allocation	60
CGP Technical Training – Grievance Redress	27 Oct – 1 Nov 2024	Regional and Departmental CGP members	CGP roles in managing BSP-related grievances, procedural guidance, reporting obligations	80
FEREADD Campaign – Mapping and Sensitizing Women	07 Jan – 20 Apr 2024	Women leaders, Women cooperatives	Identification of eligible female beneficiaries through agroforestry, reforestation, and forest conservation	307
Technical Clarification Meeting for Indirect Beneficiaries	05 Dec 2024	ERP Indirects Beneficiaries	BSP performance calculation methods, deliverable expectations, payment thresholds, contract requirements	42
CGP Revitalization Mission (prior to Notification 1 Payments)	27 Oct – 1 Nov 2024	Regional Complaint Management Committees (CGPs)	Practical BSP complaint handling, deployment of tools, elaboration of action plans	85

These sessions played a critical role in ensuring that all stakeholders understand their responsibilities, rights, and the eligibility requirements for receiving payments under the BSP. They also helped establish and reinforce decentralized governance structures (CGPs and CR-REDD+) capable of supporting grievance resolution, equitable benefit distribution, and community participation. Details can be found on updated Final Benefit Sharing Plan annexes available at following link:

https://www.forestcarbonpartnership.org/sites/default/files/documents/cote_d_ivoire_final_benefit_sharing_plan_updated_december_12_2023.pdf

For the GMC, the training sessions covered the functioning of the grievance management system, the Benefit Sharing Plan (BSP), and the World Bank's Environmental and Social Standards (ESS). To ensure a more effective and sustainable grievance management system for stakeholders and local communities, synergies with the Forest Investment Program 2 (FIP2) will be strengthened, enabling better coordination and complementarity of actions.

For the ESFP, in addition to the modules provided to the GMC, they participated in training sessions on the REDD+ Safeguard Information System (SIS). These sessions strengthened their capacities on the Cancun safeguards and introduced them to the technological platform of the SIS.

The upcoming training sessions will target the ESFP and will focus on the Pest Management Plan, as well as continued training on the SIS to deepen their knowledge and skills in these areas.

4. Status of Benefit Distribution *[Indicate the payment period, e.g., first ER payment, etc.]*. If there has been any delay in overall disbursement of funds, please explain.

Indicate the overall number of beneficiaries who received benefits, and please provide this information as per the arrangements described in the BSP. For instance, number of beneficiaries should be disaggregated as follows:

type of benefits : In this reporting period, only monetary benefits have been taken into account.

Gender: Men :4 107 / Women: 394

type of beneficiaries:

Category	Subcategory
Institutional direct beneficiaries	Forestry Development Corporation (SODEFOR)
	Ivorian Office of Parks and Reserves (OIPR)
Direct beneficiaries	Local Communities
Indirect beneficiaries	Rural Land Agency (AFOR)
	National Agency for Rural Development Support (ANADER)
	National Environment Agency (ANDE)
	Coffee and Cocoa Council
	Ministère des Eaux et Forêts / Cocoa and Forests Initiative(MINEF / ICF)
	Regional Council
	Cavally
	Gboklé

			Guemon	
			Nawa	
			San Pedro	
		Permanent Executive Secretariat of REDD+ (SEP-REDD+)		
		Foundation of the Parks and Reserves of Côte d'Ivoire (FPRCI)		

geographic location of the beneficiaries

The local populations who benefited from the payments during this reporting period are located in 89 villages spread across the five regions covered by the project. This geographical distribution reflects the diversity and scope of the beneficiaries across the different areas of the project, thereby highlighting the extensive impact of the payments in these regions. The other beneficiary regions also saw their local communities receiving funds, thus contributing to the achievement of the project's objectives across a wide geographical area.

Following the BSP and operations manuals (if relevant), please provide information on the mechanisms for benefit distribution. For example, a BSP may include the submission of project proposals or selected investments, community action plans, institutional work plans etc. for beneficiaries to receive benefits. For each type of benefit to be distributed, summarize the status of approval and allocation.

In accordance with the Benefit Sharing Plan (BSP) and its associated operational manual, monetary benefits were chosen as the distribution method to reward efforts in reducing emissions.

For direct institutional beneficiaries and indirect beneficiaries, payments were made via bank transfers. For local communities, the monetary benefits were primarily distributed through electronic transfers. This approach was facilitated by partnerships with mobile network operators and is expected to ensure greater accessibility, particularly for beneficiaries in rural areas.

All beneficiaries received their payments based on a rigorous performance evaluation, in accordance with the provisions of the Benefit Sharing Plan (BSP). However, the evaluation method and payment eligibility conditions vary depending on the category of beneficiaries.

For direct institutional beneficiaries and indirect beneficiaries, payments were conditional upon the submission and validation of specific deliverables, (annex 3) serving as proof of their contribution to the objectives of the Emission Reduction Program. These beneficiaries signed a contract with the FPRCI, which outlines the obligations to be fulfilled and the required supporting documents before any payment is processed.

On the other hand, for direct beneficiaries, performance evaluation and payment allocation were based exclusively on the criteria defined in the BSP, without any contractual agreement with the Foundation for Parks and Reserves of Côte d'Ivoire (FPRCI). The payment for this category depends on the performance evaluated based on the activity carried out (agroforestry, reforestation, forest conservation) and the areas concerned.

Although no specific community action plan is outlined for benefit sharing, the performance measures of OIPR and SODEFOR incorporate participatory management of their protected areas in collaboration with local communities, reflecting a commitment to inclusive and sustainable practices.

Are the eligibility criteria to access benefits as described in the latest BSP still relevant? If there have been any revisions to the criteria during the reporting period, please describe.

The eligibility criteria to access benefits, as defined in the validated Benefit Sharing Plan (BSP), remain relevant and aligned with the project's objectives. No revisions were made to the criteria during this reporting period. Beneficiaries were selected in accordance with the initial provisions of the BSP, ensuring an equitable and transparent implementation of the benefit-sharing mechanisms.

Provide information on the processes and timeline for distributing the benefits (e.g., whether the benefits are distributed one-time or continuous/periodic).

For the first reporting period, the distribution of benefits varies depending on the type of beneficiary, with modalities tailored to their specific characteristics:

Direct Institutional Beneficiaries and Indirect Beneficiaries

Payments for these categories of beneficiaries are based on the submission of contractual deliverables, as stipulated in each signed contract. These payments are made periodically, in line with the deliverables validation schedule outlined in the contracts:

Payments related to the first and second deliverable (Deliverable 1+2) were made between December 12 and December 19, 2024.

For the third deliverable (Deliverable 3), once technical and administrative validations by SEP-REDD+ are completed, payments are scheduled between January 6 and January 17, 2025.

This structure ensures a distribution of funds based on the achievement of expected performance and allows for clear traceability of the distribution process.

Direct Beneficiaries (Local Communities)

The distribution of benefits to local communities follows a continuous process. This approach was adopted to address several identified challenges:

Difficulty in reaching certain beneficiaries in rural areas to conduct parcel inspections before payment validation.

Lack of SIM cards and/or identification documents (National Identity Card) for many beneficiaries, which delayed electronic money transfers.

In response to these challenges, the payment operation for local communities began in the first week of December 2024. However, due to the necessary adjustments to resolve logistical and administrative issues, the finalization of payments is expected to be completed by the end of March 2025.

Provide information on any specific agreements signed with the beneficiaries for them to receive the benefits, and the key terms of such agreements.

As part of the benefit distribution, sixteen specific agreements have been signed with both direct institutional beneficiaries and indirect beneficiaries to formalize their eligibility and define the modalities for receiving payments. These agreements aim to clarify expectations and ensure transparency in the benefit distribution process.

The main terms of these agreements include:

Contract Objectives: Each agreement defines the objectives that beneficiaries must achieve within the project, in terms of emission reductions, natural resource management, or other actions related to achieving the project's goals.

Deliverables: The agreements specify the deliverables that beneficiaries must submit to justify their eligibility for payments. These deliverables generally include reports, studies, or specific actions to be completed as part of the project.

Obligations of the Parties: The agreement outlines the obligations of each party, both on the beneficiary's side and the project management entity's side. This may include commitments to meet deadlines, provide supporting documents, or ensure compliance with administrative and environmental procedures.

Payment Modalities: The payment distribution modalities are detailed, including the payment schedule, the allocated amounts, and the payment channels (such as bank transfers for institutional beneficiaries and electronic transfers for local communities). This ensures effective and appropriate distribution tailored to the beneficiaries' specifics.

Rights and Responsibilities: The agreements define the rights of beneficiaries, such as their right to receive payments once conditions are met, as well as their responsibilities, including meeting the project criteria (including E&S conditions), executing agreed actions, and managing allocated resources.

Annex Including the Benefit Sharing Plan: The annex includes the Benefit Sharing Plan (BSP), which details how the benefits will be distributed among the different types of beneficiaries, as well as the criteria used to determine eligibility and each beneficiary's share.

These agreements have been put in place to ensure transparent, fair, and compliant management of the benefits, and to ensure that beneficiaries meet contractual commitments and actively contribute to the success of the project

Describe the mechanisms that are in place to verify how benefits are used and whether those payments provide incentives to participate in the ER program activities.

As part of the benefit distribution, the contracts signed with both direct institutional beneficiaries and indirect beneficiaries include several detailed mechanisms to verify not only the appropriate use of payments but also to ensure that these payments effectively serve as incentives to encourage active participation in emission reduction program activities. These verification mechanisms have been established to ensure transparency, effectiveness, and sustainability of the actions undertaken, as well as to achieve the program's objectives.

Verification of payment use through performance reports

According to the terms of the contract, each beneficiary, whether institutional or indirect, is required to regularly submit (at SEP-REDD+ and FPRCI) detailed reports outlining activities carried out under the program, such as agroforestry actions, reforestation, and natural resource conservation within the project areas. These reports are reviewed by experts or monitoring committees to ensure that the payments are used in accordance with the program's objectives, including emission reduction and sustainable resource management. Beneficiaries must

provide precise information on the progress made, challenges encountered, and results achieved compared to the specific objectives set in their contracts. This information helps validate the use of funds and ensures that the activities carried out meet the program's requirements.

On-the-ground compliance checks

As part of the monitoring of activity execution, on-site verifications are regularly conducted. A contract with an external specialized firm has been established to conduct physical inspections of the activity sites. These inspections involve checking that the actions agreed upon in the contract (such as reforestation, management of protected areas, or implementation of agroforestry practices) are actually carried out on the ground and that the funds have been used appropriately. In addition to field visits, interviews are conducted with beneficiaries to gather their feedback, assess the relevance of the activities undertaken, and identify any necessary improvements or adjustments. This mechanism ensures direct monitoring of activities on the ground and guarantees that payments contribute to achieving the program's objectives.

Encouragement of active participation by beneficiaries:

The contracts signed with beneficiaries, particularly those of the regional councils, stipulate that payments are conditioned upon the completion and submission of specific deliverables, such as activity reports on awareness-raising and support for direct beneficiaries. This aims to strengthen the active participation of local communities in the REDD+ program. For instance, beneficiaries must implement awareness-raising activities on natural resource management and emission reduction, ensuring the involvement of local community members. The submission of these deliverables allows for the validation of beneficiary participation in the activities and ensures they play an active role in program implementation. This conditional system reinforces the beneficiaries' engagement and ensures that payments not only support emission reduction activities but also promote sustainable resource management in the targeted areas

Describe the financial management arrangements and financial control mechanisms that are in place for recording the distribution of benefits, tracking payments, and maintaining accounting and internal controls.

The management of ER payments and their distribution to beneficiaries is handled by the Foundation for Parks and Reserves of Côte d'Ivoire (FPRCI), a conservation trust fund selected by the government to manage and distribute payments. Established in 2003, FPRCI is a non-profit private institution whose primary mission is to ensure long-term funding for the management of national parks, nature reserves, and their surrounding areas. To achieve this, it raises and invests funds in endowment capital, using the generated income to finance the recurrent costs of managing protected areas.

FPRCI is structured with a Board of Directors, an Executive Directorate, an Investment Committee, an Audit Committee, as well as an international asset manager and auditor. In September 2021, a subsidiary agreement was signed between the Ministry of Finance and the FPRCI, formally delegating fiduciary responsibility for the transfer of ER payments to beneficiaries in accordance with the Benefit Sharing Plan.

For the payment of benefits, FPRCI has opened two bank accounts. The first (account A) in XOF is for receiving funds to distribute payments to beneficiaries, while the second (account B) is a "escrow account" funding an endowment account in Canada, intended to manage the 5%

withheld from the distributed payments. The income generated by this account will be reinvested into emission reduction activities to support the program, and this income will be subject to both internal and external audits.

Payments are made by FPRCI through bank transfers for institutional beneficiaries and mobile transfers for individual beneficiaries, ensuring traceability of transactions. To strengthen this traceability and ensure an effective distribution of benefits, FPRCI has established strict requirements and rigorous monitoring with partner mobile money companies. These requirements include verification mechanisms to ensure that payments reach the targeted beneficiaries while minimizing the risks of errors or fraud.

This will guarantee the effective receipt of payments by all beneficiaries, thanks to the user-friendliness and accessibility of mobile payments, and will ensure that the program is based on verified beneficiaries identified by name. This approach enhances transparency and sound program management by ensuring that funds reach their intended recipients directly, reducing the risk of misallocation or ambiguity in beneficiary identification.

To ensure rigorous financial monitoring, FPRCI conducts regular audits, certifies expenses, and reviews quarterly financial reports submitted by beneficiaries. Additionally, an annual audit is conducted by FPRCI's Executive Directorate, and the final report is submitted to the FPRCI Board of Directors, the National REDD+ Committee, and the World Bank within 15 days after its completion.

These measures ensure transparent and efficient fund management, guaranteeing that payments reach beneficiaries appropriately, while reinforcing the program's accountability and sustainability. Two audits were carried out in 2022 and the latest for CY2023, which covered the distribution of the \$1 million advance payment intended to cover operational and administrative costs for FPRCI and SEP-REDD+. The findings of this audit show that funds from the \$1 million advance payment were correctly executed in accordance with the approved advance payment proposal and the provisions of the project's implementation documents. An audit for CY2024, that will cover the distribution of the 1st ER payment, is expected to be finalized by end of June 2025.

4.8 Provide information on how beneficiaries are using and reporting the benefits received. Are the systems in place able to track the use of the funds? Please describe any challenges encountered.

As part of the first payment related to the first emission reductions reporting period, benefits were managed by a rigorous validation and monitoring system implemented by the Program Implementation Unit (SEP-REDD+), in collaboration with the Foundation for Parks and Reserves of Côte d'Ivoire (FPRCI), acting as the fiduciary entity. Each institutional and indirect beneficiary (SODEFOR, OIPR, NGOs, regional councils, etc.) signed an agreement specifying the allocated amounts, expected deliverables, performance obligations, and implementation schedule. In accordance with these commitments, beneficiaries were required to submit detailed activity reports justifying the use of the allocated funds, with supporting documents like records of completed activities, attendance sheets, outreach materials, geotagged photos. These deliverables were subject to administrative verification by the FPRCI and technical review by SEP-REDD+. These deliverables are reviewed by the SEP-REDD+ and then by the FPRCI, which proceeds to payment after validation by SEP-REDD+.

In addition, field monitoring missions were conducted across the five regions covered by the ERP (San Pedro, Cavally, Guémon, Nawa, and Gboklè), with the support of external service providers and SEP-REDD+ teams. They aimed to validate the actual implementation of declared activities, including community outreach, establishment and operationalization of Grievance Redress Committees (GRCs), dissemination of

the Benefit Sharing Plan (BSP), and information sessions on eligibility criteria and expected performance. Fund traceability was ensured through payments made exclusively via bank transfer or mobile money platforms, under the control of the FPRCI, in accordance with the program's financial procedures manual.

Regarding direct community beneficiaries, the National Environment Agency (ANDE) was mandated to certify the nominal database, including environmental management elements, socio-demographic data, and proof of eligibility. This step was a prerequisite for list validation by the FPRCI, thereby ensuring the integrity and accuracy of payments to individual recipients.

However, several operational challenges were identified, including delays in report submissions, difficulties accessing certain localities, and cases of missing ID documents or valid SIM cards. To address these issues, catch-up sessions, technical assistance efforts, and targeted partnerships (e.g., with ONECI and MTN) were mobilized. Lastly, an external audit covering all payments under the first Notification is planned under the coordination of the FPRCI, in order to ensure both financial and programmatic compliance.

Table 3. Total monetary benefit distribution breakdown. The table below is a generic template, please adjust as per the BSP.

Total monetary benefits distributed per beneficiary							
Category	Subcategory	Amount allocated		Amount distributed		Balance	
		(US\$)	%	(US\$)	%	(US\$)	%
Institutionnal direct beneficiaries	SODEFOR	7 125 000,00	15	938 862,00	1,88	6 186 138,00	12,37
	OIPR	4 750 000,00	10	3 500 000,00	7,00	1 250 000,00	2,50
Indirect bénéficiaires	AFOR	475 000,00	1	175 000,00	0,35	300 000,00	0,60
	ANADER	950 000,00	2		0,00	950 000,00	1,90
	ANDE	475 000,00	1	210 000,00	0,42	265 000,00	0,53
	CCC	950 000,00	2	210 000,00	0,42	740 000,00	1,48
	MINEF/ ICF	1 187 500,00	2,5	375 000,00	0,75	812 500,00	1,63
	Cavally RC	422 374,39	3,5	111 651,00	0,22	310 723,39	0,62
	Guemon RC	337 430,90		88 798,00	0,18	248 632,90	0,50
	Gboklê RC	327 112,49		172 164,00	0,34	154 948,49	0,31
	Nawa RC	278 195,58		73 209,00	0,15	204 986,58	0,41
	San Pedro RC	297 386,65		78 260,00	0,16	219 126,65	0,44
	SEP-REDD+	4 750 000,00	10	3 508 442,00	7,02	1 241 558,00	2,48
	FPRCI	1 187 500,00	2,5	877 110,50	1,75	310 389,50	0,62
Direct beneficiaries	Local Communities	23 750 000,00	50	912 474,94	1,82	22 837 525,06	45,68
Other (please specify)	Mobile Phone Compagny	237 500,00	0,5	9 124,75	0,018	228 375,25	0,46

Total monetary benefits distributed per beneficiary							
Category	Subcategory	Amount allocated		Amount distributed		Balance	
		(US\$)	%	(US\$)	%	(US\$)	%
Endowment fund	Foundation for Parks and Reserves of Côte d'Ivoire (FPRCI-UK)	2 500 000,00	5	1 754 221,00	3,508	745 779,00	1,49
TOTAL		50 000 000	100	12 994 317,19	25,99	37 005 682,82	74,01

Note: Categories and subcategories should follow the BSP and as relevant for the program

Table 4. Total non-monetary benefit distribution breakdown. The table below is a generic template, please adjust as per the BSP. *[information below is extracted from the detailed excel Table 4 from Tab 2 prepared and submitted with this report]*

Total non-monetary benefits distributed per beneficiary							
Category	Subcategory	Amount as per BSP		Amount distributed		Balance	
		(US\$)	%	(US\$)	%	(US\$)	%
Institutionnal direct beneficiaries	SODEFOR	N/A		0		0	
	OIPR	N/A		0		0	
Indirect bénéficiaires	AFOR	N/A		0		0	
	ANADER	N/A		0		0	
	ANDE	N/A		0		0	
	CCC	N/A		0		0	
	MINEF/ ICF	N/A		0		0	
		N/A		0		0	
		N/A		0		0	
		N/A		0		0	
		N/A		0		0	
	Regional Concil	N/A		0		0	
	SEP-REDD+	N/A		0		0	
	FPRCI	N/A		0		0	
Direct beneficiaries	Local Communities	N/A		0		0	

Total non-monetary benefits distributed per beneficiary							
Category	Subcategory	Amount as per BSP		Amount distributed		Balance	
		(US\$)	%	(US\$)	%	(US\$)	%
Other (please specify)	Mobile Phone Compagny	N/A		0		0	
Endowment fund	Foundation for Parks and Reserves of Côte d'Ivoire (FPRCI-UK)	N/A		0		0	
TOTAL		0	0	0	0	0	0

Table 5. Benefit distribution to local communities divided by monetary and non-monetary and gender.

	Total monetary				Total non-monetary			
	No. of people	US\$ amount disbursed	% total	TOTAL	N. of people	US\$ amount disbursed	% to total	TOTAL
Men	4107	846 112,95	92,73	846 112,95	N/A			
Women	394	66 361,80	7,27	66 361,80	N/A			
TOTAL	4501	912 474,75	100	912 474,75	0			

With regard to the distribution of national identity cards (CNI) and the opening of Mobile Money accounts—non-carbon benefits generated under the ERPA—targeted efforts have been undertaken to regularize beneficiaries who were deemed ineligible due to the absence of these essential elements for receiving payments.

During the reporting period, independent verification firms mandated for field checks reported that 2,921 individuals identified as direct beneficiaries did not possess a valid CNI, and that 6,953 beneficiaries did not have an active Mobile Money account.

To address this constraint, a special operation was conducted in partnership with the National Office of Civil Status and Identification (ONECI) across the five regions covered by the program. This mobile campaign enabled the registration, collection of biometric data, and issuance of temporary receipts to support the delivery of CNIs to a portion of the affected beneficiaries. As a result of this operation, 1,431 individuals were successfully regularized.

In parallel, a Mobile Money account deployment campaign has been planned and jointly coordinated by SEP-REDD+ and the mobile operator partner (MTN), to reach all remaining unbanked beneficiaries. The intervention includes the distribution of SIM cards and/or the opening of Mobile Money accounts. The consolidated results of this campaign—including the exact number of accounts opened and activated—are expected by the end of the second quarter of 2025.

5 Key issues and actions

5.1 Based on experience with the implementation of the BSP during the reporting period, identify and explain other key issues encountered not already described above, and how and when they are going to be addressed.

During the implementation of the Benefit Sharing Plan (BSP), several challenges have been identified in addition to those already mentioned in the previous sections. These challenges include:

- Difficult access to remote rural areas: Access to certain rural areas, where the direct beneficiaries reside, has been particularly challenging. This situation has led to delays in data collection on the ground, thereby impacting the monitoring of activities.
- Delays in the submission of deliverables: Delays in the transmission of deliverables by beneficiaries have been observed, which has affected the payments scheduled for these beneficiaries.
- Issues with the identification and verification of beneficiaries: Some direct beneficiaries have not yet completed all the necessary administrative procedures for their identification, notably due to the lack of valid identification cards or phone numbers.

To address this, awareness sessions and administrative support will be organized in the affected areas to facilitate the registration and verification of beneficiaries. This initiative will start in January 2025 and continue throughout the year.

5.2 Are there any other emerging risks that may affect implementation, sustainability or effectiveness of the BSP? Please describe.

- Frustration and dissatisfaction among beneficiaries: Delays and difficulties in the payment of direct community beneficiaries can generate significant frustration among the affected populations.
- Socio-economic impact on households: Some individuals or households who rely on these payments to cover essential social expenses (e.g., healthcare, children's education, food) may find themselves in a heightened state of vulnerability.
- Exclusion of certain beneficiaries: The absence of valid administrative documents (e.g., identity card, active phone number) prevents some beneficiaries from receiving their payments, leading to non-recognition of their rights and financial exclusion, which may further exacerbate inequalities.
- Erosion of trust in the project: The accumulation of delays and administrative barriers can weaken the project's credibility in the eyes of beneficiaries, reducing their engagement and commitment to the program's activities.
- Negative impact on the continuation of the process: A loss of trust could slow down the implementation of subsequent phases, hinder community participation, and make it more difficult to mobilize beneficiaries for future program activities.
- Increase in the number of complaints: Given these challenges, a significant rise in grievances is expected, further engaging the resources of the Grievance Management Mechanism (GMM) and slowing down payment and monitoring processes.

- A major social risk: If these issues are not swiftly addressed, they could undermine the program's social acceptability, jeopardize its smooth implementation, and heighten tensions among stakeholders.

5.3 Is the Benefit Sharing distribution contributing to the core objectives and legitimacy of the ER Program and effectively rewarding/incentivizing the adoption or sustainability of emission reduction measures? Please describe as relevant.

The distribution of benefits plays a key role in achieving the objectives of the REDD+ program in Côte d'Ivoire. By providing direct payments to beneficiaries, it directly contributes to promoting sustainable practices and implementing emission reduction measures, such as natural resource management, agroforestry, reforestation, and ecosystem conservation.

The payments also act as a powerful incentive, encouraging local communities to adopt environmentally friendly practices and maintain their commitment to the program. These payments are linked to the results achieved during the preparation and implementation phases of the REDD+ mechanism, motivating beneficiaries to meet specific goals, such as reducing greenhouse gas emissions.

Moreover, the transparency and traceability of the payments enhance the program's legitimacy, ensuring that funds are distributed fairly and in accordance with the commitments made. Beneficiaries, in turn, are empowered and encouraged to sustain their actions over the long term.

In summary, the distribution of benefits not only supports the environmental objectives of the program but also serves as a key factor in ensuring its long-term success and legitimacy among local stakeholders.

5.4 Describe any lessons learned and, if relevant, recommendations for BSP improvement or modifications.

During the implementation of the Benefit Sharing Plan (BSP), several technical lessons were learned regarding data management before their use in the payment process. These lessons highlighted opportunities for improvement aimed at enhancing the quality of the data collected and ensuring a more effective and compliant distribution of payments according to the program's criteria.

Strengthening the field data validation process: One of the key lessons was the crucial need to thoroughly validate the data before its use for payments. Indeed, errors in data collection or interpretation have occasionally led to delays or incorrect payments. It is therefore recommended to implement a rigorous multi-level validation process. This process should involve both field teams and the program's technical teams to ensure the consistency, accuracy, and completeness of the information before submitting it for payments.

Systematic data audit before each payment cycle: It is essential to conduct a quality audit of the data before each payment cycle to ensure that the submitted information complies with the program's criteria. This process could include random checks or audits of a sample of beneficiaries to verify the accuracy of the information provided. Implementing such an audit would allow anomalies to be detected at an early stage and corrective measures to be taken before finalizing the payments.

One of the major challenges encountered in the implementation of the payment process concerns the complexity of distributing payments to local community beneficiaries. Several factors have contributed to slowing down and complicating this process, including the absence of valid identification documents for some beneficiaries, which delays their registration in the system, as well as the limited coverage of mobile money services in certain rural areas, making access to electronic payments difficult. Additionally, a lack of understanding of payment modalities among some beneficiaries has led to confusion and potential complaints, highlighting the need for increased awareness and education on the payment process. To address these challenges, it is recommended to implement specific support measures for community beneficiaries, such as awareness campaigns before each payment cycle to explain the modalities and eligibility conditions, as well as an administrative support mechanism to help beneficiaries obtain or regularize their identification documents required for payment. Furthermore, strengthening partnerships with mobile money operators is essential to expand financial service coverage in rural areas and facilitate secure and efficient payment distribution. These measures will help streamline the payment process, reduce delays, and improve beneficiary satisfaction, ensuring a smoother and more inclusive benefit distribution system.

- 6 If relevant, please provide information on any other indicators as contained in the BSP and operational manuals (if relevant), including the explanation of un-met indicators.

No information.

ANNEX

Annex 1: Summary of Consultation Activities Conducted under the BSP

- 1- [PRE rapport COTECH Validation BSP.pdf](#)
- 2- [PRE Rapport du COPIL Validation du BSP.pdf](#)
- 3- [PRE RAPPORT ATELIER DE FORMATION DES POINTS FOCALIS FEREADD POUR LA SENSIBILISATION AMI BENEFICIAIRES.pdf](#)
- 4- [FEREADD RAPPORT FINAL SENSIBILISATION ET CARTOGRAPHIE DES FEMMES POUR LE PRE.pdf](#)
- 5- [PRE CCOM RAPPORT MISSION RENFORCEMENT DES CAPACITES DES CR-REDD.pdf](#)
- 6- [PRE RAPPORT MISSION REDYNAMISATION CGP REGIONAUX.pdf](#)

Annex 2 : Geographical location of beneficiaries

REGION (5)	DEPARTMENT (14)	SUB-PREFECTURE (36)	VILLAGE (89°)
CAVALLY	BLOLEQUIN	BLOLEQUIN	Blolequin
		ZEAGLO	Ziglo
	GUIGLO	BEDY-GAOZON	BEDI-GAOZON
		GUIGLO	Guiglo
			Kati
		KAADE	KAADE
	TAI	Taï	Tiéolé-Oula
			Paulé-Oula
	TOULEPLEU	PEHE	Mayouli
			Mayibli
GBOKLE	FRESCO	DAHIRI	Dahiri
			Dhiri
			Gadakro
			Okromodou
	SASSANDRA	MEDON	Medon
		SASSANDRA	Bassa
			Coco-Plage
			Niani
GUEMON	BANGOLO	BANGUOLO	Bangolo
			Seba
		DIEOUZON	Dyeouzon
		DOUEKPE	Dieouzon
		ZEO	Béoua-Zibiao
			Gonié
			Kouisra
			Zéo
	DUEKOUÉ	BAGOHOUO	Bagohouo
			Guinglo-Zia
			Yrozon
		DUEKOUÉ	Binao
			Blody
			Duekoue
			Niambly
			Toa-Zéo
		GBAPLEU	Gbapleu
		GUEHIEBLY	Guehieibly
			BAHé-SEBON

REGION (5)	DEPARTMENT (14)	SUB-PREFECTURE (36)	VILLAGE (89°)
	FACOBLY	GUEZON	Dibobli
		FACOBLY	Douedy
			Facobly
			Kaokossably
			Kiriao
			Kloplou
			KOLÉA
			Takouaebly
			Tiédrou
			Tiessan
			Zouatta 2
		GUEZON	Kloplou
		GUEZON1	Kloplou
			Gbézio
		TIENY SEABLY	Tieny Seably
			Ziondrou
			Gbadrou
	KOUIBLY	NIDROU	Diotrou
			Diotrou
			Nidrou
			Oulayably
			Pané
			PANY
			Piandrou
			Sahidrou
		TOTRODROU	Nénady-Kirou
			Guinglo-Zia
NAWA	GUEYO	DABOUYO	Dabouyo
			Dabouyo 1
		GUEYO	Gueyo
	MEAGUI	DAPEOUA	Dapeoua
		GNAMANGUI	Gnamangui
		MEAGUI	Amaragui
			Djekro
			Gbalakro
			Gbogbo
			Kakadjekro
			Kouadiobakro
			Kouakoukrakro
			Méagui
			pascalkro
			petit beoumi
			Pogréagui
			Touagui 1
		OUPOYO	Oupoyo
SAN PEDRO	SAN PEDRO	DOBA	Djapadji
			Doba
			Gagny
		GABIADJI	Blahou
			Gabiadji
		GRAND-BEREBY	Trahé

REGION (5)	DEPARTMENT (14)	SUB-PREFECTURE (36)	VILLAGE (89°)
	TABOU	GRABO	Gnato
			Grabbo
		OLODIO	Olodio

Annex 3 : Deliverables of direct institutional and indirect beneficiaries

STRUCTURES	ID	DELIVERABLE TITLE
ANADER	1	Designation of a technical focal point and an environmental and social safeguards focal point to be communicated to the SEP-REDD+
		Transfer of the database of non-institutional direct beneficiaries supported by ANADER via the platform www.projetpre.ci .
		Transfer of ANADER's activity report in the program area concerning support for agroforestry activities and compliance with environmental and social safeguards.
AFOR	1	Designation of a technical focal point to be communicated to the SEP-REDD+.
		Sharing of the georeferenced database of AFOR in the Program area via the platform www.projetpre.ci .
		Transmission of AFOR's activity report on the delimitation of village territories to clarify boundaries between Classified Forests, protected areas, and community zones within the program area..
ANDE	1	Designation of a technical focal point to be communicated to the SEP-REDD+
		Transfer of ANDE's methodology for verifying and certifying compliance with environmental and social safeguards in REDD+ activities.
		Transfer of ANDE's activity report on compliance with environmental and social safeguards from the start of targeted activities up to the first carbon credit transaction.
CCC	1	Designation of a technical focal point and an environmental and social safeguards focal point to be communicated to the SEP-REDD+
		Transfer of the database of non-institutional direct beneficiaries supported by CCC via the platform www.projetpre.ci
		Transfer of ANADER's activity report in the program area concerning support for agroforestry activities and compliance with environmental and social safeguards
ICF	1	Designation of a technical focal point and an environmental and social safeguards focal point to be communicated to the SEP-REDD+
		Transmission of the report from the first mobilization meeting of ICF members to establish a support mechanism for cooperatives and farmers. (Coordination for the first Call for Expressions of Interest).
		Transmission of the implementation report of the common action framework activities up to the first carbon credit transaction. (Includes georeferenced data on conservation and reforestation plots).
OIPR	1	Designation of a technical focal point and an environmental and social safeguards focal point to be communicated to the SEP-REDD+
		Transfer of the database of beneficiaries who received support from OIPR for eligible program activities via the platform www.projetpre.ci .

STRUCTURES	ID	DELIVERABLE TITLE
		Transfer of OIPR's activity report in the ERP area covering conservation activities and compliance with environmental and social safeguards (SES) in their implementation up to the first carbon credit transaction.
SODEFOR	1	Designation of a technical focal point and an environmental and social safeguards focal point to be communicated to the SEP-REDD+
		Transfer of the database (shapefile) of agroforestry plots and classified forest boundaries. (Via the platform www.projetpre.ci)
		Transfer of the detailed report on monitoring and reforestation activities in classified forests (2020-2021). (Includes reforestation activities and compliance with environmental and social safeguards.)
REGIONAL COUNCILS	1	Designation of a technical focal point to be communicated to the SEP-REDD+.
		Progress report on awareness and support activities for direct beneficiaries under the first call for expressions of interest.
		Report on the initiation activities of the dialogue framework for the coordination of regional economic actors.
		Sharing of the regional action plan for sustainable agriculture and resource conservation.
		Report on initiatives for the development of a regional action plan for sustainable agriculture and resource conservation.

ANNEX 3: INFORMATION ON THE GENERATION AND/OR ENHANCEMENT OF PRIORITY NON-CARBON BENEFITS

Priority Non-Carbon benefits

1. List **all priority non-carbon benefits** and provide the necessary detail on the activities to generate and enhance these non-carbon benefits. (Refer to the questions in sections 2 and 3 below for examples of detail on the specific potential non-carbon benefits that have been identified).

Priority non-carbon benefits	Details on activities for generation and enhancement Approach (as defined in ERPD including relevant indicators)	Some priority non-carbon benefits generated by our activities
Improved living conditions for rural communities and income for the private sector	- Agricultural intensification - Diversifying sources of farm income by combining wood energy, fruit trees, timber and food crops; - Plantation of wood with high economic value and fast-growing wood for wood energy production; - Introduction of energy wood, fruit trees and timber into cocoa plantations; - Setting up financial incentive mechanisms such as payments for environmental services (PES) through nursery production and planting activities; - Increased crop productivity - Support for the acquisition of administrative documents (suppletive judgements and identity papers) for beneficiary communities that did not have such documents. - Facilitate the acquisition of SIM card numbers for beneficiary communities without SIM cards;	- Distribution of 12 million forest tree seedlings to cocoa producers by the café-cocoa council in 2022 (https://www.gouv.ci/actualite-article.php?recordID=13545&d=4). - Sustainable production and improvement of income of producers: 336,347 Ha of cocoa agroforestry plots between 2022 and 2023, 257,425 producers made aware of the new forest code, law enforcement, forest protection and restoration. These values can be checked on page 15 of this link https://www.idhsustainabletrade.com/uploaded/2023/09/Rapport-2022-Initiative-Cacao-et-Forets-Cote-d'Ivoire.pdf - During the period under review, 336,347 hectares of cocoa agroforestry plots were developed, 9,400,386 seedlings were distributed to cocoa growers, 23,155 growers benefited from payment for environmental services, 891,714 growers were trained in the new forestry code, law enforcement, forest protection and restoration, climate-smart cocoa and good farming practices, and 150,878 growers were enrolled in formal financial products and services with corporate support. These data can be consulted on pages 14 and 15 of this report (https://www.idhsustainabletrade.com/uploaded/2017/03/Rapport-2022-Initiative-Cacao-et-Forets-Cote-d'Ivoire_French.pdf) - As part of the first call for expressions of interest (AMI) launched in 2023, it was found that many direct beneficiaries did not have identity documents or Mobil Money accounts to receive their payments. Prior to payment, a special program of enrolment, sim card allocation and Mobil Money account opening

		was organized to provide these elements free of charge. - The enrolment process for individuals without identity documents, combined with the distribution of SIM cards, has already enabled over 500 beneficiaries to obtain an identity document (National Identity Card for nationals, Resident Card for non-nationals) as well as a SIM card. - The operation is currently ongoing and is expected to provide more than 15,000 people with free identity documents and SIM cards by the end of the second quarter. The payment process began this year, in 2024. Before the payments, the project conducted awareness campaigns to guide beneficiaries on the use of these funds, encouraging them to invest in activities related to emission reduction, such as agroforestry, conservation, or reforestation. An evaluation mission will make it possible to measure the impact of the payments. Such a mission will allow us to assess these impacts.
Long-term adoption of sustainable land use practices	- Best growing techniques; - Diversification of crops to avoid soil exhaustion ; - Increasing soil fertility through agroforestry practices	- 85% of directly sourced cocoa is traceable from plantation to first point of purchase. - 257,425 producers informed about the new forestry code, law enforcement, forest protection and restoration - 89,783 Ha of forest restored - 416 communities with forest restoration and protection programs. These data can be consulted in this report: https://www.idhsustainabletrade.com/uploaded/2017/03/Rapport-2022-Initiative-Cacao-et-Forets-Cote-dIvoire_French.pdf
Clarification of the land tenure system	- Delimitation of community land and registered plots in the programme area; - Facilitate the granting of property titles in rural areas through the Rural Land Agency (AFOR).	Clarification and securing of land tenure and conflict resolution through the National Program for Securing Rural Land (PNSFR) which was launched in July 2018 and is led by AFOR through the PNSFR, which is implemented through several projects including PAFR which can be consulted through the following link: https://www.afor.ci/index.php?page=prograjdet&idprog=1
Improving forest governance and transparency	- Transparent and effective governance in the forestry sector - Adoption of regional plans for development and land planning (RPDLP);	- Elaboration of a Regional Plan for Land Use Planning and Sustainable Development following the example of the Cavally region (Schéma Régional d'Aménagement et de Développement Durable du Territoire (SRADT)) with a green growth strategy;

	- Adoption of participatory management plans for classified forests.	Promotion of agroforestry practices; Restoration of forest cover; Diversification of producers' activities; Development of financial incentives and creation of a public-private investment mechanism for sustainable and ecological land development. The report is available https://reddplus.ci/download/cavally-regional-development-plan/
Reconstitution of natural habitats	- Reforestation: planting trees in deforested areas to restore the natural habitat for species. - Forest conservation: protecting existing forests from deforestation and degradation to preserve the natural habitat for species. - Creation of forest corridors: creating connections between forest fragments to allow species to move freely. - Sustainable forest management: applying sustainable forestry practices to maintain forest health and habitat diversity. - Restoration of wetlands: restoring degraded wetlands to recreate natural habitat for aquatic species and migratory birds.	1,500 hectares of reforestation will be realised in the Cavally Forest reserve in 2022, 777 hectares of assisted regeneration completed. These values can be checked in the activity report on page 7 (https://drive.google.com/file/d/1bklDH10n1yPHJEv3BkT671gyJk8YrBh3/view). 89,783 Ha of forest restored 05 public-private partnership agreements signed for the conservation and restoration of classified forests (Dassioko, Haut-Sassandra, Gorké and Goudi) : https://www.idhsustainabletrade.com/uploaded/2017/03/Rapport-2022-Initiative-Cacao-et-Forets-Cote-d'Ivoire_French.pdf
Soil protection	- Best growing techniques; - Diversification of crops to avoid soil exhaustion; - Increasing soil fertility through agroforestry practices	14, 289.34 hectares of agroforestry established in classified forests. This value can be checked in the report PIF RAPPORT FINAL F.docx
Regulation of the local climate	- Reforestation: planting trees in deforested areas to increase forest cover and thus capture more CO₂. - Sustainable forest management: applying sustainable forestry practices to maintain forest health and maximize their carbon sequestration capacity. - Forest conservation: protecting existing forests from deforestation and degradation to preserve their climate regulation capacity. - Agroforestry: integrating trees into agricultural systems to improve soil fertility, reduce erosion, and capture carbon.	Protection and conservation of Taï National Park (TNP) Rapport d'Activités OIPR PRE VF 15 10 24.pdf ; Fight against land degradation; Improvement of the productivity of food and energy wood sectors (agroforestry), to sustainably generate production surpluses and jobs, particularly for women in both rural and peri-urban areas; Integration of trees into production systems for their contribution to soil management; Respect for sustainable land management techniques, including measures related to sustainable natural resource management. National indicative program report can be found below for : 2014-2020 (njp-cote-d-ivoire-20140619_fr.pdf) and 2021-2027 (https://international-partnerships.ec.europa.eu/document/download

		/bf96c9cc-eb04-4610-88c4-572772095981_en?filename=mip-2021-c2021-9394-cote-ivoire-annex_fr.pdf The regional program also covers the period 2021-2027
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Other non-carbon benefits and additional information related to the Monitoring and Evaluation Framework

2. If applicable, linked to any other non-carbon (non-priority) benefits, or if not already covered above and linked to priority non-carbon benefits, please provide the following additional details:

Livelihood enhancement and sustainability

2.1. Is your CF program testing ways to sustain and enhance livelihoods (e.g. one of your program objective/s is explicitly targeted at livelihoods; your approach to non-carbon benefits explicitly incorporates livelihoods)?

The programmes that contribute to the emissions reduction programme, listed in table 1 in section 1.1 of the report, help to improve and maintain the livelihoods of forest-dependent local populations/communities in the programme implementation area.

These projects/programmes include the Forestry Investment Project (FIP), whose objective is to conserve and increase the forest stock and improve access to sources of income from sustainable forest management for selected communities in target zones thereby improving communities' living conditions and livelihoods and strengthening the foundations for positive forestry outcomes. To this end, SODEFOR and NGOs have provided information and support to farmers, with the aim of building the capacity of local producers and communities to deal with issues of sustainable production, adaptation and mitigation of climate change.

SODEFOR distributed seedlings for the creation of nurseries (development of the small nursery initiative managed by women and young people) for agroforestry.

Communities receive income from setting up nurseries, transporting seedlings to planting areas, planting trees, surveying and transferring agricultural plots, and staking out plots as part of agroforestry activities.

To encourage local communities in conservation and reforestation practices, income-generating activities such as goat rearing, cassava processing and traditional poultry farming have been financed.

As part of the first notification (2020-2021), 333 people have seen their living conditions improve through the signing of individual and collective contracts to support reforestation and agroforestry in classified forests in the ERP zone. All these activities have helped to diversify the income of communities, which in turn enabled them to send their children to school and provide for their families.

The list of beneficiaries can be consulted at this link https://docs.google.com/spreadsheets/d/1PjdCVAeC_UKMTjeTyrXSAG5tHDGxxiAJ/edit?usp=share_link&ouid=116857953835776244186&rtpof=true&sd=true

During the second notification period (2022 and 2023), as part of the Dedicated Grant Mechanism (DGM) for Cote d'Ivoire, a number of people from local communities in the ERP zone have benefited from numerous projects enabling them to improve their living conditions. Specifically, 157 (121 men and 36 women) promoters representing 3 categories - women's associations (13 members), men's groups (113 members) and 31 individual beneficiaries have benefited from projects and capacity building in their field of activity through training in the management of agro-pastoral micro-projects. Similarly, 173 people (122 women and 51 men) from three groups have benefited from livestock projects and had their capacities strengthened in goat breeding, traditional poultry farming and/or cassava processing. In addition, 65 people received funding for their projects. The project report is available through this link https://docs.google.com/spreadsheets/d/1PjdCVAeC_UKMTjeTyrXSAG5tHDGxxiAJ/edit?usp=share_link&ouid=116857953835776244186&rtpof=true&sd=true

Finally, private-sector players have carried out a number of projects that have helped to improve the living conditions of communities in the project area. The Regional Indicative Programme - 11th EDF Union (2021-2025) has helped to improve the productivity of the food wood and energy wood sectors (agroforestry), to generate sustainable production surpluses and jobs, particularly for women, in both rural and peri-urban areas. Similarly, ISLA (Initiative for Sustainable Land Use) IDH 2021-2025 has initiated projects to promote the diversification of producers' activities, while developing financial incentives and creating a public-private investment mechanism for the sustainable and ecological development of land. (<https://www.idhsustainabletrade.com/news/la-force-de-lunion-pour-une-gestion-durable-des-ressources-naturelles-de-la-region-du-cavally/>).

Furthermore, in terms of improved livelihoods during the period under review:

- 416 communities with forest restoration and protection programs;
- 15,576 people (aged between 15 and 35) benefited from youth-oriented projects;
- 6,395 credit and savings associations were created, benefiting 16,2936 people;
- 81,628 people received support for income-generating activities;
- 92,489 women received support for their empowerment.

These data can be consulted in this ICF 2022 report:

https://www.idhsustainabletrade.com/uploaded/2017/03/Rapport-2022-Initiative-Cacao-et-Forets-Cote-dIvoire_French.pdf

Biodiversity

2.2. Is your CF program testing ways to conserve biodiversity (e.g. one of your program objective/s is explicitly targeted at biodiversity conservation; your approach to non-carbon benefits explicitly incorporates biodiversity conservation)?

Biodiversity conservation is central to this programme. The programme area contains two national parks and a nature reserve. The Taï National Park has been a UNESCO World Heritage Site since 1982. It is home to 140 species of mammal, 12 of which are endemic, 240 species of bird and numerous insect, reptile and amphibian species, as well as rare birds, chimpanzees accustomed to human presence, pygmy hippos, elephants, red colobus monkeys, forest buffalo, etc. The Taï National Park is home to 1,800 plant species, including 138 endemic species, and navigable bodies of water.

A number of measures have been put in place to protect and promote the diversity of plant and animal species present in this ecosystem:

- Firstly, the restoration of degraded land, which helps to re-establish the structure and diversity of forest habitats.
- Sustainable use of natural resources, which is essential for preserving biodiversity. This involves implementing sustainable agricultural practices in the riparian zones of the parks, limiting illegal logging and encouraging environmentally friendly agriculture.
- the creation of ecological corridors through programmes such as GIZ- Taï-Grebo-Sapo to strengthen ecological connectivity in the Taï-Grebo-Sapo forest complex.
- Continuation since the first notification phase of community ecoguarding, community ecotourism and ecological monitoring activities in the Taï-Grebo-Krahn-Sapo forest landscape.
- Setting up a monitoring and ecology unit specialising in video analysis in Abidjan.
- Official classification of the 67,500-hectare Cavally Forest as a protected area, now known as the Cavally Nature Reserve, in September 2023.
- Regular monitoring of biodiversity is carried out by the various OIPR patrols, focusing on sites at risk from illegal gold washing and poaching of animal species.

In addition to the Taï National Park, biodiversity conservation initiatives are also being carried out in the Mont Péko National Park. This magnificent site abounds in primary forest with granite domes and beautiful natural waterfalls. It also boasts a rich and diverse fauna, including duikers, monkeys and panthers. Biodiversity conservation in this case involves regular monitoring and surveillance to assess the state of biodiversity. This includes monitoring species, habitats and environmental factors likely to influence biodiversity. There is also the restoration of degraded habitats to restore the park's functionality and encourage the return of native species. Implementing rules and regulations

to control human activities in the park in order to minimise negative impacts on biodiversity. This involves the following priority actions [Rapport d'Activités OIPR PRE VF 15 10 24.pdf](#)

- Strengthening the park's operational management capacities with a view to protecting biodiversity in the long term;
- Rehabilitation of infrastructure (tracks and surveillance posts);
- Restoring security within the Park;
- Anti-poaching measures;
- Strengthening surveillance.

Côte d'Ivoire has created the country's first Marine Protected Area (MPA) in the seaside town of Grand-Béréby. Along the coast, the protection of endangered species is helping to protect Côte d'Ivoire's marine biodiversity.

The MPA is home to mangroves and coral reefs and is considered a world-class sea turtle nesting site. Since then, the number of threatened turtle species has increased. In 2021, there were 700 protected female turtles giving birth to more than 60,000 hatchlings a year. To protect these species, the Conservation des Espèces Marines (the Conservation of Marine Species) NGO is raising awareness among local communities and providing them with basic social infrastructure (water towers, solar lighting systems). The MPA is being transformed into a nature reserve to combat trafficking of rare species, deforestation and the loss of biodiversity.

In addition to marine turtles, pangolins, chimpanzees, monkeys, buffalo and toucans have also found a haven here.

Côte d'Ivoire also has another marine area called the 'Aire Marine de Tabou', which extends over more than 50 km and is a marine area of security and bio-ecological importance due to its border with Liberia. Every year, these beaches are used by sea turtles to lay their eggs, as are these territorial waters. These waters are also breeding grounds for lobsters and prawns. On the mainland, the region is characterised by forests, swamps, sandy beaches and rivers, notably the Cavally, which forms the natural border with Liberia and flows into the sea.

As part of cooperation with the European Union, an Oceanological Research Centre (CRO) has been set up to carry out research and regular monitoring of environmental and bio-ecological activities in the Tabou region. These various measures to preserve biodiversity will ensure a sustainable future for local ecosystems.

Protected areas

2.3. What amount (in ha) of protected or conserved areas are included in your CF program area? Has this amount increased or decreased in the last year? If so, by how much?

The area of protected zones in the programme area has not changed during the monitoring period in question. It is estimated at 4,644,515 ha.

Re/afforestation and restoration

2.4. Total forest area re/afforested or restored through the program

Several projects/programmes contribute to the emissions reduction programme. These have helped to reforest, afforest and restore around at **359,049.34 hectares** of forests. These include:

- 89,783 Ha of forests restored;
- 14,289.34 ha of agroforestry plots created in the classified forests of Haute-Dodo and Rapides Grah with the participation of local communities with cocoa plantations in these classified forests and 5,000 ha reforested on the outskirts of the Taï National Park as part of the FIP (phase 1);
- Around 33,000 ha of cocoa-based agroforestry plots in rural areas as part of the agroforestry programme of the Coffee and Cocoa Board;
- More than 22,439 ha of agroforestry plots created by producers organised into cooperatives like BAARA cooperative union.
- With the Cocoa Forest Initiative (CFI), 193,395 hectares of cocoa agroforestry are being developed (this figure is available on CFI report page 24)

- Under the Earthworm and Nestle Foundation programme (2020-2025), between 2021 and 2022, 1,159,394 hectares have been mapped, 366 ha reforested, and 777 hectares of assisted natural regeneration were realised. These figures can be checked in the activity report on page 7 [here](#).

Finance and Private Sector partnerships

2.5. Update on CF program budget (as originally presented in ERPD), with updated detail on secured (i.e. fully committed) finance, in US\$

2.5.1. Detail the amount of finance received (including ER payments) in support of development and delivery of your CF program. Figures should only include secured finance (i.e. fully committed): ex ante (unconfirmed) finance or in-kind contributions should not be included:

All funding received under the projects and programmes that contribute to the ERP is documented and transparent. Each expenditure is recorded and monitored in accordance with the guidelines established by our partners and funding bodies. However, it is important to note that there is limited access to details of the funding allocated to certain initiatives implemented in the ERP area, especially those that cover a larger area than the ERP and which started before the ERPAs were signed.

The table below summarises the FIP and DGM budget allocated to implementing the ER programme.

Amount (US \$)	Source (e.g. FCPF, FIP, or name of gov't department)	Date committed (Month/Ye ar)	Public or private finance?	ERP, grant, loan, equity or other?
\$7,035,400	Forest Investment Project – Phase 1 (World Bank)	2018-2023	Public	Grants and loans
\$4.500,000	Dedicated Grant Mechanism for Indigenous Peoples and Local Communities (World Bank)	2020-2023	Public	Grants
\$2,075,000	Cavally Forest Reserve Landscape, Côte d'Ivoire : A preserved ecosystem with resilient communities (Earthworms & Nestlé)	2020 - 2023	Private	Equity
\$1 000 000	Initial Advance from the Carbon Fund (FCPF)	2021 - 2023	Public	ERP
\$505 667	Government Contribution to the ERP Project (Government of Côte d'Ivoire)	2022 - 2023	Public	Equity
\$7 084 600	Forest Investment Project – Phase 2 (World Bank)	2023	Public	Grants and loans

\$3 815 000	Foundation for Parks and Reserves of Côte d'Ivoire (Conservation Trust Fund)	2020 - 2023	Public	Grant
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2.5.2. Not including ER payments from the FCPF Carbon Fund, what is the value of REDD+ ER payments that your CF projects have received, and that your country has received overall?

No ER payments have been received to date.

	Total RE REDD+ payments received to date (US\$)
Carbon Fund project(s) (i.e. RE payments from sources other than the Carbon Fund)	NA
Any other national REDD+ project	NA

2.5.3. How many formal partnerships have been established between your CF program and private sector entities? Formal partnerships are defined as:

- A partnership is based on a Memorandum of Understanding (or equivalent) and/or
- A partnership includes one or more tangible financial exchanges, and/or
- A partnership includes one or more tangible non-financial exchanges (e.g. contributions in kind)

The partners of the Cocoa & Forests Initiative (CFI) carried out reflections and analyses that laid the groundwork for an initiative "focused on more action in the field." These activities led to achievements that will guide the second phase of the initiative.

During the reporting period, five (05) public-private partnership memorandums of understanding were signed for the conservation and restoration of classified forests under the CFI initiative. Information on these agreements can be verified through the following links:

- The agreement between the Government and PALMAFRIQUE and KAMIS SA concerning the classified forests of Bolo Est and Bolo Ouest and can be viewed at following [Link](#)
- The agreement between the Government and the Earthworm Foundation, together with key partners Nestlé, SECO/SWISSCO, Touton, Cocoasource, and Barry Callebaut, regarding the Cavally classified forest. It can be viewed at following [Link](#)
- The agreement between the Government and CARGILL concerning the Dassioko classified forest at this [Link](#)
- The agreement between the Government and *Bois Déroulage de Côte d'Ivoire* concerning the Mont Tia classified forest. It can be viewed at following [Link](#)
- The agreement between the Government and the Endeavour Foundation and its partners at following [Link](#)

	Established in recent reporting period	Total to date
Number of private sector partnerships involving financial exchange	4	5
Number of private sector partnerships involving non-financial exchange	0	0

3. Other non-carbon benefits and additional information

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Any other activities that produce or increase non-carbon benefits in addition to those listed as priorities above or those required for the M&E Framework.

Policy development

3.1. Is your CF programme involved in the development, reform and/or implementation of policies to support institutions/people/systems/sectors? Please provide information on the approach and any other relevant or related indicators/results.

With the aim of reversing deforestation and restoring forest cover, the Ivorian government has embarked on a reform of forestry policy, resulting in the adoption of a new forestry code in July 2019, a new forest management strategy in 2018, entitled *Stratégie de Préservation, de Réhabilitation et d'Extension des Forêts (SPREF)* (Forest Preservation, Rehabilitation and Extension Strategy: https://drive.google.com/drive/folders/1DA2kZZJdwfJqA1ASa9VQ8Ba2A7wZLZY?usp=share_link), and the establishment of a framework for joint action with the cocoa industries with the aim of eliminating deforestation. (https://drive.google.com/file/d/1xeuEowAS_0BJKAkdQqLUT797yIEcsFC7/view?usp=share_link)

The ERP plays an essential role in achieving the Nationally Determined Contributions (NDCs). By implementing targeted and innovative measures, it is making a significant contribution to the emission reduction targets set by the government in line with the Paris Agreement.

It is worth noting the government's commitment to the Cocoa and Forest Initiative, which is of key importance to the national zero deforestation agriculture policy. As a nation committed to combating climate change and preserving the environment, cocoa production is a major component of the national economy but can also be associated with negative impacts on forest ecosystems. This initiative aims to establish a responsible approach to cocoa production that encourages producers to adopt sustainable farming practices, such as agroforestry and reforestation, in order to reconcile cocoa production with the preservation of forests and biodiversity. It also reduces cocoa-related deforestation, increases the traceability of our supply chain and aims to create synergies between economic, social and environmental objectives. This ensures zero deforestation cocoa production while supporting the well-being of farmers and promoting a green and sustainable economy.

As part of its ongoing commitment to protecting the environment and promoting sustainable management of natural resources, the *Fondation pour les Parcs et Réserves de Côte d'Ivoire* (FPRCI) is the key entity responsible for managing, distributing and monitoring payments for emission reductions. This innovative initiative is a significant step in the diversification of its activities. This new direction will enable the FPRCI, in collaboration with the Ministry of the Environment and Sustainable Development (MINEDD) through the SEP-REDD, to put in place payment mechanisms for beneficiaries involved in reducing emissions, while guaranteeing transparent and accountable management of the funds.

Thanks to the ER Programmes, the indirect beneficiaries, who are the actors responsible for guaranteeing an enabling environment for its implementation, will benefit from a significant improvement in the structuring of their activities. This initiative aims to strengthen their commitment to preserving the environment while promoting practices that meet the programme's requirements. At the same time, the programme will enable the creation of an endowment fund dedicated to the long-term financing of the Mont PEKO National Park. This fund will provide a stable source of funding for conservation and development initiatives, guaranteeing the long-term preservation of this protected area.

Capacity development

3.2 Is your CF program involved in training, education or provision of capacity building opportunities to increase the capacity of institutions/people/systems? Please provide information on the approach and any other relevant or related indicators/results.

A number of training courses are provided as part of this programme. These include:

- NGOs operating in the programme area received training in communication techniques and modules for raising awareness among local populations in the programme area;
- Cocoa growers in classified forests have received technical and field training from SODEFOR on the implementation of agroforestry programmes, as well as forest seedlings supplied by SODEFOR to introduce into their cocoa plantations. They receive regular supervision and monitoring from SODEFOR;
- Associations of producers living near the national park have been trained in conservation techniques by OIPR, and agroforestry programmes have been provided jointly by OIPR and SODEFOR;
- The capacities of cocoa cooperatives in rural areas have been strengthened by the Cocoa and Coffee Board (Conseil Café-Cacao) for the adoption of a cocoa agroforestry system in rural areas;
- The project management team received training in the calculation of ERs and the estimation of uncertainties associated with ERs, to enable them to master and replicate these different methods, as well as in the process of verifying and validating the ER monitoring report;
- The traditional authorities and the decentralised state administration (sub-prefecture or prefecture) have been trained in complaint management issues;
- Local communities have received training in participatory forest management to ensure their active involvement in the decision-making and forest management process;
- As part of the UNREDD programme, the FAO is building the capacity of the MRV team and the national structures involved in the National Forest Monitoring System (NFMS) (SODEFOR, OIPR, BENTD/CIGN, CNTIG, CURAT, IGT) on the key elements of the NFMS.