CAFI: Central Africa Forest Initiative
Accelerating Reforms in Central Africa

PROGRAMME DOCUMENT

Programme Title:	**Recipient UN Organizations (RUNOs):**
Assessment of deforestation and forest degradation and related direct drivers using SEPAL	Food and Agriculture Organization of the United Nations (FAO)
Programme Contact: Name and Title: Astrid Agostini, REDD+/NFM coordinator, Forestry department Address: Viale delle Terme di Caracalla, 00153 Rome, Italy Telephone: +39 06 570 54 177 E-mail: astrid.agostini@fao.org	**Programme Partner(s):** • Joint Research Centre of the European Commission • *Réseau de Recherche sur les Forêts d'Afrique Centrale* • *Institut de Recherche pour le Développement* • World Resources Institute • Rainforest Foundation United Kingdom • Wildlife Conservation Society • *Observatoire des forêts d'Afrique centrale* • Congo Basin Forest Partnership Scientific and Academic College • Cameroon: *Ministère des Forêts et de la Faune* • Central African Republic: *Ministère des Eaux, Forêts, Chasse et Pêche* • Democratic Republic of Congo: *Ministère de l'Environnement, de la Conservation de la Nature et du Développement Durable* • Equatorial Guinea: *Ministerio de Agricultura, Ganadería, Bosques y Medio Ambiente* • Gabon: *Ministère des Eaux, des Forêts, de l'Environnement, Chargé du Plan Climat, des Objectifs de Développement Durable et du Plan d'Affectation des Terres* • Republic of Congo: *Ministère de l'Économie Forestière et du Développement Durable*
Programme Country: Global scope	**Programme Location (provinces or priority areas):** Testing activities to take place in: Cameroon, Central African Republic, Republic of Congo, the Democratic Republic of the Congo, Equatorial Guinea and Gabon

Programme Description: FAO proposes to develop a global, standard, large-scale methodology to assess forest dynamics, using cloud-computing solutions and open-source tools to map disturbances and quantify direct drivers of deforestation and forest degradation. The methodology will be tested to assess deforestation and forest degradation trends and their associated current and historical direct drivers in six Central Africa countries. **Strategic Objective/Organizational Outcome:** 1) Make agriculture, forestry and fisheries more productive and sustainable. 2) Countries made decisions based on evidence for sustainable agriculture, fisheries and forestry while addressing climate change and environmental degradation.	**Total Cost**: **USD 1 200 000** **Total Cost Funded by CAFI: USD 1 200 000** Other sources of funding: - Government Input (including in-kind): - Other Donors:
	Start Date: June 2020 **End Date:** Should not exceed December 2021 **Total duration (in months):** 18 months

Upon signature of this project document by the duly authorized representatives of both parties, the project will be implemented in accordance with the background, rationale and management arrangements described herein.

On behalf of the CAFI Executive Board:	On behalf of the Food and Agriculture Organization of the United Nations:
Name:	Name: Elizabeth A. Bechdol
Title:	Title: Deputy Director-General
Date:	Date: 11 August 2020

Executive Summary

Deforestation and forest degradation are complex, transboundary and intricate processes that have many direct and underlying causes. A good understanding of forest conversion to other land uses and anthropic activities leading to forest disturbances is instrumental for the development of policies and actions aiming to reduce the loss of forests and its associated carbon emission. A better understanding of recurring patterns and correlations can therefore help countries tailor their efforts towards reducing forest loss.

In the recent years, access to a wealth of public datasets and satellite imagery resources, together with the exponential development of online tools and mobile applications to process this data have significantly changed the way land cover and land uses changes are assessed and monitored. However, these data and methods are still targeting specialist and expert end-users and need to be made available to a broader audience, in particular at various government levels.

Agriculture is estimated to be responsible for around 70-80 percent of the worldwide deforestation and in Africa, it is estimated that 84% of forest disturbance area (both as deforestation and degradation) is due to small-scale, non-mechanized forest clearing for agriculture. However, these global and regional estimations are based on the current global scientific literature with data acquired up to 2015 only, excluding the recent upward trend observed in tree cover loss. They also tend to omit the role played by degradation induced by forest exploitation, timber extraction and other commercial activities. Finally, there are growing signs of increasing pressure to Congo Basin forests, including mineral extraction, road development, agribusiness, commercial logging and biofuels, in addition to the traditional subsistence agricultural expansion and charcoal collection.

The difficulty to handle cloud-computing tools to analyse the numerous global datasets, the trends in forest disturbances, the need for updated studies and the lack of historical national perspectives result in the absence of a consensus on the main direct drivers and agents of deforestation and forest degradation in the Central African region.

In this context, FAO proposes to develop a global, standard, large-scale methodology to assess forest dynamics, using cloud-computing solutions and open-source tools to map disturbances and quantify direct drivers of deforestation and forest degradation. The methodology will be tested to assess deforestation and forest degradation trends and their associated current and historical direct drivers in six Central Africa countries. The project builds on a collaborative approach, in which national experts, global research institutes and civil society will work together and join resources and data to provide technical evidence and reach a common view on the direct drivers of forest disturbances.

The planned project outputs are: an agreed methodology to assess the direct drivers of deforestation and degradation, a forest change map, a quantification of the direct drivers, a geospatial module to inform land use planning, and knowledge and outreach materials to disseminate results and lessons learned.

The project applies state-of-the-art global tools and expertise; it includes a capacity development focus; it builds on using free and open-source solutions for Earth observation.

The proposed methodology to be tested through the implementation of the project will benefit from powerful processing global tools available through public cloud-computing platforms, to generate geospatial products of deforestation, forest degradation and associated direct drivers (maps, sampling-based schemes). Academia and civil society will be involved in all stages of the assessment design and play a significant role in the spatial and historical analysis of direct drivers, providing useful data on co-located land cover and land use activities (commercial logging, mining, agribusiness, infrastructures but also protected areas or community forestry).

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ACRONYMS

BUR	Biennial Update Report
CAFI	Central African Forest Initiative
CAFI EB	CAFI Executive Board
CAR	Central African Republic
CBFP	Congo Basin Forest Partnership
CNIAF	*Centre National d'Inventaire et d'Aménagement des ressources Forestières et fauniques* (Republic of Congo)
COMIFAC	*Commission des forêts d'Afrique Centrale*
COP	Conference Of the Parties
CPF	Country Programming Framework
DIAF	*Direction des Inventaires et Aménagements Forestiers* (Democratic Republic of Congo)
DRC	Democratic Republic of Congo
EqG	Equatorial Guinea
EU	European Union
FAO	Food and Agriculture Organisation
FAO CO	FAO Country Office
FAO HQ	FAO headquarter
FAO SRO	FAO Subregional Office
FCM	Regional forest change map
FCPF	Forest Carbon Partnership Facility
FLRM	Forest and Landscape Restoration Mechanism
FMP	Forest Management Plan
FONAREDD	*Fonds National REDD*
FPIC	Free, Prior and Informed Consent
FPMIS	FAO Field Programme Management System
FRA	Global Forest Resources Assessment
FREL	Forest Reference Emission Level
FSC	Forest Stewardship Council
GCF	Green Climate Fund
GEF	Global Environment Facility
GFOI	Global Forest Observation Initiative
GHG	Greenhouse gases
GIS	Geographical Information System
GLF	Global Landscape Forum
ILO 169	International Labour Organization's Convention 169
IP	Indigenous Peoples
IPCC	Intergovernmental Panel on Climate Change
INDEFOR	*Instituto Nacional de Desarrollo Forestal* (Equatorial Guinea)
IRD	*Institut de Recherche pour le Développement*
JRC	Joint Research Centre of the European Commission

KM	Knowledge Management
LCML	Land Cover Meta-Language
LoA	Letter of Agreement
LoI	Letter of Intent
LTO	Lead Technical Officer
LUP	Land Use Planning
MAGBOMA	*Ministerio de Agricultura, Ganadería, Bosques y Medio Ambiente* (Equatorial Guinea)
MECNDD	*Ministère de l'Environnement, de la Conservation de la Nature et du Développement Durable* (Democratic Republic of Congo)
MEF	*Ministère des Eaux, des Forêts, de l'Environnement, Chargé du Plan Climat, des Objectifs de Développement Durable et du Plan d'Affectation des Terres* (Gabon)
MEFC	*Ministère des Eaux, Forêts, Chasse et Pêche* (Central African Republic)
MEFDD	*Ministère de l'Economie Forestière et du Développement durable* (Republic of Congo)
MINFOF	*Ministère des Forêts et de la Faune* (Cameroon)
MoU	Memorandum of Understanding
MPTF	Multipartner Trust Fund
MRV	Measurement, Reporting and Verification
NDC	Nationally Determined Contribution
NFCM	National forest change map
NFM	National Forest Monitoring
NFMA	National Forest Monitoring and Assessment
NFMS	National Forest Monitoring System
NICFI	Norwegian International Climate and Forest Initiative
NIF	National Investment Framework
NGO	Non-governmental Organization
NTFP	Non Timber Forest Product
OED	FAO Office of Evaluation
OFAC	*Observatoire des forêts d'Afrique centrale*
PAMs	Policies and Measures
PEMS	Performance Evaluation and Management System
PRM	Programme Results Matrix
PTF	Project Task Force
REDD+	Reducing Emissions from Deforestation and forest Degradation and the role of conservation, sustainable management forests and enhancement of forest carbon stocks in developing countries
REDD+ NS	REDD+ National Strategy
RFUK	Rainforest Foundation United Kingdom
RoC	Republic of Congo
R2FAC	*Réseau de Recherche sur les Forêts d'Afrique Centrale*
SDG	Sustainable Development Goal
SFM	Sustainable Forest Management
SLMS	Satellite Land Monitoring System
SOP	Standard Operating Procedure

TC	Technical Committee
ToR	Terms of Reference
UN	United Nations
UNDG	United Nations Development Group
UNDP	United Nations Development Programme
UNDRIP	UN Declaration of the Rights of Indigenous Peoples
UNFCCC	United Nations Framework Convention on Climate Change
UN-REDD	United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation
UN-SWAP (GEEW)	UN System-wide Action Plan on Gender Equality and the Empowerment of Women
USGS	United States Geological Survey
WCS	Wildlife Conservation Society
WRI	World Resource Institute
WWF	World Wildlife Fund

1. SITUATIONAL ANALYSIS - RELEVANCE

1.1. Alignment and Strategic Fit

This section briefly describes the alignment and strategic fit with the Food and Agriculture Organization of the United Nations (FAO) Strategic Framework; with the Central African Forest Initiative's (CAFI) objectives; with the Countries Programming Frameworks (CPFs) outcomes and outputs; and with the existing CAFI Partners Countries National Investment Frameworks (NIFs), REDD+[1] National Strategies (NS) and Nationally Determined Contributions (NDCs).

1.1.1. Alignment to FAO's Strategic Framework and CAFI's objectives

The project, which is global in scope, contributes to the achievement of Strategic Objective 2 of FAO's Strategic Framework – *Make agriculture, forestry and fisheries more productive and sustainable*. More specifically, the project contributes to Outcome 204 – *Countries made decisions based on evidence for sustainable agriculture, fisheries and forestry while addressing climate change and environmental degradation*. At output level, the support corresponds to Output 20402 – *Capacities of institutions are strengthened to collect analyse and report data for decision-making on sustainable production, climate change and environmental degradation, including relevant Sustainable Development Goal (SDGs)*.

The project contributes also to the achievement of the Regional Initiative 2 - *Sustainable Production Intensification and Value Chain Development* and more specifically of its Outcome 2 - *Supporting countries in the integration of SDGs in their national multi-year programmes and implementation plans, thus [...] producing a new generation of multidisciplinary global knowledge products on bio-diversity, [...] water and landscapes management, nationally determined contribution (NDC) implementation, agro-ecology, among others*.

Alignment to CAFI's objectives:

CAFI is a Multipartner Trust Fund (MPTF) globally administered by the United Nations Development Programme (UNDP) MPTF Office.

The project is strongly aligned with the CAFI objective "*to recognise and preserve the value of the forests in the region to mitigating climate change, reduce poverty, and contribute to sustainable development*". It will provide to CAFI Partner Countries an enhanced, updated and common understanding of the direct drivers of deforestation and forest degradation at both regional, national and local scales. The project will especially produce datasets that do not currently exist or that are not under development either for its proposed period or area of interest.

By doing so, the project will contribute to the achievement of the CAFI's objective of encouraging the development of "*country-led, holistic low emissions development investment frameworks that include national policy reforms and measures addressing drivers of deforestation and forest degradation*".

In particular, it will strengthen the coordination between CAFI Partner Countries National Investment Frameworks (NIF) and REDD+ National Strategies and improve the quality of those plans. The project will therefore contribute to enhance the regional action against deforestation and forest degradation, notably by improving the quality of the land use planning implemented in the targeted countries.

[1] Reducing Emissions from Deforestation and forest Degradation and the role of conservation, sustainable management forests and enhancement of forest carbon stocks in developing countries

Table 1: Completion status of the National Investment Frameworks and REDD+ National Strategies (related to the countries that will take part in the testing component)

Country	Completion status of the NIF	(Expected) Date of completion	Status of REDD+ NS	Date of publication
Cameroon	Under completion	December 2019[2]	Published	June 2018
Central African Republic (CAR)	Under completion	June 2020[3]		
Democratic Republic of Congo (DRC)	Completed	November 2015	Published	2012
Equatorial Guinea (EqG)	Under completion	December 2019[4]	Published	2019
Gabon	Completed	April 2017		
Republic of Congo (RoC)	Completed	June 2018	Published	July 2016

1.1.2. Expected Results

1.1.2.1. Impact

Impact. Forest management and governance is improved thanks to the application of global knowledge to mitigate climate change, with a focus on reducing poverty and contributing to sustainable development.

The project will contribute to mitigate climate change, reduce poverty and support sustainable development by making publicly available cloud-computing and open-source solutions for forest monitoring, data analysis and applying global knowledge and tools.

It will moreover contribute to build consensus on the direct drivers of deforestation and forest degradation, demonstrating the relevance of the methodology for the second largest tropical rainforest of the world.

1.1.2.2. Outcome

Standardized methodology tested and applied to assess the trends of deforestation and forest degradation and quantify direct current and historical drivers using cloud-computing solutions and free and open-source tools for forest monitoring

Through the implementation of this project, global tools will successfully be applied to conduct regional assessment of deforestation and forest degradation trends and direct drivers. As a result, the project will contribute to improve REDD+ National Strategies, National Investment Frameworks and other existing national strategies and plans, notably by providing decision-makers with updated and enhanced data on forest change, land-uses and climate change mitigation as well as encouraging the harmonization of the national strategies and plans at a regional scale.

[2] See decision EB.2019.09 of the CAFI Executive Board

[3] See decision EB.2019.25 of the CAFI Executive Board, however a draft version was available during the conception of the project

[4] See decision EB.2019.02 of the CAFI Executive Board

1.1.2.3. Outputs

The project will produce five outputs in order to achieve its outcome.

Output 1. Methodology to assess deforestation and forest degradation trends and direct drivers developed, with broad consensus among international, regional and national partners
Output 2. Forest change map of Central Africa (2015-2020) produced and shared, providing harmonized and updated regional information on forests and forest changes
Output 3. Current and historical direct drivers of deforestation and forest degradation in Central Africa identified, quantified, discussed and agreed on with the different partners
Output 4. Geospatial module to inform land use planning developed in SEPAL and tested in two pilot areas
Output 5. Project results and lessons learnt disseminated for global knowledge, and potential for scaling-up at global level defined

1.1.2.4. Activities

The outputs of the project will be generated through a series of activities that will involve both international and regional partners, as well as experts from each targeted country.

The overview of the project workflow is illustrated in Figure 1.

Inception phase

During the project inception, FAO will notably:

- Set up the modalities of the Steering Committee;
- Set up a Technical Committee, in which the roles and responsibilities of the technical partners and the recipient countries are clearly defined;
- Select and recruit the project team as follows:
    - project coordinator and Programme assistant;
    - six national experts on Geographical Information Systems (GIS), remote sensing and forestry to implement activities related to Output 2 and Output 3;
    - one international consultant to conduct a bibliographic review of national definitions, assessment approaches, and current and historical direct drivers and underlying causes of deforestation and degradation in Central Africa (Activity 1.1);
    - one international consultant for the development of a module in SEPAL generating information to support land use planning (Geo4LUP, Activity 4.3).
- Develop and sign Letters of Agreements (LoA) with implementing partners, including:
    - Six governmental institutions in charge of forestry in each targeted country;
    - Draft the LoA for the national or international Organizations to conduct the socio-economic field surveys in the two pilot areas (Activity 4.2).
- Develop the project's Global Knowledge Management and Outreach Action Plan (Section 1.3.4.1 Knowledge Sharing)
- Review the work plan (**Error! Reference source not found.**) and the risk matrix (Annex VI) and, if necessary, adapt the project implementation strategy taking into account the ongoing global pandemic crisis. In particular, the workshop associated to Activity 1.2 may need to be implemented virtually.

Output 1. Methodology to assess deforestation and forest degradation trends and direct drivers developed, with broad consensus among international, regional and national partners

Activity 1.1: Review of national definitions, assessment approaches, and current and historical direct drivers and underlying causes of deforestation and degradation

Countries use different definitions and thresholds for forests and deforestation, which also change through time. Lund (2014) reports over 1 000 definitions of forests globally available in the literature. Furthermore, different approaches are used to characterize forest perturbations and assess the related direct drivers: remote sensing, field observations, socio-economic surveys. A brief summary of these discrepancies in the Congo Basin countries is available in Table 3 and Table 4. These preliminary scanning needs to be completed to provide a comprehensive overview of the existing definitions and approaches, necessary to build a harmonized approach that will take into account national circumstances.

The objective of this activity is to review and synthesize the past and current studies and reports on deforestation and degradation, especially in Central Africa. The review will notably focus on:

- the definitions of forests, deforestation and forest degradation used by the different recipient countries, the project's stakeholders and in existing studies and reports;
- the current and historical direct drivers and underlying causes of deforestation and degradation in Central Africa that have so far been identified;
- the existing global, regional and national approaches to assess deforestation and degradation trends and direct drivers;
- the probable calendar of capacity building activities scheduled in Africa, Latin America and South East Asia on similar topics in order to seek synergies and formulate potential South-South Exchanges.

The review will be carried out by an international consultant following the terms of reference in Annex XII. The results of the review will be included in the inception report of the project and validated by the Technical Committee during Activity 1.2.

Activity 1.2: Technical meeting with partners to jointly agree on the methodology of the assessment, and to identify resources, data and contributions

Upon completion of the bibliographic review, a regional consultation will be organized in one of the partner countries. The different members of the Technical Committee will meet in order to:

- validate the review conducted in Activity 1.1;
- validate the definition approach adopted during the formulation of the project with national definitions of forests (one per targeted country) and common regional definitions of deforestation and forest degradation (Annex XIV);
- discuss and reach consensus on:
    - the approach for defining forest disturbances, deforestation and forests degradation;
    - the geographical and temporal scale of the study;
    - the direct drivers of deforestation and degradation in Central Africa on which the assessment will focus, in particular the granularity level of the land use assessment: as far as possible, a detailed description will be given for the different types and sizes of commercial concessions (agricultural, forestry, mining), the type of agriculture (perennial, annual crops, shifting agriculture, cattle ranching), type of perennial commodities and type of infrastructures;

    - the methodology to be implemented during activities; different options are presented for this in Annex XV;
- identify available resources, data and possible contributions from the members of the Technical Committee and from other partners.

This activity will therefore contribute to ensure a consistent vision of the assessment and clarify its scope and methodology.

Output 2. Forest change map of Central Africa (2015-2020) produced and shared, providing harmonized and updated regional information on forests and forest changes

Activity 2.1: Regional training workshop with countries to generate wall-to-wall geospatial data on forest changes

The project team will organize a regional training workshop targeting the six national consultants, the representatives of the national forestry administrations involved in the project as well as international partners to the methodology agreed on in Activity 1.2. The participants will use the tools SEPAL and Collect Earth Online (Section 1.2.2 Capacity to Act) and implement dense time-series analysis to generate wall-to-wall geospatial data on forest changes in two steps:

- **Step 1**: processing of optical (Landsat 8) and radar (Sentinel 1) satellite images to create a forest mask for the base year 2015, to complement existing national, regional or global datasets;
- **Step 2**: processing of consistent optical (Landsat 8) and radar (Sentinel 1) time series data, using seasonal models and break detection algorithms (Annex XV) to produce a forest change map for 2015-2020 at national scale (gains and losses, including different degrees of change for degradation). In addition, time series analysis will be carried out for the areas around the current detected disturbances and expanded for the entire period 1980-2020. This will allow to keep track of previous changes occurring at the location of the recent disturbances.

The output of this workshop will be a draft NFCM (forest change map between 2015 and 2020 at national scale) for each recipient country.

The processing chains and algorithms at the backend of SEPAL for mosaicking, supervised classification and dense time series analysis will be presented to the participants. Depending on the level and interest of the participants, hands-on exercises in the associated programming languages (GDAL/OGR, R, Python, JavaScript and GEE specific modules) could be carried out.

Particular attention will be paid during the hiring phase of the national consultants on the capacities of the candidates in those programming languages in order to ensure the capacity of the project team to provide these complementary trainings (Annex XII).

Activity 2.2: Working sessions with countries to generate a forest change map at regional scale for 2015-2020

The national consultants will supervise the implementation of LoA with each identified government institution to finalize the NFCM with regular remote backstopping from FAO headquarter (FAO HQ).

The consultant will organize and lead working sessions in his/her recipient country training technicians from national forestry administrations and where possible researchers of the *Observatoire des forêts d'Afrique centrale* (OFAC), of the *Réseau de Recherche sur les Forêts d'Afrique Centrale* (R2FAC) and of the Congo Basin Forest Partnership (CBFP) Scientific and Academic College. If necessary, they will continue to provide development trainings on the backend processes of SEPAL (GDAL, R, PYTHON, GEE).

The output of these working sessions will be a NFCM for each recipient country.

The project will adopt strategies to improve women's participation in these working sessions, with attention paid not only to the number of women attending, but also to the quality of their participation (Section 3.4.3 Gender mainstreaming approach of the project).

The six NFCMs will eventually be aggregated into a regional forest change map (FCM) of Central Africa for the period 2015-2020.

Output 3. Current and historical direct drivers of deforestation and forest degradation in Central Africa identified, quantified, discussed and agreed on with the different partners

Activity 3.1: National validation workshops to assess the accuracy of the geospatial regional product and quantify direct drivers of deforestation and forest degradation

Each national consultant will lead a national workshop and additional working sessions in each recipient country to assess the accuracy of the NFCM produced during Activity 2.1 and Activity 2.2 and quantify the direct drivers of deforestation and degradation agreed on during Activity 1.2.

To assess the accuracy of the geospatial regional product, the participants of the workshops (potentially the same as during the Activity 2.2) will be trained to apply FAO's Standard Operating Procedures (SOP, developed under a project with the World Bank[5]) on area estimation to notably:

- determine specific locations (the "*sample points*") where information on forests dynamics and associated drivers will be visually interpreted. These locations will be determined from the FCM using a stratified random sampling approach. This approach will ensure that all layers (stable forest, non-stable forest, deforestation, forest degradation) are statistically represented. In the dryland and Miombo zones of the study area, other sampling approaches (e.g. based on stable ecozone stratification) may be taken;
- visually interpret high resolution and high cadence satellite images to assess the potential changes in forest cover and direct drivers of deforestation and degradation at each sample point using a common set of interpretation key and applying the quality control and quality assessment process, taking into account the national circumstances;
- analyse the data collected through the interpretation phase to:
    - Assess the accuracy of the NFCM by comparing it with the collected data, generating an error matrix and estimating unbiased areas;
    - Quantify the relative weight of each direct driver of deforestation and degradation at national scale.
- the analysis will be carried out at point locations and within nested buffers around the sample points (50m, 100m, 1km and 5km), as implemented by Molinario et al. (2020).

The national consultants will use the results of these workshops to assess the accuracy of the FCM and quantify the direct drivers of deforestation and degradation.

Data scarcity for assessing land cover and land use change in the region is well known, with many parts of the region showing only Landsat data resolution (30m) inside Google Earth. The work will benefit from the provision by the Norwegian International Climate and Forest Initiative (NICFI) of high resolution and high cadence data for the whole of Democratic Republic of Congo (Planet Labs, 3m daily, going back to 2015). The Planet data will be integrated to generate cloud-free monthly mosaics. The relevance of this type of data for contextualizing deforestation and degradation is clearly explained in Molinario et al. (2020). If deemed suitable, this dataset could be strengthened through a procurement component for the other countries.

This procurement should be considered as complementary to and not overlap with the international public tender, launched by NICFI in July 2019 to purchase and freely distribute very high spatial resolution satellite imagery of all tropical forests, on a monthly basis[6]. A broad set of stakeholders will be given free access to use the data to better analyse forests and land use change, including

[5] http://www.fao.org/redd/news/detail/en/c/1254534/

[6] https://ted.europa.eu/udl?uri=TED:NOTICE:299285-2019:HTML:EN:HTML&tabId=1&tabLang=en

Governments, scientists and Non-governmental Organizations (NGOs) and the dataset will be available through SEPAL.

Activity 3.2: Regional technical workshop with partners to analyse data

The FAO will organize a regional workshop with its technical partners, during which the results of the Activity 2.2 and Activity 3.1 will be combined with relevant layers of interest to produce a spatially explicit overview of deforestation and degradation trends and current and historical direct drivers in specific locations.

National counterparts and technical partners as agreed during the Activity 1.2 will provide the necessary data and layers of interest, which will include and not be limited to the theoretical and actual boundaries of protected areas and concessions, communal forests or population centres.

For instance, the *Mapping For Rights* project (of the Rainforest Foundation United Kingdom - RFUK) has supported more than 1,000 communities in the Democratic Republic of Congo (DRC), Republic of Congo (RoC), Cameroon, Gabon and Central African Republic (CAR) to map their forest lands, covering more than seven million hectares. Similarly, the World Resource Institute (WRI) is maintaining a database of concessions, plantations, community boundaries, forest activities in several of the targeted countries.

The geospatial data coming from these projects will be co-located with the FCM data to contextualize the current trends of forest perturbations, including at several spatial scales (nested buffer approach).

The spatial processing will also include change patch size and fragmentation status as implemented by Vieilledent et al. (2018). Forest intactness and ecological integrity are common indicators of the conservation value of forest landscape and fragmentation metrics are easily accessible tools to measure the degree of intactness. Fragmentation of the forest areas will hence be mapped at different time intervals.

In addition to these spatial angles, the analysis will include a temporal dimension using historical sources (older datasets, concession maps) of previous land-use history covering up to the last 40 years, where possible. The change data for the period 2015-2020 will be put into perspective of previous land cover and land use change using existing regional datasets (e.g. GFC tree canopy change, Tropical Moist Forest from JRC, ESA CCI land cover maps).

These analyses will support and consolidate the results on identified current and historical direct drivers in order to build a consensus on the current and historical direct drivers of deforestation and degradation in the region, at different spatial and temporal scales.

Activity 3.3: Formulation of a final report on the development and application of the global methodology to map forest change and current and historical direct drivers of deforestation and forest degradation

The results from Activity 1.2 to Activity 3.2 will be published and shared through a final edited report on the development and implementation of the standardized large-scale methodology to map forest change and assess current and historical direct drivers of deforestation and degradation in Central Africa, available in English, French and Spanish.

The reports will only include results at regional scale in order to avoid data conflicts with national reporting processes (i.e. Forest Reference Emission Level - FREL, Global Forest Resources Assessment - FRA).

The report will be validated by the Technical Committee and could be used by the countries to update their REDD+ Investment Plan and Strategies.

Output 4. Geospatial module to inform land use planning developed in SEPAL and tested in two pilot areas

Activity 4.1: Identification of two pilot areas

Based on the outcomes of the geospatial assessment (Activity 1.2 to Activity 3.2), the Technical Committee will identify two subnational areas that represent different forest change situations, and require specific Land Use Planning (LUP) processes.

The criteria for deciding these pilot areas will be key, as the dynamics underpinning forest loss will vary greatly from one area to another. The final selection will necessarily be based on field information to complement the findings of the remote sensing based assessment, to ascertain why, where and when forest change has occurred.

In addition, and to ensure local ownership, the sites should ideally correspond to decentralized administrative levels where authorities have prescribed LUP functions. These pilot areas could be transboundary and match with specific landscapes of reference.

Activity 4.2: Collection of socio-economic information in the two pilot areas

The methodology based on inference from remotely sensed data will be completed with a Standardized Operating Procedure for socio-economic field surveys. The survey will be conducted in the two pilot areas to collect additional information to that provided by technical partners following existing guidelines and QA/QC procedures such as the ones developed by Bangladesh for its forest monitoring system[7] or the participatory land use methodologies employed by RFUK in the MappingForRights[8] project.

The collected information will be tailored to each zone and should include, without being limited to: household, local community and local administration surveys, maps on land tenure, uses and dependencies, livelihoods, type of revenues, type of energy used for cooking, dependency on Non Timber Forest Product (NTFP), access to local and regional markets and other relevant criteria as agreed by the Technical Committee during the Activity 1.2.

The data collected will be gender-disaggregated as far as possible, and at least 30% of women will be included in the teams in charge of the field surveys.

To the extent possible, all the collected data will be geo-located using the What3Words solution[9], which assigns each 3m square in the world a unique 3 word address (as accurate as and easier to use than classical GPS coordinates, strongly reducing the errors of transcription).

Activity 4.3: Development of a module to generate geospatial information to support land use planning (Geo4LUP)

A module (Geo4LUP) will be developed in SEPAL in order to transform and combine the global and site-specific geographic information such as the one collected through the mapping exercises in Activity 1.2 to Activity 3.3, as well as the socio-economic data surveys collected during the Activity 4.2, into

[7] http://103.48.18.141/library/wp-content/uploads/2018/09/966.pdf and http://bfis.bforest.gov.bd/library/wp-content/uploads/2019/01/3148.pdf

[8] https://www.mappingforrights.org/

[9] https://what3words.com/about-us/

spatially explicit data to inform existing land use planning tools. The module will provide data adjustable to various scales, environments and regions and will be used globally.

The development team will build on the scheme developed by the European Union (EU) REDD Facility to generate data compatible with the Land Use Planner[10], Ex-ACT[11] or similar tools. It could be for instance:

- area devoted to each type of land use;
- area of land use change / transitions over a defined time period;
- type of harvested crops and size of farm holdings;
- degree of fragmentation of the vegetation over in the area;
- distance to features of interest (infrastructures, concessions, mines);
- forest areas under protection status, certified concessions and/or standard forestry concessions;
- perturbations detected in the forest areas.

Activity 4.4: Testing of the module in the two pilot areas and validation of results

The Geo4LUP module developed in Activity 4.3 in SEPAL will be tested by the same organizations and institutions involved Activity 4.2 in the in the two pilot areas to generate spatial data on land use, notably by comparing the data generated with the data collected in the Activity 4.2.

The data generated by the module will be combined with the information collected in Activity 4.2 to validate the results of Activity 1.2 to Activity 3.3.

The module will be also tested to assess the impact of past land use policies and plans on forests in the two pilot areas. The activity will therefore demonstrate the interest to use spatial data in the process of designing land use policies.

[10] http://www.landuseplanner.org

[11] http://www.fao.org/tc/exact/accueil-ex-act/fr/

Output 5. Project results and lessons learnt disseminated for global knowledge, and potential for scaling-up at global level defined

Activity 5.1: Regional multistakeholders consultation to promote use of spatial data in the process of designing land use policies

The outcomes of the activities for the mapping component as well as the fieldwork in the two selected areas will be presented and discussed during a regional multistakeholders consultation in order to stress how spatial data on land use can inform policymakers and help them to understand the impacts of different land use planning scenarios.

This regional consultation will target a wide audience (government institutions, civil society, NGOs, academia, students and community forestry representatives), provide opportunities for further adoption of land use planning policies and encourage the scaling-up of the methods used during the project.

A gender-balanced participation will be ensured during this regional multistakeholders consultation.

Activity 5.2: Knowledge Management

Knowledge management and outreach are key activities for the delivery of the project's strategic framework. In fact, the project's value proposition is closely linked to the wealth of knowledge and expertise generated by implementing partners in the past years. A Knowledge Management (KM) and Outreach Action Plan will be developed during the inception phase of the project to support participation, dialogue and the dissemination of knowledge and good practices and to ensure the sustainability of project results. It will particularly describe how specific visibility arrangements requested by project partners will be addressed. This Knowledge Management and Outreach Action Plan and its proposed activities will be revisited one year after the beginning of the project to reflect progress, emerging priorities, regional needs and the changing demand of project stakeholders.

It will notably outline:

- how the project will document and share findings, results and best practices in the official reporting and through the CAFI's, the six countries governments' and the FAO's web-sites and social media;
- how the knowledge generated throughout the project will be disseminated in the region and globally by collaborating with the foreseen partners from the OFAC, the R2FAC and the Congo Basin Forest Partnership (CBFP) Scientific and Academic College;
- through which channel all activities and achieved outputs, results and impact will be communicated to the concerned stakeholders;
- all knowledge and outreach products.

The primary audiences for the materials that will be produced are policy-makers in the CAFI Partner Countries, civil society Organizations (e.g. CBFP's members; WCS's, WRI's and RFUK's partners), academia and research institutes (e.g. the members of the OFAC, R2FAC, JRC, IRD and the CBFP Scientific and Academic College).

In particular, the results of the assessment will be published in a peer-review journal and include:

- a benchmark map of the forest cover in 2015 at regional scale;
- the tree cover disturbance map (Deforestation and Degradation) for the period 2015-2020;
- the validation dataset to assess the accuracy of the disturbances including the information on drivers;

- forest fragmentation maps.

The geospatial layers generated during the project will be shared freely and openly, notably by being added as supplementary material in the publication in the peer-review journal, following FAO's policy on off-the-shelf free and open-source solutions for processing and analysis of geospatial data and the FAO's Open Data Licensing for Statistical Databases Policy (2020). The data will be published under a Creative Commons Attribution-Non Commercial-Share Alike 3.0 IGO license.

The peer-reviewed results will be published at regional level in order to avoid data conflicts with national reporting processes (i.e. FREL, FRA). Recipient countries will nonetheless be able to use intermediary results and extract specific data at national scale.

The KM and outreach activities will leverage key events and products with have a clear strategic focus and will prioritize high-return activities. Key products will include news articles, press releases and interviews with stakeholders, but also information briefs for policy-makers, project flyers, presentations, best practice case studies, infographics, key messages and image bank. The products will presented in French, Spanish and English and will spotlight the project's impact and key achievements.

Special attention will be given to promoting the project's products and results at relevant fora (e.g Global Landscape Forum (GLF) Glasgow 2020, XVth World Forestry Congress 2021, COP 27) and subregional and global events, including Global and/or South-South exchanges with stakeholders involved in similar regional studies (for instance the West Africa Land Cover mapping led by the United States Geological Survey). A gender-balanced participation will be ensured during these events.

The CAFI support and funding to the project will be highlighted in all publicity and information materials and project reports.

The perspectives of women and their achievements will be highlighted in project communication materials and on social media (e.g. videos, articles, press releases) and at least 30 percent of the best practice case studies will display the role of women.

Activity 1.1 & 1.2	Activity 2.1 & 2.2	Activity 3.1	Activity 3.2 & 3.3	Activity 4.1 & 4.2	Activity 4.3 & 4.4
Establishment of a technical committee, review of literature and methodology agreement	Generation of a forest change map for 2015-2020 (FCM)	FCM Accuracy assessment+ Quantification of direct drivers of DD	Spatial overlay with layers of interest	Selection of two pilot areas Socio-economic data gathering	Information for land use planning in the two areas

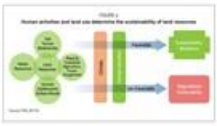
Topic	• **Definitions and scope of the assessment**	• **What is the trend of DD in the region?**	• **What are the direct drivers of DD in the region?**	• **How are these drivers related to national and local contexts?**	• **What are the specific socio-economic causes of DD in the two pilot areas ?**	• **What land use planning options should be taken in the two pilot areas ?**
Deliverable	• Literature review • Overall methodology and workplan	• DD Wall-to-wall map	• Point sample database	• Geo-statistics	• Report on drivers and causes	• Geospatial data to inform land-use planning
Analysis		• Automatic dense time series analysis of satellite imagery	• Visual interpretation of DD • Visual interpretation of drivers	• Spatial overlay • Statistical analyses	• Statistical analyses • Analytical reporting	• Spatial overlay • Suitability metrics
Data		• Landsat 8 (optical) • Sentinel 2 (optical) • Sentinel 1 (radar)	• VHR public data • PlanetScope for DRC • FRA RSS 2020 • Africa deal / Global Dryland assessment	• Spatial layers on concessions, protected areas and communal forests, population center, other TBD	• Socio economic surveys in pilot areas	• Land ownership and concessions • Socio-economic variables • Land use and land-use change data
Methods and tools		• Upscaling of methods used in DRC, RoC and EqG (BFAST / CCDC) • Implemented in SEPAL	• Random Stratified and Systematic Sampling • Implemented in CEO	• Spatial overlay with layers of interest • Patch of change size • Fragmentation	• Socio economic assessment of the causes of DD	• Land-use planning module
						

Figure 1: Overview of the project workflow[12]

[12] DD: Deforestation and forest Degradation; BFAST: Breaks for Additive Seasonal and Trend; CCDC: Continuous Change Detection and Classification; CEO: Collect Earth Online

1.1.3. Alignment to Countries Programming Frameworks (CPFs)

The project is global in approach. For the component related to the testing of the methodology the project is consistent and aligned with the FAO CPFs outcomes and outputs. It will indeed provide new tools and strengthen the institutional and governmental capacities in each country to generate updated and improved data on forest changes, the dynamics driving those and associated land use change. The project will provide consensual evidence for better-informed decision-making, through nationally data produced by enhanced National Forest Monitoring Systems (NFMS). The project will thus contribute to update and/or develop the existing national strategies, plans and policies on forests and land use planning. More information is available in the Annex IX.

Priorities of CAFI Partner Countries NIFs, LoIs, REDD+ National Strategies and NDCs

The project is consistent and aligned with CAFI Partner Countries key national strategies and plans, and will contribute to the implementation of the existing National Investment Frameworks (NIFs), Letters of Intent (LoIs) REDD+ National Strategies (NS) and Nationally Determined Contributions (NDCs). The correspondence between project outputs and the current strategies of the targeted countries are summarized in Annex X.

1.2. Comparative Advantages

1.2.1. Mandate to Act

FAO's global mandate is to support countries to ensure people have regular access to sufficient quantities of high-quality food. In order to achieve this goal, FAO aims to increase the productivity and sustainability of agriculture including forestry systems, which is essential for achieving a zero-hunger world.

FAO is therefore mandated to assist member countries to make decisions based on evidence for sustainable agriculture, fisheries and forestry while addressing climate change and environmental degradation, including building their capacity and transferring state-of-the-art knowledge and technology in forest monitoring and in forest resources assessment.

Moreover, FAO is one of the three Participating United Nations (UN) Organizations of the UN-REDD Programme[13]. This programme supports developing countries with financial and technical assistance to build the capacities to design and implement strategies to reduce emissions from deforestation and forest degradation and enhance carbon stocks in developing countries (REDD+ strategies).

Within the global UN-REDD Programme, FAO is the lead organization for the work area "*Measurement, reporting and verification (MRV) and monitoring*". Its main activities include:

- helping to build institutional capacity by providing technical assistance in countries and developing tools to support the design and implementation of multipurpose forest inventories; and
- generating and disseminating knowledge through manuals, reference materials, toolkits and software applications (e.g. remote sensing tools and allometric equations for estimating biomass and carbon) to assist with monitoring and with national forest and greenhouse gas inventories for the forest and land-use sectors.

All of these Activities are relevant for the context of the project.

1.2.2. Capacity to Act

FAO historically supports the collection of quality resource data on forest and land uses on which to base policy decisions in the forest and land use planning sectors and to design national sector plans and REDD+ programmes.

1.2.2.1. Global Forest Resources Assessment 2020

FAO is notably finalizing the Global Forest Resources Assessment 2020 (FRA), and is therefore supporting the evaluation of forest resources in the CAFI Partner Countries. The preliminary results of the FRA 2020[14] were released in April 2020 and will serve as the updated baseline at national and regional level regarding forest change dynamics in the region of interest.

In addition, the Global FRA 2020 is being regularly consolidated by an independent dataset based on a remote sensing approach (FRA RSS 2020) that aims at gathering data from visual interpretation of very high resolution and high cadence imagery available through the Collect Earth Online tool in order to:

- provide independent and consistent estimates of forest area changes (global, regional, biome);
- obtain accurate forest area and forest change area estimates;

[13] United Nations Reducing Emissions from Deforestation and Forest Degradation in Developing Countries Programme

[14] http://www.fao.org/forest-resources-assessment/en/

- use a methodology that can be easily up-scaled for use at country level;
- use a collaborative approach for the data collection, engaging national experts;
- develop national capacities in remote sensing assessment;
- create a database of field reference data using crowdsourcing tools and drone images.

While the temporal (up to 2018) and spatial distribution of samples of the FRA RSS 2020 differ from those necessary for this specific assessment, the data will be useful at several stages of the project (stratification design, default geo-information on direct drivers, validation points). The collection methodology that will be implemented during the proposed project will therefore build on the different regional and national results obtained through workshops carried out by the FRA team in 2019 and 2020 and complement the national datasets with information relevant for the specific study of direct drivers of deforestation and degradation.

1.2.2.2. Global tools and data

FAO has developed within the OpenForis initiative (www.openforis.org) a variety of free and open source technical solutions such as SEPAL, Collect Earth and Collect Earth Online, as well as standards like the Land Cover Meta-Language (LCML-LCCS) to assist countries in their efforts to measure, monitor and report on their forests. These solutions and standards are currently used by countries to generate their FREL and Biennial Update Reports (BURs) to report to the United Nations Framework Convention on Climate Change (UNFCCC) and/or Emissions Reduction programme to report under the Forest Carbon Partnership Facility (FCPF). They are routinely implemented in various projects and programmes such as the UN-REDD Programme, the National Forest Monitoring and Assessment programme (NFMA), the FAO-Finland Forestry Programme or more recently the Global Forest Resources Assessment and Collect Earth mapathons (e.g. within the Global Dryland Assessment[15]).

SEPAL

FAO has developed a cloud-computing forest monitoring platform, SEPAL (System for Earth Observation Data Access, Processing and Analysis for Land Monitoring, accessible at https://sepal.io). This user-friendly platform offers developing countries unparalleled access to granular satellite data and super computing power, enabling users to query and process satellite data quickly and efficiently, tailor their products for local needs, and produce sophisticated and relevant geospatial analyses quickly.

The modular nature of SEPAL enables users to implement virtually any processing chain of remote sensing data written in most commonly used programming languages (C++, Python, Javascript, R). It also provides visibility and wide reach-out for academic and research and development institutions as the processing chains can be made easily available to the public through user friendly interfaces inside SEPAL.

Harnessing cloud-based supercomputers and modern geospatial data infrastructures (e.g. Google Earth Engine), SEPAL enables access and processing of critical historical satellite data as well as newer data from Landsat and higher-resolution data from Europe's Copernicus programme.

The unprecedented high performance of the platform allows to generate robust drafts of such data in restricted periods of time (Gomes et al., 2020; Tituana et al., 2019; Lwin et al., 2019). SEPAL is not requiring a strong connection to Internet in terms of bandwidth, only a stable connection that can be found in most countries.

[15] http://www.fao.org/dryland-forestry/monitoring-and-assessment/global-drylands-assessment/en/

Collect Earth Online

Collect Earth Online (Saah et al., 2019) is a custom built open-source satellite image viewing and interpretation system. It facilitates the collection of reference data using high-resolution satellite images and big-data analysis through Google Earth Engine and promotes consistency in locating, interpreting, and labelling reference data plots for use in classifying and monitoring land cover / land use change. Collect Earth Online builds on the desktop application Collect Earth (Bey et al., 2016) running on Google Earth.

LCML/LCCS

FAO together with UN Environment have been developing ways to contribute to the improvement of land cover mapping and general geographic data harmonization. The latest output of this process is the ISO standard Land Cover Meta-Language (LCML, ISO 19144-2) that offers a flexible, non-overlapping and comprehensive approach for the semantic representation of land features.

1.2.2.3. Current country support of FAO

The REDD+/NFM cluster of the Forestry department of FAO provides direct support to countries for the monitoring and the sustainable management of their forest resources.

At the global level, several initiatives will serve as model for some of the methodological aspects. FAO is notably contributing to:

- develop or strengthen several Satellite Land Monitoring Systems (SLMS), for instance in Bangladesh where the SLMS has been coordinated with forest management plans and programmes and where the national capacities in forest inventory and satellite monitoring has been reinforced;
- establish agricultural information system for food security, for instance in South Soudan where the system notably provides data on crop production and markets and biophysical indicators of livestock production;
- develop land planning schemes, for instance in the framework of a project of Forest and Landscape Restoration Mechanism (FLRM) in CAR.

FAO is also currently supporting several technical activities in Central Africa within the framework of the UN-REDD programme, as well as CAFI, Green Climate Fund (GCF) and Global Environment Facility (GEF) projects, notably forest change assessments in the DRC, Equatorial Guinea (EqG) and the Republic of Congo (see Table 2 below).

Table 2: Illustration of the past and current support from FAO to CAFI Partner Countries

Country	Status	Framework	Support provided / Ongoing project
Cameroon	• Completed	• UN-REDD Programme	• Production of a national forest inventory
CAR	• Ongoing	• The Restoration Initiative	• Forest and Landscape Restoration Mechanism ○ Elaboration of a Land Planning Scheme for the South-West area ○ Implementation of FLR activities with local populations
DRC	• Completed • Completed • Ongoing	• UN-REDD Programme • UN-REDD Programme • CAFI project	• Production of a national forest inventory • Establishment of a land monitoring systems by satellites • NFMS finalization and implementation : ○ analysis of the biennial change in national and provincial forest cover using high-resolution satellite images (Sentinel, SPOT, ALOS etc.) ○ production of statistics at national and provincial levels on deforestation and, after methodological tests, on forest degradation and increase in forest carbon stocks.
EqG	• Completed • Completed • Ongoing	• UN-REDD Programme • UN-REDD Programme • CAFI project • UN-REDD Programme	• Establishment of a land monitoring systems by satellites • Study on drivers of deforestation and degradation • Enhancement of institutional and technical capacities in the AFOLU sector • Development of the REDD+ NS (EN-REDD+) and the REDD+ National Investment Plan • FREL establishment and/or BUR submission
RoC	• Completed • Completed • Ongoing	• UN-REDD Programme • UN-REDD Programme • Ongoing	• Production of a national forest inventory • Establishment of a SLMS • FREL establishment and BUR submission

These tools and standards will be used during the project's activities to develop a standardized methodology and enable targeted countries to generate harmonized geospatial forest change data and to identity and quantity direct drivers of deforestation and degradation, thus ensuring enhanced national ownership of the result of the project.

FAO continuously develops its extensive expertise in forest related matters and transfers this technology and knowledge to countries developing forest resource assessments and land use plans. FAO is recognized as an international centre of excellence in the promotion of national forest and land resource assessment and monitoring in developing and emerging countries.

The Independent External Evaluation of FAO[16] notably confirmed that forest resource assessment and provision of related statistics was one of the key areas of comparative advantage of FAO.

Moreover, the presence of multidisciplinary teams located in each CAFI Partner Country - jointly with the teams in the FAO Sub Regional Office for Central Africa in Libreville and in FAO headquarters in Rome - ensures the necessary technical and administrative support for the successful implementation of the project.

FAO is then a natural candidate to implement the proposed project because it has the capacity and knowledge to provide the technical tools and methods to assess the deforestation and forest degradation trends and direct drivers and to support the development of land use plans in Central Africa.

1.2.3. Position to Act

FAO has a unique and rich experience in conducting global, regional and national studies to assess forest changes and direct drivers of deforestation and degradation and in supporting the development of land-use plans and policies. It has already provided technical support to CAFI Partner Countries through country and global projects and has a strong field presence.

Furthermore, FAO has developed, as a United Nations agency, a broad network of international and regional partners in Central Africa. Thanks to its historical field presence and its ongoing projects, it has direct contacts not only within governmental institutions, but also within Non-governmental Organizations (NGOs) and research institutions and academia.

As such, FAO is best placed to bring together institutional and technical partners in this collaborative project in order to build robust datasets of and generate a consensus on deforestation and forest degradation trends and direct drivers.

1.3. Context Analysis

1.3.1. Stakeholder Engagement

During the formulation of this project, a collaborative engagement process was initiated in order to inform (global and national) stakeholders about the project concept and to seek their input on the design and elaboration of the project. The initial outreach to stakeholders was viewed not as a one-off event in the project formulation phase towards refining the project design and activities, but rather the start of a longer-term process of engagement and two-way communication to increase buy-in and build collaboration for the project.

1.3.1.1. Stakeholder Engagement

The Central African Forest Initiative (CAFI) is a key global and regional platform of coordination for like-minded partners that provides finance for policy reforms and field investments at scale in support of National Investment Frameworks (NIF) for REDD+ and low-carbon development. CAFI was designed to help developing countries implementing policies and measures to address the drivers of deforestation in the Congo Basin in a holistic way, triggering reforms and mainstreaming REDD+ inside the national development process.

[16] http://www.fao.org/g77/joint-declarations/documents-details/en/c/898019/

The regional members are the high-forested countries of Central Africa: i.e. Cameroon, Central African Republic, the Democratic Republic of the Congo, Equatorial Guinea, Gabon and the Republic of the Congo. The donor nations are France, Germany, Korea, Netherlands, Norway, UK, and the EU, as well as Brazil as South-South partner. Donors who are part of CAFI can commit resources to the CAFI Fund or utilize, in a coordinated manner, bilateral or other channels to provide financial support.

Foreseen government institutions/bodies involved in the project:

The project will particularly aim at testing global tools and building harmonized capacities in legitimate forest governmental institutions of the following targeted countries:

Cameroon, *Ministère des Forêts et de la Faune* (MINFOF)

The MINFOF is the institution responsible for designing and enforcing policies for the management and monitoring of the Permanent Forest Estate and for the valuation of forest and fauna resources in Cameroon.

Central African Republic, *Ministère des Eaux, Forêts, Chasse et Pêche* (MEFC)

The MEFC is the institution responsible for designing and enforcing water, forestry, hunting and fishing policies in CAR.

Democratic Republic of Congo, *Ministère de l'Environnement, de la Conservation de la Nature et du Développement Durable* (MECNDD)

The MECNDD is the institution responsible for designing and enforcing policies related to environment and sustainable development in DRC.

Equatorial Guinea, *Ministerio de Agricultura, Ganadería, Bosques y Medio Ambiente* (MAGBOMA)

The MAGBOMA is the institution responsible for designing and enforcing environmental, forestry and agricultural policies in Equatorial Guinea.

Gabon, *Ministère des Eaux, des Forêts, de l'Environnement, Chargé du Plan Climat, des Objectifs de Développement Durable et du Plan d'Affectation des Terres* (MEF)

The MEF is the institution responsible for designing and enforcing water and forestry policies in Gabon, in order to ensure the sustainable management of the forest resources of the country.

Republic of Congo, *Ministère de l'Economie Forestière et du Développement Durable* (MEFDD)

The MEFDD is the institution responsible for designing and enforcing environmental, forestry, hunting, agricultural, livestock and fishing policies in the Republic of Congo.

The project will also include the participation of intergovernmental organizations, for instance the *Commission des forêts d'Afrique Centrale* (COMIFAC through OFAC) and CBFP (through its Scientific and Academic College).

OFAC

The *Observatoire des forêts d'Afrique centrale* (OFAC) is a specialized unit of the COMIFAC that provides up-to-date and relevant data on the region's forests and ecosystems, aimed at informing political decision-making and promoting better governance and sustainable management of natural resources.

Its previous experience in the use of LCML/LCCSv.3 will facilitate the integration of the different national circumstances for land cover characterization. The project will also build on the work carried out by this organization at the regional level on the definition of a land cover classification system[17].

CBFP Scientific and Academic College

The Congo Basin Forest Partnership Scientific and Academic College is composed of 16 universities and research institutes working to coordinate efforts to sustain the forest resources of the Congo Basin. Because the members of this college have close relationships with other members of the CBPF, they can provide data from relevant institutions (e.g. protected area managers), organizations (e.g. NGOs) and private sector partners (e.g. loggers).

Other foreseen international partners:

The project foresees to involve the following international partners:

- the Joint Research Centre (JRC) of the European Commission;
- the *Institut de Recherche pour le Développement* (IRD) ;
- international research institutes such as CIRAD and CIFOR through the *Réseau de Recherche sur les Forêts d'Afrique* Centrale (R2FAC);
- international partners from the civil society such as the World Resource Institute (WRI), the World Conservation Society (WCS) or the Rainforest Foundation United Kingdom (RFUK).

JRC of the European Commission

The Joint Research Centre of the European Commission (JRC) is the Commission's science and knowledge service. The JRC employs scientists to carry out research in order to provide independent scientific advice and support to EU policy. It is the main partner for the implementation of Global Forest Resources Assessment (FRA) 2020, during which it is providing support to data collection for countries of the European and tropical zones and collecting the independent reference data of the tropics for the accuracy assessment process.

IRD

The *Institut de Recherche pour le Développement* (IRD) is a French public research institution that works mainly in partnership with Mediterranean and intertropical developing countries. Its research programmes aim to provide development assistance for developing countries and are oriented towards the humanities, social sciences, health sciences and natural sciences.

R2FAC

The *Réseau de Recherche sur les Forêts d'Afrique Centrale* (R2FAC) is a network of research and educational institutions that carry out activities in the forests of Central Africa and has the capacity to associate independent researchers. It supports the preservation and sustainable use of forest by improving knowledge of forest ecosystems and of their interactions with the surrounding socio-political and economic systems.

WRI

The World Resources Institute (WRI) is a global research organization that promotes the sustainable management of natural resources at global and local scales. In particular, the WRI is involved since 2006 in DRC where it is supporting the *Ministère de l'Environnement, de la Conservation de la Nature*

[17] Typologie de l'occupation du sol et des types forestiers en Afrique Centrale, Note Technique OFAC

et du Développement Durable (MECNDD), and notably the *Direction des Inventaires et Aménagements Forestiers* (DIAF), the *Atlas Forestier* initiative and the analysis of major deforestation events on the Terra Congo platform.

WCS

The Wildlife Conservation Society (WCS) uses science to discover and understand the natural world. This knowledge helps it engage and inspire decision-makers, communities, and millions of supporters to take action to protect natural systems critical to saving wildlife and wild places. In particular, WCS aims at strengthening the scientific case for the critical role of intact forests and scale-up direct action for intact forest conservation at the national level.

RFUK

The Rainforest Foundation United Kingdom (RFUK) is a NGO fighting against deforestation globally and locally. It is currently implementing project of near-real-time forest monitoring (Cameroon and DRC), customary tenure rights mapping (Cameroon, CAR, DRC, the Republic of Congo and Gabon) and land use planning (Cameroon and DRC).

1.3.1.2. Grievance Mechanism

FAO is committed to ensuring that the project is implemented in accordance with the FAO's environmental and social obligations. In order to ensure that the project beneficiaries have access to an effective and timely mechanism to address their grievance related to the project, FAO has entrusted at the highest level its Office of the Inspector-General with the mandate to independently review grievances that cannot be resolved at the project level.

Project-related grievances should be communicated in accordance with the eligibility criteria of the Guidelines for Compliance Reviews Following Complaints Related to the Organization's Environmental and Social Standards, which apply to all FAO programmes and projects.

The principles to be followed during the grievance redress process include: legitimacy (no interference with fair conduct), accessibility, predictability (i.e. time frames), equitability (i.e. access to information, advice and expertise), rights-compatibility (i.e. with international human rights standards), and transparency. In addition, the anonymity of the person(s) presenting a grievance shall be protected.

Within the framework of this project, the FAO shall therefore facilitate the resolution and/or clarification of any concern directly linked to the implementation of the project that the beneficiary countries and the involved stakeholders may have in relation to possible violations of FAO's social and environmental commitments. In this sense, if necessary, all the stakeholders may present complaints and claims related to the project through the project team or the Representation of the FAO in each country, according to the criteria of eligibility that apply to all the FAO programmes and projects.

If a notice of receipt of the claim is not received within five days, the complaint or concern must be sent to the FAO's project Budget Holder (Email: Astrid.Agostini@fao.org). In those cases in which the claim could not be resolved through the project team or the FAO office in each country, the project beneficiaries may send a complaint to the FAO Office of the Inspector General, who shall carry out an independent investigation (Email: Investigations-hotline@fao.org). The procedure for the claims is detailed at http://www.fao.org/aud/69204/en/ and also in Annex III.

As noted, whenever possible, grievances should be submitted in writing. For every grievance received, a written confirmation of receipt will be sent within ten (10) working days; afterwards, a resolution proposal will be made within thirty (30) working days.

In compliance with the resolution, the person in charge of dealing with the grievance, may interact with the claimant, or may call for interviews and meetings, to better understand the reasons.

All grievances received, the response, and the resolution, must be duly registered.

1.3.1.3. Disclosure

This project is classified as low risk, according to the environmental and social risk classification. Therefore, disclosure does not apply.

1.3.2. Problems to be addressed and theory of change

Deforestation and forest degradation are complex and intricate processes that have many direct and underlying causes (Geist and Lambin 2001; Bustamante et al., 2016). A good understanding of forest conversion to other land uses and anthropic activities leading to forest disturbances is instrumental for the development of policies and actions aiming to reduce the loss of forests and its associated carbon emission. A better understanding of recurring patterns and correlations can therefore help countries tailor their efforts towards reducing forest loss.

In the recent years, access to a wealth of public datasets and satellite imagery resources, together with the exponential development of online tools and mobile applications to process this data have significantly changed the way land cover and land uses changes are assessed and monitored. However, these data and methods are still targeting specialist and expert end-users and need to be made available to a broader audience, in particular at various government levels.

The direct drivers of deforestation and forest degradation vary both regionally and temporally, as illustrated by Curtis et al. (2018). Different studies refer to agriculture expansion (cropland and pasture) as the largest direct cause of global deforestation (Nepstad et al., 2008; Gibbs et al., 2010; Guitierrez-Velez et al., 2011; Hosonuma et al., 2012; Kissinger et al., 2012; Sandker et al., 2017). Agriculture is estimated to be responsible for around 70-80% of the worldwide deforestation and in Africa, both commercial and subsistence agriculture account for similar importance in terms of deforestation, while fuel wood collection, charcoal production, and, to a lesser extent, livestock grazing in forests are the most important drivers of degradation in large parts of Africa (Hosonuma et al., 2012; Kissinger et al., 2012). More recently, Tyukavina et al. (2018) estimated that 84% of forest disturbance area in the region is due to small-scale, non-mechanized forest clearing for agriculture.

However, these studies (as well as existing national studies on the drivers of deforestation and forest degradation in the Central African region) only build on data acquired up to 2015. More importantly they take into account neither the recent upward trend in observed tree cover loss (Hansen et al., 2013; V6 updated for 2000-2018), nor the assessment of historical processes operating in these areas and which may have contributed to current deforestation.

As pointed out by Megevand et al. (2013), there are signs that Congo Basin forests are under increasing pressure from a variety of sources, including mineral extraction, road development, agribusiness, commercial logging and biofuels, in addition to subsistence agricultural expansion and charcoal collection. The existing studies also do not take into account the importance of the spatial fragmentation of forests in Central Africa (Shapiro et al., 2016, Molinario et al., 2015) and the role played by degradation induced by forest exploitation and timber extraction.

For instance, Molinario et al. (2017 and 2020) showed that the impact of commercial operations is dwarfed by a reliance on smallholder shifting cultivation in DRC, both in the rural complex and the intact forest. In the same time they estimated that 10% of forest loss occurred within 5km of mining, logging or plantations, illustrating the need to contextualize this process to understand the dynamics of deforestation and degradation.

These recent trends, the lack of updated studies and of historical perspective at national scales result in a lack of consensus on the main direct drivers and agents of deforestation and forest degradation in the Central African region. There is therefore a need to quantify with a systematic and comprehensive

approach the direct drivers of deforestation and degradation in the light of the historical context and recent dynamics observed in this region.

The articles exchanged between Brandt et al. (2016, 2018) and Karsenty et al. (2017) show the need to quantify with a systematic and comprehensive approach the direct drivers of deforestation and degradation, as well as their relationship with essential forest management practices (standard forestry concessions, areas of certification, protected areas, reserves) in the light of the recent dynamics observed in Central Africa. The former points out the high forest degradation inside certified forest concessions while the later opposed the lack of scientific rigor in the sampling method used.

A consensual approach should objectively tackle that issue and provide robust data to support conclusions. It should also take into account the potential long-term impact and dynamics arising from timber exploitation and as such look at the historical drivers of current trends of perturbation.

In this context, FAO proposes to develop a global, standard, large-scale methodology to assess forest dynamics, using cloud-computing solutions and open-source tools to map disturbances and quantify drivers. The methodology will be tested to assess deforestation and forest degradation trends and their associated current and historical direct drivers in six Central Africa countries. The project builds on a collaborative approach, in which national experts, global research institutes and civil society will work together and join resources and data to provide technical evidence and reach a common view on the current and historical direct drivers of forest disturbances.

The project will generate improved information for decision making to address challenges related to land use planning. It will notably support land use planning approaches in two pilot areas where the analysis indicates clear opportunity for supporting land use decision making and planning.

At the end of the project, a robust and peer-reviewed methodology to assess deforestation and forest degradation trends and direct drivers will be disseminated for global knowledge, and raw geospatial data on forest changes and their related drivers will be in open access. The quality and potential for replication and scaling-up of this methodology will consequently be demonstrated and ensured.

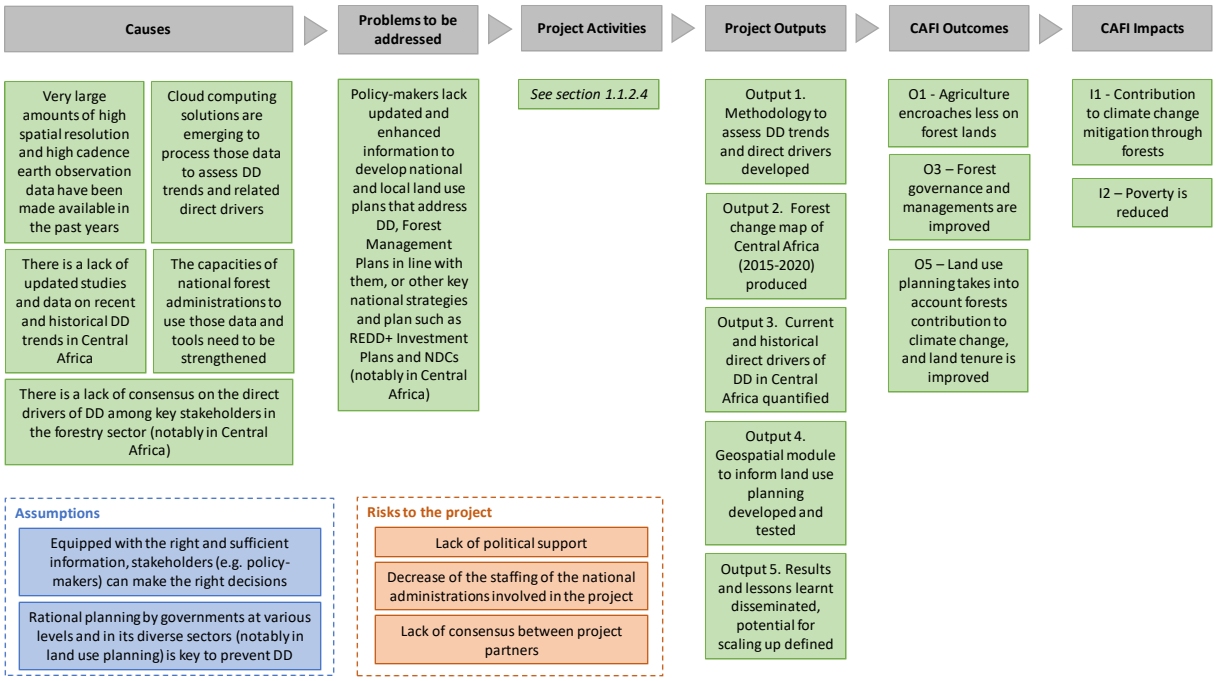


Figure 2: Theory of change

Furthermore, this project will have strengthened the technical capacities of a variety of stakeholders (technicians from national forestry administration, local academics and researchers) to assess

deforestation and forest degradation trends and direct drivers, thus ensuring the country ownership of the data generated and the potential for replicating the methodology in the targeted countries.

Consequently, policy-makers in Central Africa (and globally afterwards) will be better informed with a better understanding of the trends and drivers of deforestation and forest degradation. The quality of the local land use and forest management plans as well as others key national strategies and plans such as REDD+ Investment Programmes and NDCs will be improved. These improvements will contribute to the achievement of the CAFI outcomes (agriculture encroaches less on forest lands, forest governance and managements are improved, land use planning takes into account forests contribution to climate change, and land tenure is improved), thereby contributing to climate change mitigation through forests while reducing poverty. This theory of change is summarized in Figure 2.

A preliminary overview of the state-of-the-art shows that several studies have been conducted and scientific articles published over the past decade on the deforestation and forest degradation trends and direct drivers in Central Africa.

Table 3: Overview of drivers studies (global, regional, country level)

Scope	Authors	Date	Title
Global	Curtis et al.	2018	Classifying drivers of global forest loss
Regional	Tritsch et al.	2019	Do Forest-Management Plans and Forest Stewardship Council (FSC) Certification Reduce Deforestation in the Congo Basin?
	Tyukavina et al.	2018	Congo Basin forest loss dominated by increasing smallholder clearing
	Wasseige et al.	2015	*Forêts et changements climatiques*
	Megevand et al.	2013	Deforestation Trends in the Congo Basin
Cameroon	UNIQUE/IIASA/ Rainbow	2017	Analyse approfondie des moteurs de la déforestation et la dégradation dans cinq zones agro écologiques
CAR	-	-	-
DRC	Molinario et al.	2020	Contextualizing Landscape-Scale Forest Cover Loss in the Democratic Republic of Congo (DRC) between 2000 and 2015
	Defourny et al.	2011	Analyse quantitative des causes de la déforestation et de la dégradation des forêts en RDC
EG	MAGBMA	2018	*Estudio de las causas de la deforestación y degradación forestal en Guinea Ecuatorial* 2004-2014
Gabon	-	-	-
RoC	MEFDD	2014	*Etude de la spatialisation et de la pondération des causes de la déforestation et la dégradation forestière et analyse des options stratégiques, proposées par le R-PP de la République du Congo*

The list presented in Table 3 is indicative only and should be completed during Activity 1.1 by a comprehensive compilation of existing approaches. These studies are not harmonized, cover different themes and periods and the conclusions are not shared by all the stakeholders in countries.

Furthermore, and as illustrated in Table 4, there is a lack of coherence between the definitions of deforestation and forest degradation adopted by recipient countries or used in existing studies. This lack of coherence between the different countries forbids integrated analysis of data throughout the region and through time. This illustrates the need to support the construction of a common analysis framework as proposed in this project.

Table 4: Definition of forest adopted by the Congo Basin countries and used in some studies

			Threshold			
Scale	**Source**	**Date**	**MMU (ha)**	**Tree height (m)**	**Canopy cover (%)**	**Comment**
Global	Gibbs et al.	2010			10%	Distinguish closed forest (canopy cover >40 percent) and open forest (canopy cover 10–40 percent)
Global	Bustamante et al.	2016	0.5	5	10%	
Global	Sandker et al.	2017	0.5	5	10%	
Regional	Tyukavina et al.	2018		5	25%	
Cameroon	REDD+ NS	2018	0.5	3	10%	Exclusion of monospecific agro-industrial plantations with a purely economic vocation and using mainly agricultural management techniques. Are always considered as forest the areas formerly forested and victims of natural disturbances which led to the reduction of their cover below 10% and which are likely to recover their past status.
CAR	FRA	2020	0.5	5	10%	
DRC	FREL	2018	0.5	3	30%	A canopy cover criterion of around 50% for an area of 0.09 ha was used during the interpretation of the samples.
DRC	Molinario et al.	2020		5	60%	Primary, secondary and wetland forests
EqG	FRL	2020	0.5	5	10%	Trees with a height greater than 5 m or capable of reaching this height in situ. Does not include land subject to predominantly agricultural or urban use.
Gabon	FRA	2020	0.5	5	10%	
RoC	FREL	2017	0.5	5	30%	Exclusion of agricultural activities, in particular palm groves in production.

1.3.3. Partnerships

A key asset of this project is to bring together international and national partners with different mandates and perceptions on the deforestation and degradation processes. Indeed, research institutes that formulated the concepts of Sustainable Forest Management have a different view on forest usage by large timber company than the civil society would.

For instance, Brandt et al. (2016) point out that Sustainable Forest Management (SFM) policies may be associated with higher deforestation, because SFM is also associated with higher legal timber production, foreign capital, and international timber demand. Tritsch et al. (2019), on the other hand, suggest that forest management plans reduce deforestation by allowing concessions to rotate cycles of timber extraction, thereby avoiding the overexploitation of areas that were previously logged. The positive effects are obtained by the better regulation of access to concessions and by closing former logging roads to limit illegal activities such as slash and burn agriculture, hunting and the illegal harvest of timber or fuelwood.

In this context, it is essential that the different partners are brought together to agree on the methodology, participate in the different technical steps to generate the data and contribute with their respective data to build up the consensus on the current and historical drivers of deforestation and degradation.

To achieve this goal, FAO will set-up several partnerships to formalize the inclusion of the partners in the different steps of the project:

- set-up of a Technical Committee;
- regional consultations and technical capacity building workshops;
- global dissemination and reach-out events.

The partners will be governmental directions of the relevant ministries, the regional organizations COMIFAC and CBFP, civil society (e.g. RFUK, WRI and WCS) and research institutes and academia (e.g. R2FAC, IRD, JRC).

1.3.4. Knowledge Management and Communication

1.3.4.1. Knowledge Sharing

Communication and knowledge sharing is key to ensure that information is effectively made available globally and to all project stakeholders and participants, to create a multiplier effect for the capacity development aspects of the project, to ensure long-term project sustainability, and to increase the visibility of the project activities and results at a global scale.

Knowledge management and outreach are integral activities for the delivery of the project (particularly under Output 5) as the project's value proposition is based on building a standardized methodology with a strong potential for replication and scaling-up.

The need for updating this type of information arises in different regions and the methodology could be used to standardize the related data. For instance, FAO is engaged in a project in West Africa (with SIDA funding) and one of the activities will be to produce regional information on direct drivers. Also, FAO is collaborating with World Wildlife Fund (WWF) in the Kavango-Zambezi region to map forest disturbances, at a similar scale. Both initiatives have similar geographical extent and focus to the current project area and would benefit from a standardized and tested method. These examples also provide direct opportunities to replicate the project methodology.

The project will in particular help disseminate a consensus on deforestation and forest degradation trends and direct drivers in Central Africa and demonstrate the interest to use geospatial data in the process of designing land use policies.

A Global Knowledge Management and Outreach Action Plan will be formulated during the project inception phase. This Action Plan will notably identify key audience/stakeholders, knowledge needs and gaps, and knowledge products and activities, which will meet these needs. The Action Plan will highlight methods for dissemination, key messages and events, and identify target audiences and

partners. In addition, the Action Plan will seek to maximize participation, dialogue, and dissemination of knowledge and good practices to ensure the sustainability of project results (Activity 5.2).

1.3.4.2. Lessons Learned

As previously outlined in Section 1.2.2.3 Current country support of FAO, this project benefits from knowledge outcomes and lessons learned from FAO's multiple projects. It will build on global robust methodologies to produce new knowledge on deforestation and forest degradation trends, processes and direct drivers in targeted countries, but also on the impacts of land use plans and policies on forests.

Specifically, the project builds on the lessons learned during various projects and programmes such as the UN-REDD Global Programme, National Forest Monitoring and Assessment programme (NFMA), the FAO-Finland Forestry Programme, the Global Forest Resources Assessment (FRA) and the Global Dryland Assessment:

- forestry data should be used for the development of forest policies, forestry programmes including REDD+ programmes, sustainable forest management and development plans and conservation programmes and may be used by various institutions to develop integrated national policies;
- enhancing the accuracy and updating the forestry data available in a country leads to the improvement of the existing and future forest strategies and policies;
- very high resolution images from public sources may not always have the temporal relevance to accurately visually assess the land cover and land use features relating to the forest disturbance processes: additional information and/or field work is necessary to ascertain conclusions regarding assessment of direct drivers;
- having a regional consensus on deforestation and forest degradation trends and direct drivers is essential to ensure that REDD+ NS and Policies and Measures (PAMs) are developed and implemented in a coherent and efficient way at regional scale;
- this consensus must be shared not only between governments but also with the civil society (notably NGOs) and research institutions and academia in order to be efficient;
- in order to build a consensus among stakeholders when assessing deforestation and forest degradation trends and direct drivers, it is necessary to involve each of them during:
    - the development of the assessment's methodology;
    - the data generation and analysis;
    - the formulation and validation of the final report of the assessment.
- involving different types of stakeholders during data generation phase enhance the quality of the data produced and therefore of an assessment, and make data collection easier;
- in particular, some NGOs have access to key data to assess deforestation and degradation trends and current and historical direct drivers in Central Africa, for instance the active and the historical forest concessions;
- to guarantee the sustainability of a regional study on forests (e.g. the use of knowledge produced or its replicability), it is necessary to ensure national ownership of the project's outputs and to build capacities in each recipient country, and thus to:
    - involve each country during the inception of the assessment (harmonization of definitions, development of the mapping methodology and interpretation keys);

    - make national technicians to generate and analyse data autonomously;
    - ensure project coherence with the existing studies and programmes in each recipient country;
    - develop and implement a robust Knowledge Management and Outreach Action Plan to ensure the dissemination of the project's outputs and lessons learned.
- women's overall contributions to the forest sector (notably in forest monitoring and reporting activities) are poorly documented and global data is very limited;
- women's participation in forest monitoring activities at country level is generally low and there has been limited efforts or resources to change this situation;
- having a good understanding of both women's and men's roles in the forest and land sector at all levels is necessary because it can influence how data is collected, compiled, and analysed. For example, without a good understanding of gender dynamics at the local level, forest data collectors could overlook the important role that women play in collecting non-timber forest products.

These lessons have be taken into account during the development of the project, notably during the design of the project's activities (Section 1.1.2.4 Activities) and of the Section 3.4.3 Gender mainstreaming approach of the project.

1.3.4.3. Communication

As mentioned above, a Global Knowledge Management and Outreach Action Plan will be developed during the inception phase of the project. This strategy will ensure the visibility of project activities and results at national, regional and global scale and will describe how specific visibility arrangements requested by project partners will be addressed.

The budget will cover costs for a KM and Outreach Consultant, who will coordinate the implementation of all knowledge management and outreach activities at global level, all in collaboration with communications and outreach points from FAO Subregional Office for Central Africa (SRO), FAO Country Offices (CO) in the region and CAFI's communications coordinator.

Therefore, KM and Outreach activities will be implemented side by side with FAO's and other partners' regional and national communications and outreach points.

2. PROGRAMME STRATEGY - FEASIBILITY

2.1. Implementation Arrangements

This global project will be carried out under the overall supervision of FAO, implemented by each government forestry institutions, in collaboration with international technical partners, civil society and research and academia partners. The correct implementation of the work plan and budget will be ensured through the following arrangements.

2.1.1. Institutional Framework and Coordination

International, regional and national research institutes and academia (e.g. JRC, IRD, R2FAC) will provide technical inputs to the elaboration of the mapping methodology and the customization of Standard Operating Procedures for visual interpretation of land cover and land use information at sample locations.

International, regional and national Non-governmental Organizations (e.g. RFUK, WRI and WCS) will participate in the setup of the project, the adoption of the methodology and provide critical data to contextualize the current and historical direct drivers of deforestation and degradation in the region, both spatially and temporally.

For the testing component: the project foresees to engage in each recipient country the institution in charge of assessing and reporting on the forest resources at national level in training on advanced remote sensing and mapping tools. The selected institutions will be subsequently responsible for the production of geospatial data of forest and forest change. The work will be supervised by one national consultant working with each institution. The targeted institutions are listed in Section 1.3.1.1 Stakeholder Engagement .

The project foresees also to include the participation of the two intergovernmental organizations COMIFAC (through OFAC) and CBFP. These overarching organizations will ensure the visibility of the project results at the regional and international level and facilitate the data sharing process as well as the buy-in of the approach by all parties.

This project articulates with existing in-country efforts to setup robust and transparent National Forest Monitoring System, in particular a CAFI led project in DRC and in Equatorial Guinea, as well as the UNREDD Technical Assistance to the Republic of Congo.

The methodology proposed in this project is currently being tested at subnational scales and for limited time-periods in the above-mentioned countries: the project will build on the experience acquired nationally to operationalize the data processing chains.

A Steering Committee will be set up during the project inception. Its arrangements will be developed during the inception phase and it will ensure:

- the close coordination of the project between the CAFI Executive Board (EB), recipient countries and FAO;
- the regular monitoring and evaluation of the achievement of project objectives;
- the definition of clear guidelines and binding recommendations for the implementation of project activities.

Its specific roles will include:

- approving annual work plans and budgets;
- reviewing and adopting biannual progress reports;
- analysing institutional and operational implementation arrangements, and revising them if necessary;

- designing solutions to potential problems in the implementation.

The proposed structure of the Steering Committee is detailed in Annex XIII.

A Technical Committee will also be set up during the project inception phase. The links between the Steering Committee and the Technical Committee are illustrated in Figure 3.

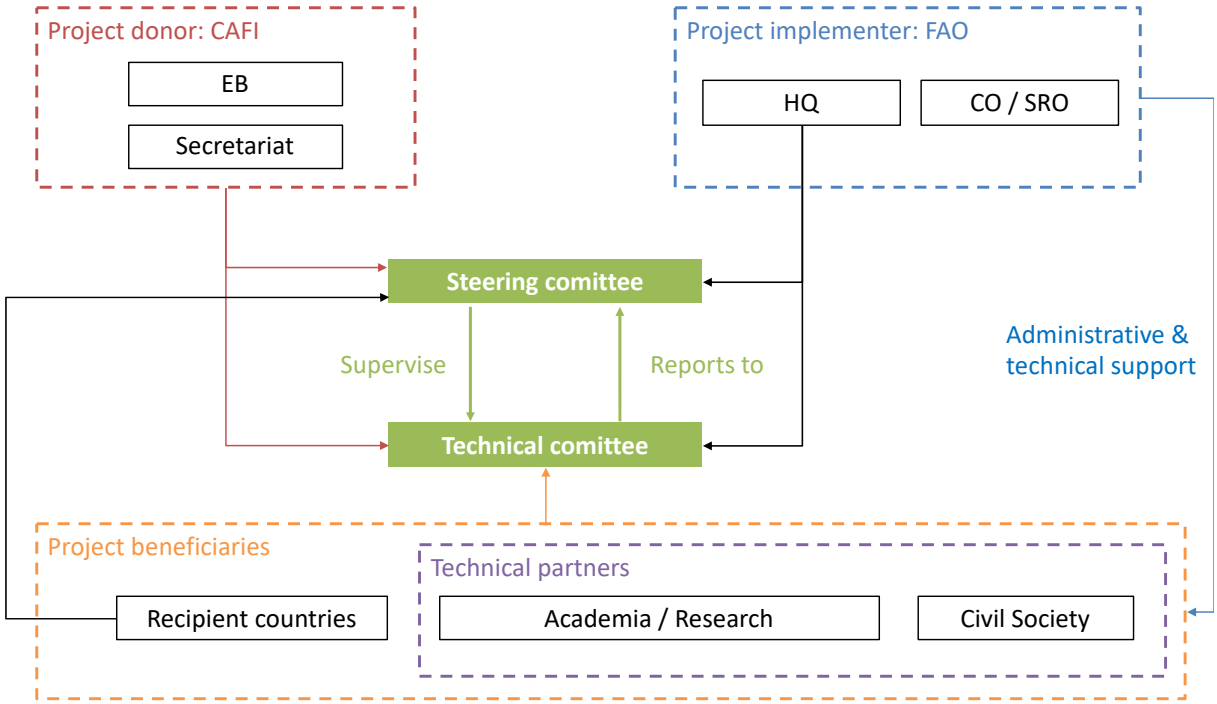


Figure 3: Coordination mechanism of the project

2.1.2. Government Inputs

This project is global in scope, with a strong component on testing the global methodology in selected countries.

For the testing component:

- FAO will hire one national consultant per country, who will work under the supervision of the FAO representative in each country and in collaboration with the technical staff in the office. These consultants will benefit from training at the regional level and further disseminate the knowledge acquired to train the national staff;
- following consultation with the different national forestry institutions in each country (Annex III), the contributions from government side will include (but will not be limited to): in-kind provision of space for consultants to work with the relevant directions; coordination of the technical units in charge of generating raw data; clearance for data validation and ownership at national level;
- a large part of the project output will be generated through cloud-computing and online resources. As such, it will be fundamental to ensure a stable connection to internet in each of the targeted directions. The government structures will also be considered depending on their ability to provide this stable access to internet;
- in particular, the forestry institutions will be hosting coordination meetings and technical sessions with the financial support of the project. The project proposal can only be finalized and endorsed under the requirements that the associated governments agree to these contributions. In return, each direction in the targeted countries will benefit from the project

through intense and continued capacity building on remote sensing and GIS, sampling approaches, land cover and land use.

2.1.3. Resource Partner Inputs

The Resource Partner is expected to contribute to the project for a total of 1.2 million USD to be managed by FAO, according to the Organization's financial management regulations, to carry out the activities set out in this Project Document. The expenses will be reported to the MPTF Office using standard UNDG (United Nations Sustainable Development Group) Harmonized cost categories.

In particular, the financial input from the Resource Partner will be used to: contribute to the personnel costs of a project Chief Technical Advisor, a Lead Technical Officer (LTO), international consultants for bibliographic review and development of a GEO4LUP module, national consultants in each of the 6 countries for GIS and Remote Sensing, and appropriate contribution to administrative and operational functions; travel expenses for participation to workshops, as well as provisions for coordination and oversight; regional, global, and national events for consultations on methodological approach, cloud-based computing for forest change, geospatial data analysis, and dissemination; purchase of high resolution- high cadence satellite imagery for validation; collaboration with international technical partners (by means of letters of agreement); appropriate provision for operating expenses for field work and normal office operations; indirect project support cost of 7 percent.

In addition to the financial input from the Resource Partner, the Norwegian International Climate and Forest Initiative (NICFI) is also directly contributing to the project by providing high cadence and high resolution imagery from Planet (3m daily, going back to 2015) for the whole Democratic Republic of Congo. The Planet data will be integrated to generate cloud-free monthly mosaics and will be used as a validation dataset during the assessment of the accuracy of the geospatial regional product and the quantification of direct drivers of deforestation and forest degradation. This contribution is valued at USD 350 000.

The proposed fiduciary and implementation arrangements are in accordance with decision EB.2017.16 adopted by the CAFI EB and the project is classified as Low Risk (Section 2.5.1 Potential risks to the project and Annex VI).

2.1.4. Methodology

The goals of the project are two-fold:

- Global: Develop and test a standardized methodology to assess the trends of deforestation and forest degradation and quantify direct drivers using cloud-computing solutions and free and open-sources tools; and
- Regional and National: Update data and reach consensus across stakeholders on forest change and direct drivers at the regional level; upgrade and harmonize the capacities in the region to regularly produce such datasets.

In order to meet these goals the project relies heavily on the use of free and open-source solutions for remote sensing data analysis, to ensure sustainability of the tools and approaches. This methodological approach is compliant with FAO's policy on geospatial data processing and management.

The set of methods foreseen in this project are currently tested by FAO at global level (mainly through the Norway funded SEPAL platform) and in particular in Africa in several projects through the World Bank funded projects (Ghana, Uganda), UNREDD programme (Republic of Congo) and CAFI projects (DRC, Equatorial Guinea). The project will build on and consolidate those data sets, when and where relevant. Similar initiatives are implemented by other technical actors in the region

(e.g. the Silvacarbon workshops of the Global Forest Observation Initiative). The proposed activities will be scheduled to complement those initiatives and where possible build on the datasets produced.

A large share of the activities scheduled in this project consist in facilitating the application of global tools and knowledge in specific country contexts.

The project foresees a number of capacity building events and working sessions to train attendees to cloud-computing processes, customization and implementation of Standard Operating Procedures (SOP) for image interpretation and data analysis.

These international, regional and national workshops will also build on the data and experience gained by FAO through recent data collection exercises such as the Global FRA RSS 2020 workshops and Collect Earth sessions for the Global Dryland Assessment.

The project will actually intensify the existing sample in the relevant areas (most likely deforestation and degradation areas) to ensure the statistically representation of all layers, and will reuse the data collected during these assessments and Mapathons.

The methodology will rely on freely available, open-source solutions and data, as well as public base layers and could be adapted and reproduced in different contexts for a potential scaling-up.

2.1.5. Technical Oversight and Support Arrangements

The Lead Technical Officer for the project will be located in the FAO Forestry Department (REDD+/NFM (National Forest Monitoring) cluster) and will provide the overall oversight and supervision of the project as well as technical support to the capacity building activities (training in SEPAL and Collect Earth Online) and regional consultations on data analysis and dissemination.

A Technical Committee (TC) will be established during the project inception phase to ensure buy-in of relevant stakeholders in the region. It should ideally be composed of:

- 2 members of the CAFI EB;
- 2 members of the CAFI Secretariat;
- 2 members of the FAO Project Task Force (PTF) (HQ and/or Subregional Office for Central Africa);
- 1 representative of the six forest direction of the CAFI Partners Countries involved in the project;
- 1 representative of each technical partner;
- 1 gender specialist who will ensure that gender is taken into consideration in the design of the project's methodology and in the choice of the project's pilot areas (Section 3.4.3 Gender mainstreaming approach of the project).

The proposed structure of the committee is detailed in Annex XIII.

The Technical Committee will work collaboratively through a virtual workspace to exchange on technical matters, existing studies and related initiatives, keep track of all the messages related the project, share documents and tools, announce for events. The TC will meet regularly (Annex IV) in order to:

- facilitate technical and consensus building about the project's scope, methodology and period of interest (Activity 1.2);
- validate the choice of the two pilot areas where the Geo4LUP module will be implemented (Activity 4.1);

- ensure the availability of the necessary data and layers of interest to produce a spatially explicit overview of the deforestation and degradation trends and current and historical direct drivers in specific locations;
- validate the results of the different studies and workshops of the project;
- give recommendations to each country on potential further uses of the data generated after the end of the project;
- produce biannual progress reports and annual work plans and budgets.

The TC meetings will be co-chaired by the CAFI EB, the CAFI Secretariat and the FAO. Its decisions (in particular the arbitration of methodological questions) will be published in the meeting reports and will be enforceable for all the actors involved in the project.

The FAO Country Offices (CO) will provide the supervision and technical support for the data collection activities occurring at national level.

2.1.6. Knowledge Management and Operational Support Arrangements

The project Budget Holder will be in FAO headquarters (in the Forestry Department). The Budget Holder is the FAO project manager and is responsible for the achievement of the deliverables of the project, as well as for the monitoring of financial transactions as per FAO financial rules and regulations.

2.2. Operational Modalities

The specific operational modality of the project will be Direct Implementation by FAO using relevant manual sections of FAO for staff recruitment services from non-profit organizations (MS 507).

2.3. Statistics

This project will involve processing of satellite imagery through in-house developed tools under the OPENFORIS initiative (www.openforis.org) and generation of statistics at regional level on forest area, deforestation and forest degradation as well as associated direct drivers.

The project will involve two regional workshops on geospatial data processing and data analysis, as well as six national capacity-building sessions to implement the tools and methods.

2.4. Information Technology

The geospatial data generated during this project will follow FAO's policy on off-the-shelf free and open-source solutions for processing and analysis of geospatial data and also the FAO's Open Data Licensing for Statistical Databases Policy (2020). The data will be published under a Creative Commons Attribution-Non Commercial-Share Alike 3.0 IGO license.

The Geo4LUP module will be developed by an international consultant hired within the existing National Forest Monitoring team of FOA, in particular the group in charge of developing and maintaining SEPAL.

The national level data produced in this project will be owned by the countries and hosted within each forestry division of the relevant ministries. The regional estimates of deforestation and forest degradation as well as the associated direct drivers will be made public and hosted by regional entities such as the OFAC and/or CBFP, upon decision of the Technical Committee.

2.5. Risk Management

2.5.1. Potential risks to the project

With risk being the product of likelihood by severity, the potential risks to the project are estimated to be low. Presidential elections are planned in Central African Republic and Republic of Congo during the implementation of the project (in 2020 and in 2021) and could lead to a government turnover but the activities are focused on very technical divisions of the government bodies that are usually stable and independent of the political agenda.

The national project consultants will mitigate the risk of loss of national technical capacities in each recipient country by regularly training the national technicians, including through regular virtual events.

All procedural steps of the processes will be documented with Standard Operating Procedures and specific implementation guides, developed as part of the Terms of Reference of the National consultants.

2.5.2. Environmental and social risks from the project

The environmental and social risks from the project have been certified as low by the LTO of the project.

This classification was identified from the nature of the project itself (mainly development of a global methodology, capacity building for centralized divisions of relevant ministries and no implementation of land cover or land use change in the field)

A specific assessment will be carried out to frame the interventions associated to the socio-economic surveys to be conducted in the pilot areas.

2.6. Accountability, Monitoring and Performance Assessment

2.6.1. Accountability framework

The project is global in scope and includes a multicountry work plan. The implementation of the project will be coordinated mostly from FAO HQ, but due attention will be paid to interaction with UN Country Teams (through the network of FAO decentralized offices) during the implementation of the in-country activities. FAO is committed to the achievement of the 2030 agenda and actively participates in all discussions at global, regional and country levels in relation to the UN Reform.

2.6.2. Monitoring Arrangements

Information towards indicator targets as specified in the Programme Result Matrix (PRM) in Annex I as well as financial monitoring data will be collected and assessed by the Budget Holder's Team in the FAO Forestry Department. The project will benefit from the use of the monitoring tools available in the FAO Field Programme Management System (FPMIS), including the online budgeting tool.

Progress towards the identified indicators will be assessed using both quantitative and qualitative means identified by the project team and included in project reporting.

2.6.3. Performance Assessment

Day-to-day project monitoring will be carried out by the national consultants and the Project Task Force. Project performance will be monitored using the project results matrix, including indicators (baseline and targets) and annual work plans and budgets. During the inception phase the results

matrix will be reviewed to finalize the identification of: i) outputs ii) indicators; and iii) missing baseline information and targets.

A detailed M&E plan, which builds on the results matrix and defines specific requirements for each indicator (data collection methods, frequency, responsibilities for data collection and analysis, etc.) will also be developed during the project inception.

2.6.4. Reporting

FAO will provide CAFI with the financial and narrative progress reports as specified in the Memorandum of Understanding between CAFI and the Multi Partner Trust Fund (CAFI 2015, Section V, reporting). The project will use the standard templates for MPTFs available: http://mptf.undp.org/document/reporting.

In addition, several reports will be provided in this project, specifically at the end of the following activities.

Table 5: Reports to be provided

Activity	Reports	Number	Action owner
A1.1	Methodological review	1	Int. Consultant
A1.2	Technical specifications of the project	1	FAO HQ
A2.1	Regional training report on mapping	1	FAO HQ
A2.2	Reports on forest cover change mapping	6 (1 per country)	National consultants
A3.1	Reports on direct drivers interpretation	6 (1 per country)	National consultants
A3.2	Regional training report on spatial and temporal analysis of current and historical direct drivers	1	FAO HQ
A3.3	Report on the overall assessment of the current and historical direct drivers of deforestation and degradation	1	FAO HQ
A4.1	Decision report on the location of the two pilot areas	1	Technical Committee
A4.2	Report on socio-economic surveys related to deforestation and degradation	2	LoA executers
A4.3	Technical guide on the use of the Geo4LUP module	1	International consultant
A4.4	Technical report on the results of the module in the pilot areas	1	Technical Committee

A5.1	Dissemination report on the regional consultation	1	FAO HQ
A.5.2	Knowledge and Management Action Plan	1	FAO HQ

Furthermore, the Technical Committee will produce three biannual result-based progress reports that will describe if the activities contributed to the achievement of immediate (short-term) results during the period considered, and if these immediate results collectively contributed to the achievement of the project's outcome and outputs.

These reports will be submitted for approval to the Steering Committee and will be composed of:

- The presentation of the most important achievements of the project during the period considered. The reports will notably:
    - summarize the progress towards the project's outcome and outputs; indicate whether the objectives have been achieved, or explain any variance in the results obtained compared to the forecasts during the period considered;
    - describe any implementation delays, challenges, lessons learned and good practices: In case there have been delays, explain the nature of the constraints and challenges, the measures taken to mitigate the future delays and the lessons learned during the process;
    - using the PRM in the project document, present the quantitative data on the achievement of the indicators. When it has not been possible to collect data on the indicators, explain the reasons for this and provide detailed explanations of how this data will be collected and when it will be collected.
- The financial and management elements:
    - mention and description of budget revisions and their approval by the Steering Committee;
    - statement of commitments and expenses by output as approved in the project budget;
    - statement of reallocation needs if necessary. These reallocations must be validated by the Steering Committee;
    - all the documents making possible the assessment of the problems and solutions linked to the financial implementation and management of the programme.
- The elements allowing to follow the technical aspects of the project, notably:
    - the reports of the Technical Committee meetings;
    - the project reports as and when they are produced;
    - the Knowledge Management and Outreach Action plan products (Activity 5.2);
    - the agreed indicators completed (Annex I).
- Any additional relevant information, including any photographs, videos, evaluation reports and studies conducted / published.

2.7. Evaluation Provisions

A mid-term review of the project will be organized at the end of Year 1, ideally scheduled upon completion of activities related to Output 1, Output 2 and Output 3. In compliance with FAO policy on evaluation and in consideration of its budget size, no separate evaluation of the project is anticipated.

However, the project will contribute to the FAO Office of Evaluation (OED) managed Evaluation Trust Fund and will potentially be evaluated through a cluster approach, along with other projects that share one or more of the following characteristics: theme and/or approach, geographical area of intervention, resource partner.

If during project implementation the parties deem a separate evaluation necessary, this will be organized under OED's responsibility and fully funded through the project budget. The project is contributing to the FAO Evaluation Trust Fund for a total of 10,000 USD.

3. INTERSECTORAL APPROACH & SUSTAINABILITY

3.1. Capacity Development

The core activities of the project are to develop a global standardized methodology to map forest disturbances and assess associated direct drivers, to upgrade the technical capacities of a variety of stakeholders (technicians from national forestry administration, local academics and researchers), to generate data on forest changes and to identify and quantify the direct drivers of deforestation and degradation. At the end of the project, the recipient countries shall possess autonomous capacity to conduct forest change assessments and to analyse data on forest changes.

The sustainability of this capacity development in ensured by:

- the choice of global tools such as SEPAL and Collect Earth Online as the software platforms;
- the focus on developing a global methodology before the country testing;
- the involvement of all the stakeholders, notably national forestry administrations, in the Technical Committee in:
    - defining the methodology, scope and key concepts of the project (Activity 1.2 and Activity 4.1);
    - generating, collecting and analysing the data (Activity 2.1, Activity 2.2, Activity 3.1, Activity 3.2 and Activity 4.2);
    - validating the final report on forest changes and current and historical direct drivers of deforestation and degradation (Activity 3.3);
    - providing recommendations to each country on further uses of the data generated after the end of the project (Activity 4.4);
- the intensity of the activities related to capacity building on different technical aspects and in terms of materials (Activity 2.1 and Activity 3.1), thus allowing the national stakeholders to receive all the knowledge necessary to continue the follow-up activities beyond the implementation of the project;
- the strong commitments and wills of the government of the recipient countries to implement the activities presented in this project, which are supported by:
    - the support to and collaboration with CAFI;
    - the alignment of the project with national priorities in each recipient countries (Section 1.1 Alignment and Strategic Fit);
    - the coherence of the project with the existing studies and programmes in recipient country (Section 2.1.4 Methodology).
- a robust global Knowledge Management and Outreach action plan, which will be developed during the inception of the project and will ensure the dissemination of the project's outputs and lessons learned (Section 1.3.4 Knowledge Management and Communication);
- the involvement of universities and academia and other international actors in the project, which supports the replication, upscaling and development of the methodology and/or trainings of the project upon its completion.

3.2. Decent Rural Employment

Not applicable for this specific project.

3.3. Environmental Sustainability

The project will improve the management and governance of Central African forests, which represents the second largest tropical rainforest of the world, by enhancing the technical capacities in each recipient countries to assess deforestation and forest degradation trends and direct drivers and by building a regional consensus on these topics.

It will therefore support the improvement and harmonization of existing national strategies and plans addressing deforestation and degradation in the region and will consequently contribute to reduce the greenhouse gases (GHG) emissions of the land use and forestry sector, which is the main contributor to GHG emissions in the region. It will thus contribute to attenuate the effects of climate change.

As such, the project is considered environmentally sustainable.

3.4. Gender Equality

3.4.1. Gender policy of FAO

FAO is strongly committed to gender equality and aims to mainstream gender into all facets of its work. Gender equality is not only an essential means by which FAO can achieve its mandate, it is also a basic human right. In pursuing its goals, FAO is mandated by the United Nations system to promote and protect human rights and gender equality and to work in ways that ensure that it contributes to their realization. **FAO contributes to reducing gender inequalities through its work on norms and standards, data and information, policy dialogue, capacity development, knowledge and technologies, partnerships, and advocacy and communication**. FAO's Policy on Gender Equality lays out the guiding principles for achieving gender equality in all the work of the organization. The policy ensures that gender mainstreaming is standard practice in all FAO's normative work and all its regional, subregional and country-level programmes and projects. More specifically, it is required that all of FAO's information sharing and knowledge management activities, work on developing normative public goods, policies, regional, subregional and country programmes and projects, and technical interventions adopt a gender mainstreaming approach by incorporating gender analysis, using sex-disaggregated data and paying attention to gender-differentiated impacts. These efforts will contribute to increasing the coverage, effectiveness, efficiency and – ultimately – the impact of FAO interventions for women and men, while at the same time contributing to achievement of the broader UN goals of human rights and social justice.

FAO also aligns its work with the UN System-wide Action Plan on Gender Equality and the Empowerment of Women (UN-SWAP [GEEW]). In its second generation, UN-SWAP aligns with the 2030 Agenda for Sustainable Development with a focus on results and monitoring of gender-related SDGs. FAO also welcomes the establishment of the Gender Action Plan under the Lima Work Programme on gender in the UNFCCC and is supporting the implementation of its activities. In addition, FAO has sector-specific guidance and strategies such as the FAO's Strategy on Climate Change published in 2017. This strategy considers gender-specific vulnerabilities, needs and capabilities with regard to climate change and integrates gender equality in its guidance. FAO's engagements in this strategy include:

- mainstream gender equality, equity and social inclusiveness into climate-related planning processes;
- support countries to integrate a gender perspective in the implementation of their NDCs;
- integrate gender-sensitive capacity development approaches.

Also of relevance, FAO has published guidance for gender work in the forestry sector in How to mainstream gender in forestry: A practical field guide. Among its recommendations, this document promotes forestry information systems that include sex-disaggregated data and ensure that

data are widely disseminated among stakeholders to acknowledge and promote women's contribution to sustainable forest management. The development of gender-sensitive monitoring and evaluation systems (e.g. incorporating gender-sensitive indicators into the logical frameworks of projects) is also recommended.

Finally, FAO has recently published an Evaluation of FAO's work on gender. This evaluation provides some relevant recommendations as well as a mandate for further training of FAO Technical Officers and the use of Performance Evaluation and Management System (PEMS) to ensure managers are accountable to gender-related results.

3.4.2. Gender-sensitive stakeholder analysis

As described in Section 1.3.4.2 Lessons Learned, the project builds on the lessons learned during various projects and programmes, which allows him to be gender-responsive, even if no specific gender-sensitive stakeholder analysis has been carried out.

3.4.3. Gender mainstreaming approach of the project

The project will contribute to ensure that gender equality is respected with men and women's specific needs are met, that they enjoy equal access to project activities from the preparation to implementation and evaluation stages, and that all potential benefits are equitably enjoyed across project activities. Gender equality will be adhered to in project activities with the equal participation of women and men project activities to the extent possible.

The project will first take a number of actions to improve the gender responsiveness of project management. In order to ensure that the project managers are cognizant of the importance of reinforcing gender responsiveness in day-to-day project management, gender-related results will be integrated in the PEMS and Terms of Reference (ToRs) of project staff and consultants in order to strengthen accountability to gender objectives. Furthermore, an adaptive management approach will be adopted to allow for regular review and adjustment of strategies and activities to address gender-related issues as they arise. The project team will also take advantage of FAO's existing resources on gender. Extra attention will be paid to tracking the achievement of gender-related objectives and activities through focused and regular reviews on the project's progress in this area.

The Technical Committee will moreover include a Gender specialist, who will ensure that gender is taken into consideration in the design of the project's methodology (Activity 1.2) and in the choice of the project's pilot areas (Activity 4.1).

This gender specialist will be involved to ensure that gender dynamics are taken into account during the final analysis of the direct drivers of deforestation and forest degradation in the recipient countries (Activity 3.2) and during the formulation of the final report on forest change and direct drivers of deforestation and degradation (Activity 3.3).

Efforts will also be made to ensure that both men and women stakeholders are informed on the project's grievance mechanism.

In relation to capacity development, the project will adopt strategies to improve women's participation in the national working sessions and workshops (Activity 2.2 and Activity 3.1), with attention paid not only to the number of women attending, but also to the quality of their participation.

A checklist for gender responsive workshops (Annex XI) will be used for achieving more gender balance. The project will highlight the UN Economic and Social Council target of achieving at least 30% female participation to the national workshops, and encourage governments to make steps in this direction when selecting their pools of participants. The project team will also integrate gender in the

training material for the workshops, highlighting the valuable role of men and women in forest-related data collection, analysis and dissemination.

The project will therefore contribute to build women's capacities in each recipient countries to generate wall-to-wall geospatial data on forest changes and to conduct an accuracy assessment of the data generated and to quantify direct drivers of deforestation and degradation through the generation of stratified random samplings and visual interpretation. It will thus support women to be more active in the forestry sector in general, and eventually take on leadership roles.

The project will furthermore produce gender-disaggregated data on forest change in Central Africa by analysing gender dynamics related to direct drivers of deforestation and degradation when possible.

The project will also take gender into account during the socio-economic field surveys in the two pilot areas (Activity 4.1 and Activity 4.2) in order to ensure that both women's and men's knowledge and roles are fully understood.

The data that will be collected will be gender-disaggregated when possible and gender will be included in any forestry data collection protocols, modules and Standard Operating Procedures (SOPs) generated or used. As for the national workshops, the project will highlight the UN Economic and Social Council target, and will require to its partners that at least 30% of women will be included in the team in charge of the field surveys. If relevant, the project will include women as facilitators in information collection and organize women-only focus group discussions.

The knowledge management component of the project will finally serve to raise awareness on the role of women in forestry sector (e.g. in forest monitoring and field surveys). At least 30% of the Knowledge Management and Outreach Action Plan's best practice case studies will display the role of women. The perspectives of women and their achievements will be highlighted in project communication materials and on social media (e.g. videos, articles, press releases). A gender-balanced participation will be ensured during the regional multistakeholders consultation (Activity 5.1) and South-South exchanges and presentations of the project's outputs in global and regional events and/or fora (Activity 5.2).

3.4.4. Gender in the project's evaluation

The project adopts a clear and consistent methodology for tracking gender within the project activities. Some specific indicators have been built into the logical framework (Annex I) of the project in order to measure the project's gender responsiveness.

3.5. Indigenous Peoples (IP)

According to the International Labour Organization's Convention 169 (ILO 169, 1989), the UN Declaration of the Rights of Indigenous Peoples (UNDRIP, 2007), the FAO's Policy on Indigenous and Tribal Peoples (2010) and the UN System-Wide Action Plan on Indigenous Peoples (UNSWAP, 2017), Indigenous Peoples share the following characteristics:

- they self-identify as indigenous and in some cases are recognized by other groups, or by State authorities, as having a distinct collective identity;
- they have ancient historical ties with respect to living in and using a specific territory;
- their cultural distinctiveness is voluntary and handed down through generations. This may include aspects of language, social organization, religion and spiritual values, modes of production, laws and institutions;
- they have experienced or are experiencing subjugation, marginalization, dispossession, exclusion or discrimination.

At the moment and based on current knowledge, it is not foreseen that the project could have an impact on Indigenous Peoples (IP). The project is therefore not foreseeing to conduct an FPIC[18] process.

More information will be collected during project inception, especially during the field surveys in the two pilots areas (Activity 4.2), during which local populations could be asked some questions in order to collect information, for instance on their type of revenues or their dependency on Non-Timber Forest Products.

As mentioned, the project is not foreseen to have any impact on IPs, in view of its specific nature that focus primarily on satellite data and remote sensing technology. In case different information becomes available, this will be reconsidered.

[18] FAO recognizes and respects the right to Free, Prior and Informed Consent (FPIC) in any project or programme intervention that might affect indigenous peoples or their territories. This right allows the IP to give or withhold consent to the project. Once they have given their consent, they can withdraw it at any stage. Furthermore, FPIC enables them to negotiate the conditions under which the project will be designed, implemented, monitored and evaluated.

FAO required FPIC prior the approval and/or commencement of any project that may affect the lands, territories and resources that Indigenous Peoples customarily own, occupy or otherwise use in view of their collective rights to self-determination and to their lands, territories, natural resources and related properties.

Annex I Programme's Results Matrix

OUTCOME: Standardized methodology agreed, tested and applied to assess the trends of deforestation and forest degradation and quantify current and historical direct drivers using cloud-computing solutions and free and open-source tools for forest monitoring					
Indicators	**Data source**	**Means of verification**	**Responsable Organization**	**Indicative budget for monitoring activities (and details about activity category: staff, contractual services, travel, etc.)**	
Outcome indicators: - Methodology agreed on to produce information on direct drivers - Systematized information available to facilitate strategic planning and decision making of institutions	Methodology section of the article	Publication in a peer-reviewed journal Supplementary material with publication in the peer-reviewed journal	FAO	Staff & Other Personnel Costs	8,935
	The benchmark map of the forest cover in 2015 at regional scale				
	The tree cover disturbance map (Deforestation and Degradation) for the period 2015-2020				
	The validation dataset to assess the accuracy of the disturbances including the information on drivers				
	The forest fragmentation maps				
	Technical reports				
	Geospatial module in SEPAL				

Output 1: **Methodology to assess deforestation and forest degradation trends and direct drivers developed, with broad consensus among international, regional and national partners**					
Indicator 1.1: A review of the existing knowledge, national definitions and approaches on deforestation and forest degradation trends and current and historical direct and underlying drivers in Central Africa is published	Review of the existing knowledge, national definitions and approaches	Project documents	FAO	Staff & Other Personnel Costs	2,475
Indicator 1.2: The scope, objective and methodology, and the contributions of each stakeholder are validated by the Technical Committee	Written approvals of the methodology to be implemented (included in the validation report)	Validation report	FAO	Staff & Other Personnel Costs	8,935
Output 2: Forest change map of Central Africa (2015-2020) produced and shared, providing harmonized and updated regional information on forests and forest changes					
Indicator 2.1: Number of dense time series analysis conducted by national administrations and institutions to monitor forest changes between 2015 and 2020 at national scale	Results of the regional training workshop for each country (methodology implemented, data generated, analyses performed, results produced)	Trainings reports	FAO	Staff & Other Personnel Costs	2,475
Indicator 2.2: Percentage of women actively participating in each national working sessions on forest disturbance mapping	List of workshop participants			Staff & Other Personnel Costs	2,475
Indicator 2.3: A forest change map (2015-2020) at national scale is produced by each recipient country	Forest change maps (2015-2020) at national scale	Reports on forest cover change mapping	FAO	Staff & Other Personnel Costs	2,475

Output 3: Current and historical direct drivers of deforestation and forest degradation in Central Africa identified, quantified, discussed and agreed on with the different partners					
Indicator 3.1: Number of sets of Standards Operating Procedures (SOP) ensuring the quality of the drivers assessments developed by national administrations and institutions	SOPs	Trainings reports	FAO	Staff & Other Personnel Costs	2,475
Indicator 3.2: Percentage of women actively participating in each national workshop on drivers assessment	List of workshop participants			Staff & Other Personnel Costs	2,475
Indicator 3.3: A report on forest changes and current and historical direct drivers of deforestation and degradation is published and validated by each member of the Technical Committee	Written approvals of the final report (included in this report)	Report on the overall assessment	FAO	Staff & Other Personnel Costs	8,935
Output 4: Geospatial module to inform land use planning developed in SEPAL and tested in two pilot areas					
Indicator 4.1: Number of socio-economic field surveys conducted in the pilot areas to collect additional information to that provided by technical partners	Annexes of the validation report	Reports of the field surveys	FAO	Staff & Other Personnel Costs	2,475
Indicator 4.2: Percentage of women actively participating in each team in charge of a field survey	List of members of each team in charge of a field survey (annexes of the validation report)	Reports of the field surveys	FAO	Staff & Other Personnel Costs	1,238
Indicator 4.3: A module in SEPAL (Geo4LUP) generating geospatial information to support land use planning is developed and tested in the pilot areas	Algorithm and results of the activity included in the validation report	Validation report	FAO	Staff & Other Personnel Costs	8,935
Indicator 4.4: Number of assessments of the impacts of past land use policies and plans using Geo4LUP conducted	Methodology and results sections in the validation report	Validation report	FAO	Staff & Other Personnel Costs	8,935

Output 5: Project results and lessons learnt disseminated for global knowledge, and potential for scaling-up at global level defined					
Indicator 5.1: Number of regional consultations where the multistakeholder audience will receive additional information on the use of spatial data in the process of designing land use planning	Reports of the consultations with specific attention to highlighting achievements of women during the project	FAO's and CAFI's web-site	FAO	Staff & Other Personnel Costs	2,475
Indicator 5.2: Number of presentations of the project's outputs in fora and in Global and South-South exchanges	Reports of the events with specific attention to highlighting achievements of women during the project	FAO's and CAFI's web-site	FAO	Staff & Other Personnel Costs	2,475
Indicator 5.3: Number of knowledge materials presenting the projects findings, results and best practices published	Knowledge materials published online	CAFI's, the targeted countries governments' and FAO's web-sites and social media	FAO	Staff & Other Personnel Costs	3,850
Indicator 5.4: Percentage of best practice case studies focusing on achievements of women published	Knowledge materials published online	CAFI's, the targeted countries Governments' and FAO's web-sites and social media	FAO	Staff & Other Personnel Costs	3,850
				Total	**75,886**

Annex II Indicators, baseline, targets and Assumptions by result

Results Chain	Indicators	Baseline	Target	MOV[19]	Assumptions
Impact **Forest management and governance is improved thanks to the application of global knowledge to mitigate climate change, with a focus on reducing poverty and contributing to sustainable development.**	• Alignment of the information related to forest management and land use planning included in country governance documents	• Land use planning is often disconnected from Forest Management Plans	• Forest Management plans are in-line with Land Use Plans	• FMP and LUP • BURs	• Strong countries ownerships of the project outputs and lessons learned • Political will and funding available to implement Policies and Meansures (PAMs) to address drivers of deforestation and degradation
Outcome **Standardized methodology agreed, tested and applied to assess the trends of deforestation and forest degradation and quantify current and historical direct drivers using cloud-computing solutions and free and open-source tools for forest monitoring**	• Methodology agreed on to produce information on direct drivers • Systematized information available to facilitate strategic planning and decision making of institutions	• 0 (No standard methodology is agreed on) • No information available for 2015-2020	• 1 (A standard methodology is available and agreed on) • Information is available	• Tools and modules • Project documents • Recommendations from consultations	• Stakeholders are fully involved in the project and in the Technical Committee
Output 1. Methodology to assess deforestation and forest degradation trends and direct drivers developed, with broad	• **Indicator 1.1:** A review of the existing knowledge, national definitions and approaches on deforestation and forest degradation trends and	• 0 (Such recent review does not exist)	• 1 (The review is published)	• Project documents	• Necessary documents and data are provided by the recipient countries • Stakeholders are fully involved in the project and

[19] Means of Verification

Results Chain	Indicators	Baseline	Target	MOV[19]	Assumptions
consensus among international, regional and national partners	current and historical direct and underlying drivers in Central Africa is published				in the Technical Committee
	• **Indicator 1.2:** The scope, objective and methodolody, and the contributions of each stakeholder are validated by the Technical Commitee	• 0 (There is no common and formal consensus on the topic)	• 1 (The stakeholder share the same vision of the project)	• Validation report	
Activities	Activity 1.1: Review of national definitions, assessment approaches, and current and historical direct drivers and underlying causes of deforestation and degradation Activity 1.2: Technical meeting with partners to jointly agree on the methodology of the assessment, and to identify resources, data and contributions				
Output 2. Forest change map of Central Africa (2015-2020) produced and shared, providing harmonized and updated regional information on forests and forest changes	• **Indicator 2.1:** Number of dense time series analysis conducted by national administrations and institutions to monitor forest changes between 2015 and 2020 at national scale	• 0	• 6	• Trainings reports	• National technical staff available to provide information and participate to the workshops
	• **Indicator 2.2:** Percentage of women actively participating in each national working sessions on forest disturbance mapping	• 0 (no national working session held on this topic so far)	• At least 30%		• Stakeholders are enough gender responsive • There is enough women with the necessary capacities to participate to workshops in each recipient country

Results Chain	Indicators	Baseline	Target	MOV[19]	Assumptions
	• **Indicator 2.3:** A forest change map (2015-2020) at national scale is produced by each recipient country	• 0 (Such maps do not exist)	• 6 (forest change maps are produced)	• Reports on forest cover change mapping	• National technical staff available to provide information and participate to the workshops
Activities	Activity 2.1: Regional training workshop with countries to generate wall-to-wall geospatial data on forest changes Activity 2.2: Working sessions with countries to generate a forest change map at regional scale for 2015-2020				
Output 3. Current and historical direct drivers of deforestation and forest degradation in Central Africa identified, quantified, discussed and agreed on with the different partners	• **Indicator 3.1:** Number of sets of Standards Operating Procedures (SOP) ensuring the quality of the assessments of forest changes and direct drivers of deforestation and forest degradation developed by national administrations and institutions	• 0	• 6	• Trainings reports • SOPs	• National technical staff available to provide information and participate to the workshops
	• **Indicator 3.2:** Percentage of women actively participating in each national workshops on drivers assessment	• 0 (no national workshop held on this topic so far)	• At least30%		• Stakeholders are enough gender responsive • There is enough women with the necessary capacities to participate to workshops in each recipient country
	• **Indicator 3.3:** A report on forest changes and current and historical direct drivers of deforestation and	• 0 (Such report does not exist)	• 1 (A report is validated by the Technical committee)	• Report on the overall assessment	• Necessary documents and data are provided by the recipient countries

Results Chain	Indicators	Baseline	Target	MOV[19]	Assumptions
	degradation is published and validated by each member of the Technical Committee				• Stakeholders are fully involved in the project and in the Technical Committee
Activities	Activity 3.1: National validation workshops to assess the accuracy of the geospatial regional product and quantify direct drivers of deforestation and forest degradation Activity 3.2: Regional technical workshop with partners to analyse data Activity 3.3: Formulation of a final report on the development and application of the global methodology to map forest change and current and historical direct drivers of deforestation and forest degradation				
Output 4. Geospatial module to inform land use planning developed in SEPAL and tested in two pilot areas	• **Indicator 4.1:** Number of socio-economic field surveys conducted in the pilot areas to collect additional information to that provided by technical partners	• 0	• 2	• Reports of the field surveys	•
	• **Indicator 4.2:** Percentage of women actively participating in each team in charge of a field survey	• NA	• At least 30%		• There is enough women with the necessary capacities to be conduct the field surveys
	• **Indicator 4.3:** A module in SEPAL (Geo4LUP) generating geospatial information to support land use planning is developed and tested in the pilot areas	• 0 (Such module does not exist)	• 2 field tests conducted	• Validation report	• LUP modules are identified

Results Chain	Indicators	Baseline	Target	MOV[19]	Assumptions
	• **Indicator 4.4:** Number of assessments of the impacts of past land use policies and plans using Geo4LUP conducted	• 0	• 2 (at least one per pilot zone)		•
Activities	Activity 4.1: Identification of two pilot areas Activity 4.2: Collection of socio-economic information in the two pilot areas Activity 4.3: Development of a module to generate geospatial information to support land use planning (Geo4LUP) Activity 4.4: Testing of the module in the two pilot areas and validation of results				
Output 5. Project results and lessons learnt disseminated for global knowledge, and potential for scaling-up at global level defined	• **Indicator 5.1:** Number of regional consultations where the multistakehjolder audience will receive additional information on the use of spatial data in the process of designing land use planning	• 0	• At least 1	• Reports of the consultations with specific attention to highlighting achievements of women during the project	•
	• **Indicator 5.2:** Number of presentation of the project's outputs in fora and in Global and South-South exchanges	• 0	• At least 3	• Reports of the events with specific attention to highlighting achievements of women during the project	•
	• **Indicator 5.3:** Number of knowledge materials presenting the projects	• 0	• At least 6	• Web pages	•

Results Chain	Indicators	Baseline	Target	MOV[19]	Assumptions
	findings, results and best practices published				
	• **Indicator 5.4:** Percentage of best practice case studies focusing on achievements of women published	• NA	• At least 50%		•
Activities	Activity 5.1: Regional multistakeholders consultation to promote use of spatial data in the process of designing land use policies Activity 5.2. Knowledge Management				

Annex III Stakeholder Engagement Matrix

Stakeholder Consultation

Draft versions of the project document have been shared with the recipient countries in order to obtain their feedbacks and to ensure their involvement in the project. In particular, the targeted Ministries in each recipient country have been contacted by the FAO Representatives (FAOR), who have presented the project's concept note and sought endorsement. Following this consultation, the *Fond National REDD* (FONAREDD) of the DRC has made observations that are included in this document (Annex XVII).

Draft versions of the project document have been shared with the targeted technical partners (diffusion of the consolidated concept note and technical summary of the project document) and discussed during a multistakeholder consultation meeting through videoconference during the formulation phase, to obtain feedback and foresee potential contributions to the project. The minutes of the meetings, the answer matrices elaborated (CAFI board 13 in July 2019, CAFI board 14 in September 2019 and consultation in February 2020) as well as the bilateral exchanges with partners (emails) can be made available upon request.

Table 6: Stakeholder consultation overview

Stakeholder Name	Stakeholder Type	Stakeholder profile	Consultation Methodology	Consultation findings
Cameroon: *Ministère des Forêts et de la Faune* (MINFOF)	*Direct beneficiary*	*National Government Institution body*	• Presentation of the project through the FAO CO, Physical meeting	• Direction of Forests (DGF) indicated interest in participating
Central African Republic: *Ministère des Eaux, Forêts, Chasse et Pêche* (MEFC)	*Direct beneficiary*	*National Government Institution body*	• Official letter presenting the project, sent by FAO CO to the Minister	
DRC: *Ministère de l'Environnement, de la Conservation de la Nature et du Développement Durable* (MECNDD)	*Direct beneficiary*	*National Government Institution body*	• Presentation of the project through the FAO CO	• Secretary General of MECNT indicated interest in participating, shared with DIAF • Consultation with FONAREDD Technical committee (29/05/2020)
Equatorial Guinea: *Ministerio de Agricultura, Ganadería, Bosques y Medio Ambiente* (MAGBOMA)	*Direct beneficiary*	*National Government Institution body*	• Presentation of the project through the FAO CO	• INDEFOR agreed to be involved in the project

Stakeholder Name	Stakeholder Type	Stakeholder profile	Consultation Methodology	Consultation findings
Gabon: *Ministère des Eaux, des Forêts, de l'Environnement, Chargé du Plan Climat, des Objectifs de Développement Durable et du Plan d'Affectation des Terres* (MEF)	*Direct beneficiary*	*National Government Institution body*	• Presentation of the project through the FAO CO	• Consultation with the Minister and agreement in principle to imply DGF in the project • Working meeting held with FAO and DGF
Republic of Congo: *Ministère de l'Economie Forestière et du Développement Durable (MEFDD)*	*Direct beneficiary*	*National Government Institution body*	• Presentation of the project through the FAO CO	• Document shared with CNIAF
Global CAFI Secretariat	*Partner*	*Resource Partner/Donor*	• Sharing of draft versions of the project document • Consultation meeting	• Supported the development of the project document and will support national ownerships of the project outputs
Observatoire des Forêts d'Afrique Centrale (OFAC)	*Partner*	*Civil Society Organization*	• Sharing of draft versions of the project document • Consultation meeting	• Agreed to be a member of the TC
Congo Basin Forest Partnership (CBFP) Scientific and Academic College	*Partner*	*Civil Society Organization*	• Sharing of draft versions of the project document • Consultation meeting	• Agreed to be a member of the TC
Joint Research Centre (JRC) of the European Commission	*Partner*	*International Government Institution/body*	• Sharing of draft versions of the project document • Consultation meeting	• Supported the definition of the project methodology • Agreed to be a member of the TC Offered to provide technical content and tools
Institut de Recherche pour le Développement (IRD)	*Partner*	*National Government Institution body*	• Sharing of draft versions of the project document • Consultation meeting	• Agreed to be a member of the TC
Réseau de Recherche sur les Forêts d'Afrique Centrale (R2FAC)	*Partner*	*Civil Society Organization*	• Sharing of draft versions of the project document • Consultation meeting	• Agreed to be a member of the TC

Stakeholder Name	Stakeholder Type	Stakeholder profile	Consultation Methodology	Consultation findings
World Resource Institute (WRI)	*Partner*	*Civil Society Organization*	• Sharing of draft versions of the project document • Consultation meeting	• Agreed to be a member of the TC
Wildlife Conservation Society (WCS)	*Partner*	*Civil Society Organization*	• Sharing of draft versions of the project document • Consultation meeting	• Agreed to be a member of the TC
Rainforest Foundation UK	*Partner*	*Civil Society Organization*	• Sharing of draft versions of the project document • Consultation meeting	• Supported the definition of the project scope • Agreed to be a member of the TC • Offered to provide data on historical forestry concessions

Table 7: Stakeholder foreseen engagement during the project phases

	Output 1		Output 2		Output 3			Output 4				Output 5	
Foreseen stakeholders	**A1.1**	**A1.2**	**A2.1**	**A2.2**	**A3.1**	**A3.2**	**A3.3**	**A4.1**	**A4.2**	**A4.3**	**A4.4**	**A5.1**	**A5.2**
FAO (HQ, CO, SRO)													
Cameroon: MINFOF													
CAR: MEFC													
DRC: MECNDD													
EG: MAGBOMA													
Gabon: MEF													
RoC: MEFDD													
OFAC													
CBFP													
JRC													
IRD													
R2FAC													
RFUK													
WCS													
WRI													

Grievance Mechanism

The project Grievance Mechanism will be communicated to the project stakeholders at the beginning of the project by email.

Review Level	Contact Details
Project task force	Must respond within 7 working days.
Lead Technical Officer (LTO) and Project Coordinator (PC)	LTO and/or PC may receive a complaint and must provide proof of receipt. If the case is accepted, LTO must inform the PC and call a meeting with other project task force members to find a solution. The response must be sent within 7 working days after the meeting of the LTO, PC and the project task force.
FAO Representation in Country	Must respond within 7 working days in consultation with FAO's Representation. Cameroon: • FAO Representative: Athman MRAVILI • Email: FAO-CM@fao.org • Phone: +237-222204811 Central African Republic: • FAO Representative: Perpetua KATEPA KALALA • Email: FAO-CF@fao.org • Phone: +236-21610970 Democratic Republic of Congo: • FAO Representative: Aristide ONGONE OBAME • Email: FAO-CD@fao.org • Phone: +243 81 33 30 176 Equatorial Guinea: • FAO Representative: Fatima ESPINAL • Email: FAO-GQ@fao.org • Phone: +240 666 593 823 Gabon: • FAO Representative: Helder MUTEIA • Email: FAO-GA@fao.org • Phone: +241 01 44 42 93/ +241 01 44 42 90

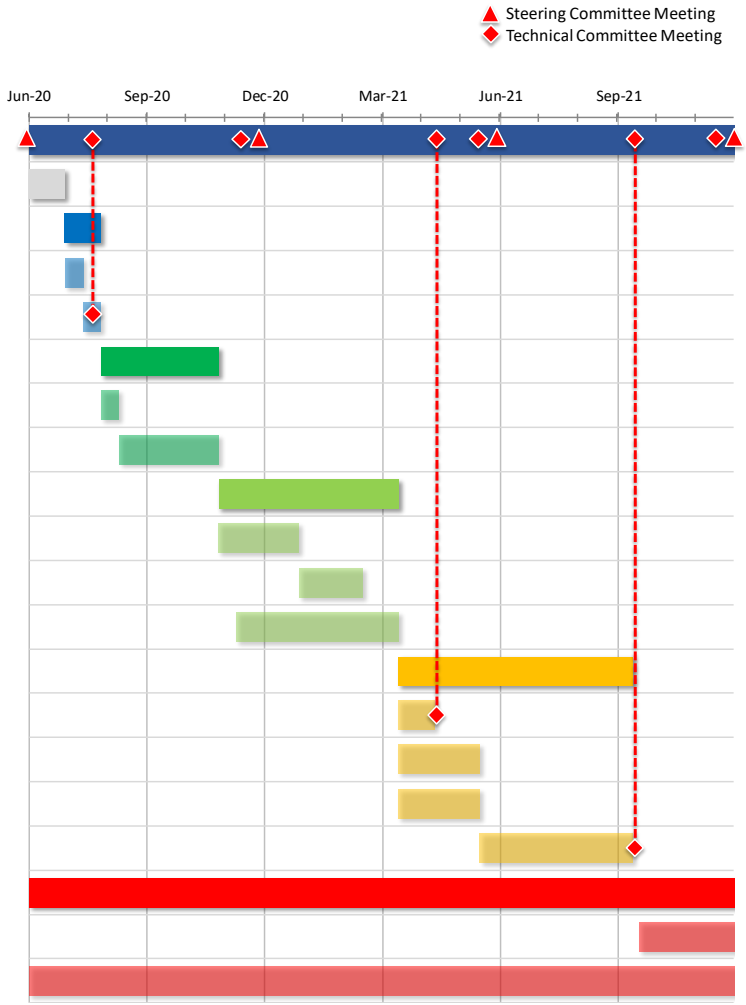
	Republic of Congo: • FAO Representative: Anne-Rose Suze PERCY FILIPPINI • Email: FAO-CG@fao.org • Phone: +242 06 660 64 00
Office of the Inspector General (OIG)	To report possible fraud and bad behavior by: • Email: Investigations-hotline@fao.org • Phone(confidential): (+ 39) 06 570 52333 • Fax (confidential): (+39) 06 570 55550

Annex IV Work plan

The table below presents the expected start date (entry on duty or "EOD") and expected end date (not to exceed "NTE") of the project activities, under the assumption of a start on 15 April 2020. The actual work plan will be adapted based on the actual EOD.

Workplan

Results Chain	EOD	NTE
Outcome: Standardized methodology tested and applied to assess the trends of deforestation and forest degradation and quantify direct current and historical drivers using cloud-computing solutions and free and open-source tools for forest monitoring	**29/06/2020**	**31/12/2021**
Inception phase. Setup of the Steering and Technical Committees, finalization of LoAs, finalization of the KM and Outreach Strategy	29/06/2020	26/07/2020
Output: Output 1. Methodology to assess deforestation and forest degradation trends and direct drivers developed, with broad consensus among international, regional and national partners	**27/07/2020**	**23/08/2020**
Task: Activity 1.1: Review of national definitions, assessment approaches, and current and historical direct drivers and underlying causes of deforestation and degradation	27/07/2020	09/08/2020
Task: Activity 1.2: Technical meeting with partners to jointly agree on the methodology of the assessment, and to identify resources, data and contributions	10/08/2020	23/08/2020
Output: Output 2. Forest change map of Central Africa (2015-2020) produced and shared, providing harmonized and updated regional information on forests and forest changes	**24/08/2020**	**22/11/2020**
Task: Activity 2.1: Regional training workshop with countries to generate wall-to-wall geospatial data on forest changes	24/08/2020	06/09/2020
Task: Activity 2.2: Working sessions with countries to generate a forest change map at regional scale for 2015-2020	07/09/2020	22/11/2020
Output: Output 3. Current and historical direct drivers of deforestation and forest degradation in Central Africa identified, quantified, discussed and agreed on with the different partners	**23/11/2020**	**11/04/2021**
Task: Activity 3.1: National validation workshops to assess the accuracy of the geospatial regional product and quantify direct drivers of deforestation and forest degradation	23/11/2020	24/01/2021
Task: Activity 3.2: Regional technical workshop with partners to analyse data	25/01/2021	14/03/2021
Task: Activity 3.3: Formulation of a final report on the development and application of the global methodology to map forest change and current and historical direct drivers of deforestation and forest degradation	07/12/2020	11/04/2021
Output: Output 4. Geospatial module to inform land use planning developed in SEPAL and tested in two pilot areas	**12/04/2021**	**10/10/2021**
Task: Activity 4.1: Identification of two pilot areas	12/04/2021	09/05/2021
Task: Activity 4.2: Collection of socio-economic information in the two pilot areas	12/04/2021	13/06/2021
Task: Activity 4.3: Development of a module to generate geospatial information to support land use planning (Geo4LUP)	12/04/2021	13/06/2021
Task: Activity 4.4: Testing of the module in the two pilot areas and validation of results	14/06/2021	10/10/2021
Output: Output 5. Project results and lessons learnt disseminated for global knowledge, and potential for scaling up at global level defined	**29/06/2020**	**31/12/2021**
Task: Activity 5.1: Regional multi-stakeholders consultation to promote use of spatial data in the process of designing land use policies	16/10/2021	31/12/2021
Task: Activity 5.2. Knowledge Management	29/06/2020	31/12/2021



Annex V Budget

In the context of FAO's adherence to Results-based Management (RBM) principles, the project budget is based on a detailed estimation of the inputs needed to achieve the agreed results. The budget is presented by Output and United Nations Development Group category.

Output	UNDG category	Year 1	Year 2	Total
1. Methodology and institutional setup	1 Staff and other personnel costs	18 408	0	18,408
	5 Travel	25 000	0	25 000
	7 Gen Operating & Other direct costs	7 734	0	7 734
2. Forest change map	1 Staff and other personnel costs	80 969	0	80 969
	5 Travel	30 000	0	30 000
	6 Transfers & Grants Counterparts	180 600	0	180 600
	7 Gen Operating & Other direct costs	11 989	0	11 989
3. Drivers and Data analysis	1 Staff and other personnel costs	38 124	18 162	56 286
	3 Equipment, Vehicles and Furniture	50 044	0	50 044
	5 Travel	48 000	0	48 000
	7 Gen Operating & Other direct costs	27 766	1 207	28 973
4. Socio-Economic survey Pilot zones	1 Staff and other personnel costs	214	18 375	18 589
	3 Equipment, Vehicles and Furniture	0	1 244	1 244
	5 Travel	0	29 500	29 500
	6 Transfers & Grants Counterparts	0	182 593	182 593
	7 Gen Operating & Other direct costs	881	4 232	5 113
5. Knowledge management and Outreach	1 Staff and other personnel costs	9 000	16 300	25 300
	5 Travel	0	30 922	30 922
	7 Gen Operating & Other direct costs	0	11 000	11 000
Project Management	1 Staff and other personnel costs	101 207	85 466	186 673
	5 Travel	5 000	5 000	10 000
	7 Gen Operating & Other direct costs	50 227	32 332	82 559
Indirect Support costs	8 Indirect costs	47 961	30 543	78 505
Grand Total		733 124	466 876	1 200 000

Annex VI Programme Risk Management Matrix

Section A: Risks to the project

Risk Category	Risk description	Worst case consequence for the project	**Likelihood** Almost Certain - 5 Likely - 4 Possible - 3 Unlikely - 2 Rare – 1	**Impact:** Extreme – 5 Major - 4 Moderate - 3 Minor - 2 Insignificant - 1	Mitigating measures	Responsible unit/person
Contextual risks (Governance)	Presidential elections are planned in Central African Republic and Republic of Congo during the implementation of the project (in 2020 and in 2021). This might lead to a government turnover.	The project implementation might be slowed down.	2	1	The project does not involve a very high-level of approval for its implementation, as the activities will be mainly implemented by technical agents from national administrations and institutions and local partners, including local research institutes, academia and Non-governmental Organizations.	FAO and Technical Committee
Programmatic risks (Technical and operational)	Agreement between partners is not found on the definitions (forest, deforestation and degradation), the methodology to detect and characterize disturbances and/or assess the associated current and historical drivers	The project implementation might be slowed down.	1	2	Consultations were held with the different technical partners at various stages of the project construction. Several possible approaches have been elaborated and communicated (diffusion of the consolidated concept note and technical summary of the project document, multipartner consultation through videoconference, bilateral discussions with research and civil society partners) during the formulation phase. The Technical Committee will be set-up with a similar mind-	FAO and Technical Committee

					set, to reach consensus in a scientific and objective approach.	
Institutional risks (Technical and operational)	Decrease of the staffing of the national administrations and institutions involved in the project for the implementation and monitoring of the planned activities, resulting in the internal re-organization of the institution and the loss	The project implementation might be slowed down.	1	1	A Letter of Agreement will be signed with each Government of the recipient countries in order to ensure the availability of the human and financial resources necessary for the implementation of the project. For each major methodological step, regional trainings will take place and involve national administrations as well as research and academic institutions and the civil society organizations, ensuring that knowledge on the techniques and tools reach-out largely. Key networks of research and scientific institutions are notably involved in the Technical Committee maximizing the opportunities to further train a larger audience (e.g. university students, at national and provincial levels). Finally, the national project consultants will mitigate the risk of loss of national technical capacities in each recipient country by providing continuous training to the national technicians. In addition, procedural steps of the processes will be documented with Standard Operating Procedures and specific implementation guides, to ensure that the processing chain can be replicated and the results reproduced in the future, reinforcing institutional memory.	FAO

Section B: Environmental and Social risks from the project

The risk level of the project is low, and it does not involve any environmental or social risk.

Annex VII Exit strategy

The Letters of Agreements signed with each Government of the recipient countries will ensure the availability of the human and financial resources necessary for the implementation of the project, and the numerous planned training courses provided to local and regional institutions and academia through will mitigate the risk of loss of national technical capacities in each recipient country.

If the project was to face significant delays, certain measures will be taken to ensure the maximum implementation of its activities and the delivery of its results. The first one could be to extend the project duration. Another one would be to prioritize activities and insure to conduct analyses of high priority at minima (Table 8 below). In this case, all the raw data and results produced during the project would still be included in the final report (Activity 3.2), disseminated and in particular published in a peer-review journal and shared freely and openly online (Activity 5.1 and Activity 5.2).

If some persistent blockages are specifically located in one or more country(ies), the results will be aggregated and made available and the analysis conducted at the largest scale(s) possible.

A virtual collaborative workspace has been setup during formulation to ensure the continuity of the exchanges between the members of the Technical Committee despite the current global health crisis.

If it was nonetheless still impossible to travel or to carry out the planned field activities after the project beginning, the project team will organize online trainings and working sessions with technicians from national administrations and institutions (Activity 1.2 to Activity 3.2) and will use some proxy data to test and validate the module to inform land use planning (Activity 4.1 to Activity 4.4).

Table 8: Exit strategy and activity prioritization

Project results	Activity	Priority status
Production of raw data		
Forest cover map in 2015	A2.2	1
Forest change map for the period 2015-2020	A2.2	1
Time series analysis for the areas around the current detected disturbances for the entire period 1980-2020	A2.2	1
Production of a map of the fragmentation of forest areas at different time intervals	A3.2	1
Data analysis		
Determination of specific locations where information on forests dynamics and associated drivers will be visually interpreted using a stratified random sampling approach	A3.1	1
Visual interpretation of the potential forest cover changes and drivers at each sampling point	A3.1	1
Assessment of the accuracy of the geospatial regional product	A3.1	1
Quantification of direct drivers of deforestation and forest degradation at each sampling point locations	A3.1	1
Quantification of direct drivers of deforestation and forest degradation within nested buffers around the sample points	A3.1	1
Production of a spatially explicit overview of deforestation and degradation trends and current and historical direct drivers in specific locations	A3.2	2
Temporal analysis of forest changes for the period 2015-2020 in the light of the previous land use history covering up to the last 40 years (where possible)	A3.2	2

Project results	Activity	Priority status
Development and testing of a geospatial module to inform land use planning		
Collection of socio-economic information in the two pilot areas	A4.2	3
Development and testing of the module in the two pilot areas	A4.3	1
Validation of previous project results using the data generated by the module	A4.4	3
Assessment of the impact of past land use policies and plans on forests in the two pilot areas using the module	A4.4	3

Annex VIII FAO and Government Obligations

(a) This Annex sets out the basic conditions under which FAO will assist the Government in the implementation of the Project described in the attached Project Document.

(b)The achievement of the objectives set by the Project shall be the joint responsibility of the Government and FAO.

FAO obligations

1. FAO will be responsible for the provision, with due diligence and efficiency, of assistance as provided in the Project Document. FAO and the Government will consult closely with respect to all aspects of the Project.

2. Assistance under the Project will be made available to the Government, or to such entity as provided in the Project, and will be furnished and received (i) in accordance with relevant decisions of the Governing Bodies of FAO, and with its constitutional and budgetary provisions, and (ii) subject to the receipt by FAO of the necessary contribution from the Resource Partner. FAO will disburse the funds received from the Resource Partner in accordance with its regulations, rules and policies. All financial accounts and statements will be expressed in United States Dollars and will be subject exclusively to the internal and external auditing procedures laid down in the financial regulations, rules and directives of FAO.

3. FAO's responsibilities regarding financial management and execution of the Project will be as stipulated in the Project Document. FAO may, in consultation with the Government, implement Project components through partners identified in accordance with FAO procedures. Such partners will have primary responsibility for delivering specific project outputs and activities to the Project in accordance with the partner's rules and regulations, and subject to monitoring and oversight, including audit, by FAO.

4. Assistance under the Project provided directly by FAO, including technical assistance services and/or oversight and monitoring services, will be carried out in accordance with FAO regulations, rules and policies, including on recruitment, travel, salaries, and emoluments of national and international personnel recruited by FAO, procurement of services, supplies and equipment, and subcontracting. The candidacies of senior international technical staff for recruitment by FAO will be submitted to the Government for clearance following FAO procedures.

5. Equipment procured by FAO will remain the property of FAO for the duration of the Project. The Government will provide safe custody of such equipment, which is entrusted to it prior to the end of the Project. The ultimate destination of equipment procured under this Project will be decided by FAO in consultation with the Government and the Resource Partner.

Government obligations

6. With a view to the rapid and efficient execution of the Project, the Government shall grant to FAO, its staff, and all other persons performing services on behalf of FAO, the necessary facilities including:

i) The prompt issuance, free of charge, of any visas or permits required;

ii) Any permits necessary for the importation and, where appropriate, the subsequent exportation, of equipment, materials and supplies required for use in connection with the Project and exemption from the payment of all customs duties or other levies or charges relating to such importation or exportation;

iii) Exemption from the payment of any sales or other tax on local purchases of equipment, materials and supplies for use in connection with the project;

iv) Any permits necessary for the importation of property belonging to and intended for the personal use of FAO staff or of other persons performing services on behalf of FAO, and for the subsequent exportation of such property;

v) Prompt customs clearance of the equipment, materials, supplies and property referred to in subparagraphs (ii) and (iv) above.

7. The Government will apply to FAO, its property, funds and assets, its officials and all the persons performing services on its behalf in connection with the Project: (i) the provisions of the Convention on Privileges and Immunities of the Specialized Agencies; and (ii) the United Nations currency exchange rate. The persons performing services on behalf of FAO will include any organization, firm or other entity, which FAO may designate to take part in the execution of the Project.

8. The Government will be responsible for dealing with any claims which may be brought by third parties against FAO, its personnel or other persons performing services on its behalf, in connection with the Project, and will hold them harmless in respect to any claim or liability arising in connection with the Project, except when it is agreed by FAO and the Government that such claims arise from gross negligence or wilful misconduct of such persons.

9. The Government will be responsible for the recruitment, salaries, emoluments and social security measures of its own national staff assigned to the project. The Government will also provide, as and when required for the Project, the facilities and supplies indicated in the Project Document. The Government will grant FAO staff, the Resource Partner and persons acting on their behalf, access to the Project offices and sites and to any material or documentation relating to the Project, and will provide any relevant information to such staff or persons.

Reporting and evaluation

10. FAO will report to the Government (and to the Resource Partner) as scheduled in the Project Document.

11. The Government will agree to the dissemination by FAO of information such as Project descriptions and objectives and results, for the purpose of informing or educating the public. Patent rights, copyright, and any other intellectual property rights over any material or discoveries resulting from FAO assistance under this Project will belong to FAO. FAO hereby grants to the Government a non-exclusive royalty-free license to use, publish, translate and distribute, privately or publicly, any such material or discoveries within the country for non-commercial purposes. In accordance with requirements of some Resource Partners, FAO reserves the right to place information and reports in the public domain.

12. The Project will be subject to independent evaluation according to the arrangements agreed between the Government, the Resource Partner and FAO. The evaluation report will be publicly accessible, in accordance with the applicable policies, along with the Management Response. FAO is authorized to prepare a brief summary of the report for the purpose of broad dissemination of its main findings, issues, lessons and recommendations as well as to make judicious use of the report as an input to evaluation synthesis studies.

Final provisions

13. Any dispute or controversy arising out of or in connection with the Project or this Agreement will be amicably settled through consultations, or through such other means as agreed between the Government and FAO.

14. Nothing in or related to any provision in this Agreement or document or activity of the Project shall be deemed (i) a waiver of the privileges and immunities of FAO; (ii) the acceptance by FAO of the applicability of the laws of any country to FAO, and: (iii) the acceptance by FAO of the jurisdiction of the courts of any country over disputes arising from assistance activities under the Project.

15. This Agreement may be amended or terminated by mutual written consent. Termination will take effect sixty days after receipt by either party of written notice from the other party. In the event of termination, the obligations assumed by the parties under this Agreement will survive its termination to the extent necessary to permit the orderly conclusion of activities, and the withdrawal of personnel, funds and property of FAO.

16. This Agreement will enter into force upon signature by the duly authorized representatives of both parties.

Annex IX Contribution to CPFs Outcomes and Outputs

Acronyms

CAR	Central African Republic
CPF	Country Programming Framework
CMR	Cameroon
DRC	Democratic Republic of Congo
EqG	Equatorial Guinea
RoC	Republic of Congo

Table 9: Contribution to CPFs Outcomes and Outputs

Country	Period	Priority area	Outcome	Output
CMR	2018-2020	**Area 2:** Improve the sustainable management of natural resources and the protection of the environment	**National outcome 2**: Sustainable management of rural areas and natural resources is achieved	**Output 2.2**: The capacities of producer organizations and national services are strengthened for a better valorization of water and agroforestry resources.
CAR	2018-2021	**Area 3:** restoration of the authority of the state and its competences and strengthening of the capacities of other actors and their organizations		**Output 3.1:** The central structures and their peripheral branches restore, by their presence on the ground, the authority of the State in the agricultural and rural sector, develop, implement, monitor and evaluate policies, programmes and projects of development. **Output 3.2:** The national structures in charge of statistics are equipped and efficiently collect, process and disseminate data.
DRC	2019-2023	**Area 1**: Strengthen the governance of the sectors of agriculture, fisheries and livestock, rural development and environment (water, forests and biodiversity) **Area 3**: Promote sustainable management of the environment and natural resources and improve adaptation to climate change and mitigation of the risks associated with it.	**National outcome 2.3**: By 2024, populations benefit from responsible and sustainable management of natural resources (forestry, mining and land use), by the State, decentralized entities, communities and the private sector, in a context of climate change and biodiversity conservation.	**Output 1.1**: Technical and institutional capacity building is provided to the planning, monitoring and evaluation departments and to other structures of operational implementation of activities. **Output 1.2**: Sectoral policies and strategies are developed, reviewed and harmonized **Output 1.4**: Viable systems for collecting and analysing statistics, as well as disseminating sectoral information, are set up and/or strengthened **Output 3.1**: Environmental protection, rational exploitation of forests and biodiversity conservation are ensured in a sustainable manner

Country	Period	Priority area	Outcome	Output
EG	2019-2023	**Area 1**: Improve the productivity of the agricultural, fisheries and forestry sectors, in order to strengthen food and nutritional security	**National outcome 2**: Pressure of agriculture on forests is reduced.	**Output 1.4**: National capacities have been strengthened to monitor indicators based on agricultural, livestock, fishery and forestry statistical data with FAO support
Gabon	2017-2022	**Area 1**: Strengthening of institutional governance and national capacities **Area 2:** Sustainable management of natural resources	**National outcome 1**: Governance of the agricultural sector is improved **National outcome 2**: Gabon develops without destroying its natural resources.	**Output 1.2**: Sectoral policies and strategies are updated and take into account the orientations of the PSGE, in particular those related to food and nutritional security and the management of natural resources **Output 1.4**: National capacities for managing policies, programmes and statistics are strengthened **Output 2.1**: Knowledge about natural resources is strengthened **Output 2.2**: Ecosystem management tools are developed and implemented, including land use plans.
RoC	CPF 2019-2022	**Area 4**: Development of climate change mitigation and adaptation strategies and of a strategy of sustainable management of biodiversity	**National outcome 4**: Climate change mitigation and adaptation strategies and of a strategy of sustainable management of biodiversity are developed	**Output 4.1**: The mobilization of financial and technical resources for the implementation of national policies, strategies and action plans to combat climate change and protect biodiversity is effective.

Annex X Contribution to CAFI Partner Countries NIFs, LoIs, REDD+ NS and NDCs

Acronyms

AFOLU	Agriculture, Forestry and Other Land Uses
CAFI	Central African Forest Initiative
CAR	Central African Republic
CPF	Country Programming Framework
CMR	Cameroon
DRC	Democratic Republic of Congo
EqG	Equatorial Guinea
GHG	Greenhouse Gas
HCV-HSC	High Conservation Value – High Carbon Stock
LoI	Letter of Intent
LULUCF	Land use, land-use change, and forestry
NDC	Nationally Determined Contribution
NFMS	National Forest Monitoring System
NIF	National Investment Framework
PNAT	*Plan National d'Affectation des Terres*
REDD+	Reducing Emissions from Deforestation and forest Degradation and the role of conservation, sustainable management forests and enhancement of forest carbon stocks in developing countries
REDD+ NS	REDD+ National Strategy
RoC	Republic of Congo

Country	Document	Outcome / Strategic objectives (SO)	Output / Strategic interventions (SI)
CMR	*Stratégie Nationale REDD+*	**Outcome 1:** Reduction of emissions from deforestation and forest degradation in the southern forest plateau	**SI 1.2:** Sustainable forest management and landscape restoration **SI 1.5:** Zoning, land use planning and governance
	NDC	**SO:** Reduce GHG emissions (*excluding LULUCF*[20]) by 32% by 2035 compared to the trend scenario, within the framework of conditional implementation.	**SI** 1: Ensure the consistency of land use planning in rural areas to develop agriculture while limiting deforestation / degradation
CAR	*Cadre National d'Investissement REDD+ 2020-2025 de la RCA (version provisoire, Décembre 2019)*	**SO 1:** Integrated and inclusive land use planning of the national territory and increased land tenure security	**SI :** *Plan National d'Utilisation des Terres* developed **SI:** National Forest Inventory developed and validated **SI:** NFMS operational **SI:** *Plans d'Aménagement Locaux* developed
	NDC	**SO:** Reduce GHG emissions by at least 5% by 2030 and at least 55% by 2050 compared to the trend scenario, within the framework of conditional implementation.	**SI:** Adjustment of national development strategies and policies to include climate change **SI:** Capacity building at all levels **SI:** Transfer of technology, cooperation-research, (*notably in the field of land use change and forestry*) **SI:** Establishment of an appropriate national monitoring, reporting and verification (MRV) system (Target areas and technologies: Land and forestry monitoring system)
DRC	*Plan d'Investissement REDD+ 2015-2020*	**Outcome 3:** Deforestation and degradation from logging is reduced through more sustainable management **Outcome 5:** Human activities are better planned allowing optimization of the use of space and a reduction of their impact on forests	**Output 3.1:** National Programme NFMS **Output 5.1:** National Programme "Land use planning reform"
	LoI for the establishment of a partnership between the government of	**SO 5 – Land Use Planning:** Develop and implement, in a participatory and transparent manner, a land-use policy that organizes and optimizes the use of land and forest resources by the various national economic sectors, in respect of rights recognized in the DRC legal system, to reduce its impact	

[20] Land use, land-use change, and forestry

Country	Document	Outcome / Strategic objectives (SO)	Output / Strategic interventions (SI)
	the DRC and the CAFI on the implementation of the National REDD+1 Framework Strategy and Investment Plan of the DRC	thereof on forests, reduce conflicts and ensure sustainable development at national and local level	
	Stratégie-Cadre Nationale REDD+ de la RDC	**SO 1:** Agriculture: Reduce the impact of agriculture on the forest while actively contributing to the country's food security objectives and the desire to make the agricultural sector a pillar of the country's economic growth **SO 4:** Governance: Ensure the good governance of the REDD+ process that is necessary for an effective, cross-cutting, transparent, accountable, pragmatic, equitable and sustainable implementation of REDD+, based on results, and integrating information, consultation, appropriation and the participation of all stakeholders **SO 6:** Land use planning: Promote, in a cross-sectoral and prospective vision, optimal land allocation and planning of populations and activities as well as equipment and means of communication, in order to contribute effectively to the country's sustainable development objectives, while minimizing the impact on forests.	**SI 1.3:** Land use planning and provincial and local sustainable development planning
	NDC	**SO :** Reduce GHG emissions (*from the AFOLU sector, excluding carbon absorption in the forest biomass*) by 17% by 2030 and 2050 compared to the trend scenario, within the framework of conditional implementation.	
EG	REDD+ NS	**SO E2 Forests:** Reduce and reverse the loss of forests through sustainable forest management and restoration, both by forestry companies and communities **SO E5 Territorial Planning:** Guide and manage territorial development based on socio-economic and environmental criteria	**SI 2.1:** Strengthening the capacities and means of forestry institutions to carry out their functions efficiently, including those that have as their objective the promotion and support of community or private sustainable forestry initiatives that take into account gender equity. **SI 5.3:** Strengthening national and local capacities and development of institutional mechanisms to

Country	Document	Outcome / Strategic objectives (SO)	Output / Strategic interventions (SI)
			implement and monitor the implementation of land management plans. **SI 5.4:** Development of tools and technical procedures to map and perform a spatial monitoring of soils according to their occupation as well as a property registry through a cadastre system.
	NDC	**SO:** Reduce GHG emissions by 20% between 2010 and 2030 and by 50% by between 2010 and 2050, within the framework of conditional implementation.	**SI**: Promotion of a policy based on land management and classification, through cadastres.
Gabon	NIF for the CAFI (June 2017)	**Outcome 1:** Optimal land use planning **Outcome 2:** Efficient LULUCF monitoring system	**Output 1:** Current state of land use documented and validated **Output 5:** Preliminary version of PNAT completed **Output 6:** Technical capacity for land use planning strengthened **Output 7:** Satellite images analysed and statistics of forest cover produced **Output 8:** Participatory rural georeferenced maps produced **Output 11:** Technical capacity for LULUCF monitoring established
	LoI to establish the partnership between the government of the Gabonese Republic and the CAFI to implement the NIF of Gabon	**SO 1 – Land Use Planning:** Develop, adopt and implement, in a transparent and participatory manner, a national land use plan that organizes and optimizes the use of land and forest resources by the various national economic sectors to reduce the impact thereof on forests, reduce conflicts and promote sustainable development at national and local level. The plan will be based on the principles of non-conversion of HCS/HCV forests, limited and carbon-neutral conversion of non-HCS/HCV forest, reduced area under logging concessions, lower emissions from logging operations and rural activities and the respect of customary land tenure. **SO 2 – Forest Monitoring:** Establish a fully operational National Natural Resources and Forestry Observation System (NNRFOS) to (i) develop a better understanding of biodiversity and follow the impacts if climate change; ii) estimate carbon stocks and GHG flows and model how forests behave under climate and land-use change; (iii) support the implementation of the NLUP as well as monitoring and strengthening the sectoral effects on forestry, agriculture and infrastructure to reduce deforestation and forest degradation; and (iv) track, monitor and control the implementation of forest management, illegal logging, mining activities and agricultural development.	
	NDC	**SO:** Reduce GHG emissions (*from the AFOLU sector, excluding carbon absorption in the forest biomass*) by	**SI:** Adoption of a *Plan National d'Affectation de Terre*

Country	Document	Outcome / Strategic objectives (SO)	Output / Strategic interventions (SI)
		more than 65% between 2010 and 2025 compared to the trend scenario, within the framework of conditional implementation.	
RoC	*Plan d'Investissement* REDD 2018-2025	**Outcome 1:** Forests and peatlands are managed sustainably, biodiversity is conserved and planted areas increased **Outcome 5:** Intersectoral governance and the participation of all stakeholders to development is improved	**Output 1.4:** The areas of forest concessions certified *gestion durable* are increased **Output 1.8:** Lumber and restoration plantations in degraded areas are developed **Output 1.10:** The network of protected areas is strengthened and developed **Output 5.1:** The *Plan National d'Affectation des Terres* and the *Schéma National d'Aménagement du Territoire* are developed, adopted and implemented
	LoI on the establishment of a long-term partnership to implement the Investment Plan of the National REDD+ Strategy between the CAFI represented by […] and the Republic of Congo […]	**SO 1 – Land use planning:** Develop, adopt and implement a *Plan National d'Affectation des Terres* (PNAT), a *Schéma National d'Aménagement du Territoire* (SNAT) and *Schémas Départementaux d'Aménagement du Territoire* (SDAT) […].The national land use plan will depend, in particular, on the establishment of a Permanent Forest Estate and on the principles of non-conversion of HCS/HCV forests, of protection and sustainable management of peatlands […], of limited, carbon-neutral conversion of non-HCS/HCV forests, of compensation for biodiversity and carbon losses and of respect for customary land rights […].	
	REDD+ NS	**SO 1:** Reinforce governance and guarantee sustainable funding in order to support the emergence of a green economy **SO 2:** Ensure the sustainable management of forest resources and value them	**SI 1.2:** Develop and set up a national land use plan **SI 2.1:** Achieve sustainable forest planning **SI 2.6:** Build capacities within the forest administration
	NDC	**SO:** Reduce GHG emissions (*from the AFOLU sector, excluding carbon absorption in the forest biomass*) by at least 48% by 2025 and by 55% by 2035 compared to the trend scenario, within the framework of conditional implementation	**SI:** Adoption of a National Land Use Plan that can guarantee a permanent forest estate.

Annex XI Checklist for gender-responsive workshops

CHECKLIST FOR GENDER-RESPONSIVE WORKSHOPS

This simple checklist has been prepared in order to help workshop organizers design and implement gender-responsive workshops, whether at the regional, national, or local levels. Depending on the scope, location and target audience of the workshop, the exact activities to be undertaken will vary slightly from workshop to workshop. Please contact the staff listed below for any additional questions or assistance.

Elizabeth Eggerts,
UN-REDD Gender Specialist,
UNDP,
elizabeth.eggerts@undp.org

Amanda Bradley,
UN-REDD Gender Focal Point,
FAO,
amanda.bradley@fao.org

Janet Macharia,
UN-REDD Gender Focal Point,
UN Environment,
janet.macharia@un.org

UN-REDD PROGRAMME

PREPARATION/DESIGN FOR THE WORKSHOP

- ☐ In any terms of reference prepared for workshops, include requirements that they be designed and implemented using a gender perspective.
- ☐ Identify workshop facilitators/organizers that have experience on gender. When possible promote the use of a male-female facilitation team.
- ☐ Discuss importance of integrating a gender approach with the facilitators/organizers.
- ☐ Ask organizers to encourage a sufficient number of women to attend (at least 30%).[1]
- ☐ Consult with women/gender-focused organizations and ministries/departments to help identify 1) who the potential key women stakeholders might be and 2) potential gender dynamics that might exist which should be addressed in workshop design (e.g. need for mixed groups, women/men only groups).
- ☐ Make note in the invitation letter that women are encouraged to attend.
- ☐ Design workshop information in a manner that is also relevant for women's use and conservation of forest resources.
- ☐ To help promote their availability to participate, arrange workshops at a time and location that works well and is safe for women, as well as organize child care options and meal arrangements, if possible, to avoid conflict with women's daily responsibilities (particularly for those workshops held at the community/local level).
- ☐ Assess if women participants have capacity gaps and provide extra support to them prior to the workshop so that they can actively participate.
- ☐ For workshops at the local level, support from village leaders can have a catalyzing effect in promoting women's participation. Speak with them to raise their awareness on the value of women's active participation and ask them to support women's participation.
- ☐ Set clear targets for women's participation – with at least 30% female participation. It is recommended to promote that women make up at least 40%.
- ☐ Develop gender indicators to, at a minimum, measure women's and men's attendance and active participation.

1 The UN Economic and Social Council notes that women, at a minimum, should at least make up 30% of any decision-making body, committee, consultation, workshop, etc. This guidance is also contained within the UN Beijing Declaration and Platform for Action, Fourth World Conference on Women, available at http://www.un.org/womenwatch/daw/beijing/pdf/BDPfA%20E.pdf.

DURING THE WORKSHOP

- ☐ At the start of the workshop, undertake a gender responsive pre-workshop survey, to help collect data on women's and men's existing knowledge and the dynamics they face around REDD+. See the UN-REDD workspace here for links to sample surveys.
- ☐ Prepare a sign-in sheet that requests participants to identify sex, with the choices of 'male', 'female' or 'prefer not to specify'.
- ☐ Integrate (as relevant) gender considerations within the technical content of the workshop. This will vary depending on the theme of the workshop.
- ☐ Use materials (e.g. photos, graphics) that highlight women's role and contributions.
- ☐ Document perspectives shared by women/men. Record number of interventions made by men/women and how their ideas are handled. (Click here and view p.44 for a helpful table to record such information.) This can help identify if corrective measures need to be taken to promote active participation from women and/or men.
- ☐ Take photos of women actively engaged that can later be disseminated.
- ☐ At the end of the workshop, undertake a gender responsive post-workshop survey to assess women's and men's perspectives on workshop content, usefulness, etc. See the UN-REDD workspace here for links to sample surveys.
- ☐ Collect any data necessary during the workshop that is needed for the gender indicators and targets that were developed in planning, if any.

AFTER THE WORKSHOP

- ☐ Compile and analyze results of any pre- and post-workshop surveys, including any potential differences in responses from women and men.
- ☐ Debrief with the organizers on the gender aspects of the workshop, including any cultural issues or gender gaps that occurred. List ideas for improvement.
- ☐ In any reports and articles related to the workshop, highlight the gender aspects of the workshop and any notable achievements/progress.

Annex XII Terms of Reference

International Consultant: Chief Technical Adviser

Name:			
Job Title:**	Consultant international Conseiller Technique Principal		
Division/Department:	FOA/Département des Forêts		
Programme/Project Number:	Project Symbol : UNJP/GLO/103/UNJ Budget Code : To be provided		
Duty Station:	Rome (Italy)		
Expected Start Date of Assignment:	Project EOD	**Duration:**	11 mois
Reports to: ***Name:***	Rémi d'Annunzio	***Title:***	Coordonnateur activités Afrique, Officier forestier

* Please note: If this TOR is for Consultant / PSA.SBS contract, the minimum relevant experience required **for the assignment** is as follows:

1 year for a category C | 5 years for a category B | 12 years for a categc

** Please enter a short title (max 25 chars) for this assignment.

GENERAL DESCRIPTION OF TASK(S) AND OBJECTIVES TO BE ACHIEVED

Contexte :

Dans le cadre du programme ONU-REDD, la FAO appuie les pays en développement sur les questions techniques liées à la gestion des forêts et au développement de processus de Mesure, de Notification et de Vérification (MNV) efficients et fiables des réductions d'émissions de gaz à effet de serre. La FAO soutient ainsi notamment la collecte de données de qualité sur les ressources forestières et les utilisations des terres en Afrique Centrale, afin que les décisions politiques dans les domaines de la planification forestière et de l'utilisation des terres ainsi que les plans sectoriels nationaux et les programmes REDD+ puissent se fonder sur des données factuelles.

Dans ce contexte, la FAO exécute un projet d' «Estimation de la déforestation et de la dégradation des forêts et des facteurs directs actuels et historiques associés à ces processus à l'aide de SEPAL », financé par l'Initiative pour la Forêt d'Afrique Centrale (CAFI), dans les six pays partenaires de cette initiative (Cameroun, Gabon, Guinée Equatoriale, République Centrafricaine, République Démocratique du Congo et République du Congo). Ce projet vise notamment à développer une méthode globale, standard et à grand échelle d'estimation et de cartographie des changements de couverts arborés et des facteurs directs associés à l'aide de solutions de cloud-computing et d'outils open-source, et de tester cette méthode dans les six pays évoqués ci-dessus.

Position hiérarchique :

Sous la supervision générale du coordonnateur pour l'Afrique du cluster REDD+/NFM, le Conseiller Technique Principal du projet assumera les fonctions et les responsabilités suivantes :

Domaine de spécialisation :

Foresterie

Tâches et responsabilités :

- Mettre en œuvre le programme : établir les TDR des experts à recruter, ateliers régionaux et nationaux et les protocoles d'accord ;
- Planifier, gérer, suivre et coordonner les activités du projet, en s'assurant de la mise en œuvre des activités selon la planification proposée ;
- Organiser et mettre en œuvre toutes les réunions de suivi identifiées dans le document de programme (réunions avec les partenaires, réunion du comité de pilotage, etc.) ;
- Assurer les travaux de consolidation des données et préparer des synthèses pratiques d'études techniques et préparatoires pour orienter les décisions ;
- Établir et maintenir un contact constant avec les partenaires gouvernementaux et non-gouvernementaux associés à la mise en œuvre du programme pour le faire avancer, selon la planification établie ;
- Préparer les réunions mandataires du programme (les réunions du comité de pilotage, les réunions des plateformes techniques, etc.) ;
- Effectuer toute autre tâche sollicitée par le programme.

Pour y arriver, le consultant devra démontrer les compétences suivantes :

Compétences :

- Maîtrise des outils informatiques clés (Office) ;
- Maîtrise des outils SIG, bonne connaissance de la télédétection ;
- Très bon sens de l'organisation ;
- Capacité à prioriser les tâches ;
- Aptitudes à la communication ;
- Aptitude à faire face à des volumes élevés de travail ;
- Capacité à travailler d'une manière harmonieuse et efficace dans une équipe multiculturelle ;
- Excellentes qualités relationnelles et aptitude à entretenir des relations de travail efficaces avec les responsables et les collègues.

Minimum requis :

- Diplôme universitaire d'études supérieures en foresterie, sciences de l'environnement, gestion des ressources naturelles ou dans un domaine connexe ;
- Excellentes capacités d'analyse et d'écriture ;
- Parfaite maîtrise du français orale et écrite ; et bonne connaissance de l'anglais.

INDICATEURS CLÉS DE PERFORMANCE	
Résultats attendus :	*Date:*
Rapport de la consultation régionale sur la méthodologie	EOD + 1 mois
Plan de travail détaillé pour la durée du projet	EOD + 1 mois
Rapport de formation régionale sur les plateformes de calcul dans le cloud	EOD + 2 mois
Rapport de cartographie régionale des perturbations	EOD + 4 mois
Rapport de la consultation régionale sur les moteurs	EOD + 6 mois
Rapport régional sur les moteurs directs	EOD + 7 mois
Rapport sur le volet socio-économique dans les zones test	EOD + 8 mois
Rapport sur l'application du module GEo4LUP	EOD + 11 mois

International Consultant for the bibliographic review

Name:			
Job Title:**	Consultant international pour une revue bibliographique		
Division/Department:	FOA/Département des Forêts		
Programme/Project Number:	Project Symbol : UNJP/GLO/103/UNJ Budget Code : To be provided		
Duty Station:	Rome (Italie)		
Expected Start Date of Assignment:	Project EOD	**Duration:**	10 jours
Reports to: ***Name:***	Rémi d'Annunzio	***Title:***	Coordonnateur activités Afrique, Officier forestier

* Please note: If this TOR is for Consultant / PSA.SBS contract, the minimum relevant experience required **for the assignment** is as follows:

1 year for a category C 5 years for a category B 12 years for a categc

** Please enter a short title (max 25 chars) for this assignment.

GENERAL DESCRIPTION OF TASK(S) AND OBJECTIVES TO BE ACHIEVED

Contexte :

Dans le cadre du programme ONU-REDD, la FAO appuie les pays en développement sur les questions techniques liées à la gestion des forêts et au développement de processus de Mesure, de Notification et de Vérification (MNV) efficients et fiables des réductions d'émissions de gaz à effet de serre. La FAO soutient ainsi notamment la collecte de données de qualité sur les ressources forestières et les utilisations des terres en Afrique Centrale, afin que les décisions politiques dans les domaines de la planification forestière et de l'utilisation des terres ainsi que les plans sectoriels nationaux et les programmes REDD+ puissent se fonder sur des données factuelles.

Dans ce contexte, la FAO exécute un projet d' «Estimation de la déforestation et de la dégradation des forêts et des facteurs directs actuels et historiques associés à ces processus à l'aide de SEPAL », financé par l'Initiative pour la Forêt d'Afrique Centrale (CAFI), dans les six pays partenaires de cette initiative (Cameroun, Gabon, Guinée Equatoriale, République Centrafricaine, République Démocratique du Congo et République du Congo). Ce projet vise notamment à développer une méthode globale, standard et à grand échelle d'estimation et de cartographie des changements de couverts arborés et des facteurs directs associés à l'aide de solutions de cloud-computing et d'outils open-source, et de tester cette méthode dans les six pays évoqués ci-dessus. Cette méthode sera basée sur les connaissances et méthodes existantes, et devra être validée par les pays bénéficiaires et les partenaires techniques du projet. La première activité ce celui-ci est donc l'élaboration d'une synthèse des études et rapports existants sur la déforestation et la dégradation des forêts, notamment ceux portant sur l'Afrique Centrale.

Position hiérarchique :

Sous la supervision générale du Conseiller Technique Principal du projet, le consultant assumera les fonctions et les responsabilités suivantes :

Domaine de spécialisation :

Foresterie

Tâches et responsabilités :

- Elaborer une synthèse des études et rapports existants sur la déforestation et la dégradation des forêts, notamment ceux portant sur l'Afrique Centrale. Cette synthèse portera notamment sur :
    - Les définitions des forêts, de la déforestation et de la dégradation des forêts utilisées par les différents pays bénéficiaires, les parties prenantes du projet et dans les études et rapports existants ;
    - Les facteurs directs actuels et historiques de la déforestation et de la dégradation en Afrique centrale et les causes sous-jacentes de ces deux processus qui ont jusqu'à présent été identifiés ;
    - Les approches mondiales, régionales et nationales existantes pour estimer la déforestation et la dégradation des forêts et les facteurs directs associés ;
    - Le calendrier probable des activités de renforcement des capacités prévues en Afrique, en Amérique latine et en Asie du Sud-Est sur des sujets similaires afin de rechercher des synergies et de formuler des échanges Sud-Sud potentiels.
- Effectuer toute autre tâche sollicitée par le programme.

Pour y arriver, le consultant devra démontrer les compétences suivantes :

Compétences :

- Maîtrise des outils informatiques clés (Office) ;
- Très bon sens de l'organisation ;
- Capacité à prioriser les tâches ;
- Aptitudes à la communication ;
- Aptitude à faire face à des volumes élevés de travail ;
- Capacité à travailler d'une manière harmonieuse et efficace dans une équipe multiculturelle ;
- Excellentes qualités relationnelles et aptitude à entretenir des relations de travail efficaces avec les responsables et les collègues.

Minimum requis :

- Diplôme universitaire d'études supérieures en foresterie, sciences de l'environnement, gestion des ressources naturelles ou dans un domaine connexe ;
- Excellentes capacités d'analyse et d'écriture ;
- Parfaite maîtrise du français orale et écrite ; et bonne connaissance de l'anglais.

INDICATEURS CLÉS DE PERFORMANCE	
Résultats attendus :	*Date requise pour la production des résultats :*
Première version de la synthèse	EOD + 5 jours
Version finale de la synthèse	EOD + 10 jours

International Consultant for the development of the Geo4LUP module

Name:			
Job Title:**	Consultant international pour le développement du module Geo4LUP		
Division/Department:	FOA/Département des Forêts		
Programme/Project Number:	Project Symbol : UNJP/GLO/103/UNJ	Budget Code : To be provided	
Duty Station:	Rome (Italie)		
Expected Start Date of Assignment:	01/04/2021	**Duration:**	100 jours
Reports to: ***Name:***	Rémi d'Annunzio	***Title:***	Coordonnateur activités Afrique, Officier forestier

* Please note: If this TOR is for Consultant / PSA.SBS contract, the minimum relevant experience required **for the assignment** is as follows:

1 year for a category C 5 years for a category B 12 years for a categc

** Please enter a short title (max 25 chars) for this assignment.

GENERAL DESCRIPTION OF TASK(S) AND OBJECTIVES TO BE ACHIEVED

Contexte :

Dans le cadre du programme ONU-REDD, la FAO appuie les pays en développement sur les questions techniques liées à la gestion des forêts et au développement de processus de Mesure, de Notification et de Vérification (MNV) efficients et fiables des réductions d'émissions de gaz à effet de serre. La FAO soutient ainsi notamment la collecte de données de qualité sur les ressources forestières et les utilisations des terres en Afrique Centrale, afin que les décisions politiques dans les domaines de la planification forestière et de l'utilisation des terres ainsi que les plans sectoriels nationaux et les programmes REDD+ puissent se fonder sur des données factuelles.

Dans ce contexte, la FAO exécute un projet d'« Estimation de la déforestation et de la dégradation des forêts et des facteurs directs actuels et historiques associés à ces processus à l'aide de SEPAL », financé par l'Initiative pour la Forêt d'Afrique Centrale (CAFI), dans les six pays partenaires de cette initiative (Cameroun, Gabon, Guinée Equatoriale, République Centrafricaine, République Démocratique du Congo et République du Congo). Ce projet vise notamment à développer une méthode globale, standard et à grand échelle d'estimation et de cartographie des changements de couverts arborés et des facteurs directs associés à l'aide de solutions de cloud-computing et d'outils open-source, et de tester cette méthode dans les six pays évoqués ci-dessus.

Il intègre également une composante liée à la planification de l'affectation des terres et vise ainsi à développer dans SEPAL (Système pour l'accès, le traitement et l'analyse de données pour la surveillance des terres) un module générant des informations géospatiales contribuant à informer les politiques et plans dans ce domaine, Geo4LUP. Ce module devra être testé dans deux zones pilotes et permettra de démontrer l'intérêt d'utiliser des informations sur l'utilisation des terres lors de la conception de politiques publiques ou de plans dans ce domaine.

Position hiérarchique :

Sous la supervision générale du Conseiller Technique Principal du projet, le consultant assumera les fonctions et les responsabilités suivantes :

Domaine de spécialisation :

Foresterie

Tâches et responsabilités :

- Développer un module dans SEPAL générant des informations géospatiales compatibles avec des outils existants, notamment Land-Use-Planner et Ex-Act, à partir du schéma développé par l'UE REDD Facility ;
- Appuyer la phase de test du module dans les deux zones pilotes ;
- Appuyer la rédaction de supports (notamment des études de cas) démontrant l'utilité de ce module dans le domaine de la planification de l'affectation des terres ;
- Appuyer la production des rapports décrivant les activités entreprises lors de la phase de test du module dans les zones pilotes ;
- Effectuer toute autre tâche sollicitée par le programme.

Pour y arriver, le consultant devra démontrer les compétences suivantes :

Compétences :

- Capacité à développer en R, Python, Javascript et/ou Google Earth Engine ;
- Connaissances en analyse géospatiale ;
- Expérience de travail en développement full stack ;
- Familiarité avec ES6 et React ;
- Connaissances en SQL (et de préférence expérience avec PostgreSQL) ;
- Connaissances de Node Server (de préférence avec express) ;
- Capacité à écrire du code clair, concis et bien commenté ;
- Compréhension des technologies Internet et développement de systèmes distribués ;
- Compréhension de préférence du développement logiciel agile ;
- Très bon sens de l'organisation ;
- Capacité à prioriser les tâches ;
- Aptitudes à la communication ;
- Aptitude à faire face à des volumes élevés de travail ;
- Capacité à travailler d'une manière harmonieuse et efficace dans une équipe multiculturelle ;
- Excellentes qualités relationnelles et aptitude à entretenir des relations de travail efficaces avec les responsables et les collègues.

Minimum requis :

- Diplôme universitaire d'études supérieures en Computer Science, IT Engineering, Professional Software Engineer ou dans un domaine connexe ;
- Parfaite maîtrise du français orale et écrite ; et bonne connaissance de l'anglais ;
- Expérience professionnelle d'au moins 2 ans de développement en R, Python et/ou JavaScript et d'au moins deux ans dans le développement web full stack ;
- Expérience professionnelle d'au moins 2 ans en analyse géospatiale.

INDICATEURS CLÉS DE PERFORMANCE	
Résultats attendus :	*Date requise pour la production des résultats :*
Première version du module Geo4LUP	EOD + 1 mois

Deuxième version du module Geo4LUP prête à être testée dans les zones pilotes	EOD + 2 mois
Version finale de Geo4LUPo	EOD + 5 mois
Etudes de cas démontrant l'utilité de Geo4LUP dans le domaine de la planification de l'affectation des terres ;	EOD + 6 mois
Rapport sur les activités de test du module dans les zones pilotes	EOD + 6 mois

National consultant in GIS and RS (x6)

Name:			
Job Title:**	Consultant National en SIG		
Division/Department:	FAO Choose an item.		
Programme/Project Number:	Project Symbol : UNJP/GLO/103/UNJ	Budget Code : To be provided	
Duty Station:	Choose an item.		
Expected Start Date of Assignment:	Project EOD + 1 mois	**Duration:**	140 jours
Reports to: ***Name:***	Choose an item.	***Title:***	Représentant de la FAO Choose an item.

* Please note: If this TOR is for Consultant / PSA.SBS contract, the minimum relevant experience required **for the assignment** is as follows:

1 year for a category C 5 years for a category B 12 years for a categc

** Please enter a short title (max 25 chars) for this assignment.

GENERAL DESCRIPTION OF TASK(S) AND OBJECTIVES TO BE ACHIEVED

Contexte :

Dans le cadre du programme ONU-REDD, la FAO appuie les pays en développement sur les questions techniques liées à la gestion des forêts et au développement de processus de Mesure, de Notification et de Vérification (MNV) efficients et fiables des réductions d'émissions de gaz à effet de serre. La FAO soutient ainsi notamment la collecte de données de qualité sur les ressources forestières et les utilisations des terres en Afrique Centrale, et plus particulièrement Choose an item., afin que les décisions politiques dans les domaines de la planification forestière et de l'utilisation des terres ainsi que les plans sectoriels nationaux et les programmes REDD+ puissent se fonder sur des données factuelles.

Dans ce contexte, la FAO exécute un projet d'« Estimation de la déforestation et de la dégradation des forêts et des facteurs directs actuels et historiques associés à ces processus à l'aide de SEPAL », financé par l'Initiative pour la Forêt d'Afrique Centrale (CAFI), dans les six pays partenaires de cette initiative (Cameroun, Gabon, Guinée Equatoriale, République Centrafricaine, République Démocratique du Congo et République du Congo). Ce projet vise notamment à développer une méthode globale, standard et à grand échelle d'estimation et de cartographie des changements de couverts arborés et des facteurs directs associés à l'aide de solutions de cloud-computing et d'outils open-source, et de tester cette méthode dans les six pays évoqués ci-dessus.

Ainsi, la FAO souhaite recruter un chargé des opérations et de suivi qui aura comme mandat d'appuyer la mise en œuvre de ce projet Choose an item..

Position hiérarchique :

Sous la supervision générale de la Représentation de la FAO Choose an item. et de l'Assistant Programme du Représentant au programme et en étroite collaboration avec le Conseiller Technique Principal du projet, le consultant assumera les fonctions et les responsabilités suivantes :

Domaine de spécialisation :

Foresterie

Tâches et responsabilités :

- Gérer, suivre et coordonner les activités des composantes 2 et 3 du projet, en s'assurant de les mettre en œuvre selon la planification proposée et en travaillant en étroite collaboration avec les partenaires du projet (administrations nationales, institutions académiques et de recherche, organisations non-gouvernementales) ;
- S'assurer de l'atteinte des résultats tels qu'identifiés dans le document de projet et donner son appui au coordinateur du projet lors de la planification et des réunions de suivi ;
- Assurer une documentation précise, complète et régulière de l'ensemble des activités, méthodologies et processus appliqués ainsi que des résultats du projet ;
- Appuyer le suivi des protocoles d'accord entre Choose an item. et la FAO, notamment destiné à :
    - Produire une cartographie des changements de couverts arborés entre 2015 et 2020 Choose an item. ;
    - Produire une estimation de la superficie de la déforestation et de la dégradation des forêts à l'échelle nationale entre 2015 et 2020 ;
    - Analyser et réviser les erreurs d'omission et de commission des cartes et estimations produites;
    - Identifier et quantifier les facteurs directs actuels et historiques de déforestation et de dégradation des forêts à l'échelle nationale ;
    - Analyser et produire une cartographie explicite de la déforestation et de la dégradation des forêts et des facteurs directs actuels et historiques associés à ces processus dans des lieux précis qui seront déterminés après le commencement du projet.
- Organiser et animer des sessions de travail et une session d'ateliers à l'échelle nationale avec les techniciens Choose an item. pour réaliser les tâches ci-dessus et contribuer au renforcement des capacités de cette Choose an item. à accomplir les activités prévues dans le document de projet ;
- Appuyer l'organisation et l'animation :
    - D'une session d'ateliers régionaux de formation à l'analyse de séries chronologiques denses de données sur les couverts arborés ;
    - D'une session d'ateliers régionaux de formation à l'analyse spatiale et temporelle des facteurs directs actuels et historiques de la déforestation et de la dégradation des forêts.
- Produire des rapports décrivant les activités entreprises à l'échelle nationale, les résultats et leur analyse, notamment :
    - Un rapport sur la cartographie des changements de couverts arborés Choose an item. ;
    - Un rapport sur l'analyse des facteurs directs actuels et historiques de déforestation et de dégradation des forêts.
- Appuyer la production des rapports décrivant les activités entreprises à l'échelle régionale, les résultats et leur analyse, et notamment :
    - Les rapports sur les deux sessions d'ateliers régionaux évoqués ci-dessus ;
    - Le rapport final sur l'analyse des facteurs directs actuels et historiques de la déforestation et de la dégradation des forêts.
- Effectuer toute autre tâche sollicitée par le programme.

Pour y arriver, le consultant devra démontrer les compétences suivantes :

Compétences :

- Maîtrise des outils informatiques clés (Office, SIG) ;
- Familiarité avec au moins un langage de programmation courant (Python, Javascript, R) ;

- Très bon sens de l'organisation ;
- Capacité à prioriser les tâches ;
- Aptitudes à la communication ;
- Aptitude à faire face à des volumes élevés de travail ;
- Capacité à travailler d'une manière harmonieuse et efficace dans une équipe multiculturelle ;
- Excellentes qualités relationnelles et aptitude à entretenir des relations de travail efficaces avec les responsables et les collègues.

Minimum requis :

- Diplôme universitaire d'études supérieures dans le domaine de la foresterie, de la biologie, des sciences environnementales, des sciences géographiques ou dans un domaine connexe ;
- Une bonne connaissance du processus REDD+ notamment en Afrique, du Programme ONU-REDD ;
- Expérience professionnelle d'au moins 5 ans dans un domaine pertinent (foresterie, gestion environnementale, développement, etc.)
- Bonne connaissance des logiciels de SIG et de télédétection ;
- Familiarité avec les plateformes de calcul dans le Cloud (e.g Google Earth Engine) ;
- Parfaite maîtrise du français orale et écrite ; et bonne connaissance de l'anglais.

INDICATEURS CLÉS DE PERFORMANCE	
Résultats attendus :	*Date requise pour la production des résultats :*
Première version d'une carte des changements de couverts arborés Choose an item.	EOD + 2 semaines
Rapports décrivant les premiers résultats des activités et formations réalisées	EOD + 2 mois
Rapport sur la cartographie des changements de couverts arborés Choose an item.	EOD + 3 mois
Rapport sur l'analyse des facteurs directs actuels et historiques de déforestation et de dégradation des forêts Choose an item.	EOD + 5 mois
Rapports décrivant les résultats des activités et formations réalisées	EOD + 7 mois

In addition, the following terms of reference will be elaborated during inception phase:

- Regional consultation on the methodological approach
- Regional workshop on cloud-based computing for forest change
- National workshops on driver's interpretation (x6)
- Regional workshop on geospatial data analysis
- Regional workshop of restitution / dissemination

Annex XIII Proposed structures of the Steering Committee and the Technical Committee

Proposed structure of the Steering Committee

The Steering Committee (SC) should be composed of:

- the FAO PTF;
- 1 member of the CAFI EB;
- 1 member of the CAFI Secretariat;
- 2 representatives of two of the six CAFI Partners Countries involved (4 representatives in total): the represented countries will rotate at every meeting, and the involved countries will coordinate to ensure that each of them will have attended at least one meeting during the project duration;
- 1 representative of the Congo Basin Forest Partnership (CBFP).

Proposed structure of the Technical Committee

The Technical Committee (TC) should be composed of:

- 2 members of the FAO PTF;
- 2 members of the CAFI EB;
- 2 members of the CAFI Secretariat;
- 1 representative of the six forest directions of the CAFI Partners Countries involved:
    - **Cameroon**: *Direction des Forêts* of the *Ministère des Forêts et de la Faune* (MINFOF) / and/or Ministère de l'Environnement et de la Protection de la Nature (MINEPDED);
    - **CAR**: the *Ministère des Eaux, Forêts, Chasse et Pêche* (MEFC);
    - **DRC** : *Direction des Inventaires et Aménagements Forestiers* (DIAF) of the *Ministère de l'Environnement, Conservation de la Nature et Développement Durable* (MECNDD);
    - **Equatorial Guinea**: *Instituto Nacional de Desarrollo Forestal (INDEFOR)* of the *Ministerio de Agricultura, Ganadería, Bosques y Medio Ambiente* (MAGBOMA);
    - **Gabon** : *Direction Générale des Forêts* of the *Ministère des Eaux, des Forêts, de l'Environnement, Chargé du Plan Climat, des Objectifs de Développement Durable et du Plan d'Affectation des Terres* (MEF);
    - **Republic of Congo** : The *Centre National d'Inventaire et d'Aménagement des ressources Forestières et fauniques* (CNIAF) of the *Ministère de l'Economie Forestière et du Développement Durable (MEFDD*).
- 1 representative of the *Observatoire des forêts d'Afrique centrale* (OFAC) ;
- 1 representative of the Congo Basin Forest Partnership (CBFP) Scientific and Academic College;
- 1 representative of the Joint Research Centre (JRC) of the European Commission;
- 1 representative of the *Institut de Recherche pour le Développement* (IRD);
- 1 representative of the *Réseau de Recherche sur les Forêts d'Afrique Centrale* (R2FAC);
- 1 representative of the World Resource Institute (WRI);
- 1 representative of the Rainforest Foundation United Kingdom (RFUK);
- 1 representative of the Wildlife Conservation Society (WCS);

- 1 representative of each organisation that will conduct the field surveys during Activity 4.2.

The Technical Committee will advise and approve the methodological orientations of the project and validate the milestones results of the project:

- the decisions taken during the inception workshop (Activity 1.2);
- the methodology for the forest change maps (Activity 2.1);
- the protocol for sampling and interpretation of the drivers (Activity 3.1);
- the features of interest for the spatial and temporal analysis of the drivers (Activity 3.2);
- the regional report on drivers of deforestation and degradation (Activity 3.3);
- the selection of the pilot areas for the land use planning exercise (Activity 4.1);
- the socio-economic field surveys in the pilot areas (Activity 4.2);
- the tests of the land use planning module in the two pilot areas (Activity 4.4).

Annex XIV Options for definitions, spatial and temporal scope

Forest, deforestation and forest degradation definitions

The definition of forest has a direct incidence at all stage of the proposed assessment and issues related to nomenclature were addressed during the formulation of the project.

The forest definition approach that will be adopted during the project is to use national definitions for forest and to adopt one common framework of reporting by major categories of land use change. This approach is the one taken in the Intergovernmental Panel on Climate Change (IPCC) process for instance.

Each national definition of forests will be translated into the ISO standard LCML / LCCS v3 to facilitate its integration at regional level. This translation of definition will build on the exercise carried out by OFAC in 2019 and initial capacity building at regional level in 2016 at ERAIFT.

Despite the fact that this approach could create border effects on the map, it ensures the constituency of the data that will be generated with national statistics and therefore the natural country ownership of the assessment and of its results.

Country boundaries

One set of country boundaries should also be agreed on at the beginning of the project, and be made available in one equal-area projection system, adopted at the regional level. The Lambert Azimuthal Equal Area for Africa could be a good projection system for that assessment, for instance. In case of conflicting official boundaries between neighbouring countries, overlapping

Map convention

As a convention, maps for a given year will be considered as of the 1st January of the year. For instance the 2015 Forest map will be representative, as much as possible, of the state of the forests on 1st January 2015. Forest changes for the year will comprise all changes occurring during the year.

As a result of that convention, the 2015-2020 change period will take into account changes occurring in 2015, 2016, 2017, 2018 and 2019.

Annex XV Options for the forest disturbance mapping methodology

The use of dense time series to analyse trends in forest cover change is one of the different approaches to monitor degradation through remote sensing. The different algorithms for this approach are computationally intensive and require processing large volumes of data (BFAST, CCDC, LandtrendR, EWMACD).

BFAST

The Breaks for Additive Seasonal and Trend (BFAST) method enables to analyse the dynamics of satellite dense time series and overcomes the major challenge to distinguish land-cover change from seasonal phenological variations. Verbesselt et al. (2010), Dutrieux et al. (2015) and DeVries et al. (2015) used this approach to demonstrate that time series can be decomposed into trend, seasonal, and remainder components and that the time and number of changes can be detected at high temporal resolution (i.e. 16 days), enabling detection of tree cover change and separation from phenology signal.

In collaboration with the University of Wageningen, FAO has adapted the bfastSpatial package into a functional processing chain that uses both Google Earth Engine (GEE) for the preparation of the time series and SEPAL for the processing of the algorithm itself.

CCDC

The Continuous Change Detection and Classification (CCDC) algorithm was developed at Boston University (Zhu and Woodcock, 2014) and assumes that noise is ephemeral and land cover change is persistent. It uses all available Landsat observations at each pixel to simultaneously map land cover and land cover change, in a 2-step process:

- Identification of change points and modelling of stable time segments;
- Assignment of class labels to each time segment.

EWCAD

The Exponentially Weighted Moving Average Change Detection (EWMACD) (Brooks et al., 2014) is a freely available, open-source pixel-level time series change detection algorithm designed to detect a wide variety of persistent changes to forested pixels. EWMACD uses exponentially weighted moving average (EWMA) control charts to analyse residual values resulting from fitting the input time series to harmonic (e.g., Fourier) curves to account for seasonal patterns. The result is a time series of signals, which convey not only the presence of a disturbance but also the magnitude and timing, up to the temporal resolution of the input data.

LandTrendR

LandTrendR is a set of spectral-temporal segmentation algorithms that are useful for change detection in a time series of moderate resolution satellite imagery (primarily Landsat) and for generating trajectory-based spectral time series data largely absent of inter-annual signal noise.

Awty-Carroll et al. (2019) indicated that BFAST would perform better in noisy datasets as expected in the region (due to persistent cloud and haze cover in many places) but that CCDC should be used where there are high quantities of missing data, so the performance of both algorithms should be tested first. The Change Detection and Classification (CCDC), the Exponentially Weighted Moving Average Change Detection (EWMACD) and LandTrendR are processes available in Google Earth Engine that can be easily translated into SEPAL for an easy access by the project beneficiaries.

They should all be considered as valid options and the final decision should be made after consultation with the different technical partners during Activity 1.2.

Annex XVI Preliminary review of definitions of the deforestation et forest degradation adopted by the Congo Basin countries and used in some studies

Table 10: Definition of deforestation

Perimeter	Source	Date	Definition of deforestation
Global	Hosonuma et al.	2012	Deforestation in this letter denotes the (complete) removal of trees and the conversion from forest into other land uses such as agriculture, mining etc, with the assumption that forest vegetation is not expected to naturally regrow in that area.
Global	Hansen et al.	2013	Forest loss was defined as a stand-replacement disturbance or the complete removal of tree cover canopy at the Landsat pixel scale.
Global	Kissinger et al.	2012	Deforestation here is defined as the conversion from forest into other land use categories, with the assumption that forest vegetation is not expected to regrow naturally in that area.
Regional	Tritsch et al.	2019	We calculated tree cover loss between 2000 and 2010 for two tree-cover thresholds, 30% and 70%. The 30% tree-cover threshold is that used in most forest definitions, but in the case of the countries of the Congo Basin, the 70% tree-cover threshold seems to be more realistic given the forest conditions on the ground (Sannier et al., 2016).
Regional	Megevand et al.	2013	The United Nations Framework Convention on Climate Change defines deforestation as “the direct, human-induced conversion of forested land to non-forested land.” Deforestation occurs when at least one of the parameter values used to define “forest land” is reduced from above the threshold for defining “forest” to below this threshold, for a period of time that is longer than the period of time used to define “temporarily unstocked.”
Regional	Tyukavina et al.	2018	Forest loss is defined in the current study as complete or partial removal of woody vegetation, which reached a 5-m height threshold by the year 2000 and >25% tree canopy cover, within a sampled 30mby 30mpixel. This includes “stand-replacement disturbance or the complete removal of tree cover canopy at the Landsat pixel scale,” as defined by Hansen et al.(14), and partial tree cover losses associated with boundary pixels and selective logging. Forest loss was recorded in three gradations: 75 to 100% (counted as 100% of pixel area lost), 25 to 75% (50% of pixel area lost), and <25% (0% of pixel area lost).
Cameroon	REDD+ NS	2018	Conversion de la forêt à d’autres utilisations des terres indépendamment du fait qu'elle soit anthropique ou pas.
CAR	FRA	2020	La déforestation ou déboisement se définit par la conversion anthropique directe de terres forestières en terres non forestières (Décision 11/CP7).
DRC	FREL	2018	La déforestation est définie comme une conversion directe, d’origine anthropique, d’une terre forestière à une terre non forestière (conversion de "forêts denses humides sur terre ferme ou sol hydromorphes", "forêts sèches ou forêts claires" ou "forêts secondaires" en "prairies", "terre cultivées" ou "autres terres")
EqG	FRL	2020	Transformación del bosque a otro uso de la tierra o reducción a largo plazo de la cubierta de copa por debajo del umbral mínimo del 30% correspondiente a la definición de bosque.
Gabon	FRA	2020	Conversion de la forêt à d’autres utilisations des terres indépendamment du fait qu'elle soit anthropique ou pas.
RoC	FREL	2017	La Déforestation est définie comme le passage de forêt à non forêt.
RoC	MEFDD	2014	La déforestation est le passage de forêt à non forêt subdivisée selon les 5 classes définies dans le guide des bonnes pratiques établi par le Groupe d’experts intergouvernemental sur l’évolution du climat (GIEC) en 2003, ainsi que les Lignes directrices sur le secteur de l’agriculture, de l’utilisation des terres et de la forêt, établies par le GIEC en 2006.

Table 11: Definition of forest degradation

Perimeter	Source	Date	Definition of forest degradation
Global	Curtis et al.	2018	Forest degradation is broadly defined as a "reduction in the capacity of a forest to produce ecosystem services such as carbon storage and wood products as a result of anthropogenic and environmental changes.", While shifting agriculture, wildfire and forestry are all degraded states relative to a reference state of an undisturbed primary forest, our methods and results do not warrant claims about which of the world's forested landscapes were stable vs. degrading over the 15-year period analysed.
Global	Hosonuma et al.	2012	Forest degradation denotes thinning of the canopy and loss of carbon in remaining forests, where damage is not associated with a change in land use and where, if not hindered, the forest is expected to regrow.
Global	Kissinger et al.	2012	Forest degradation is defined as reduction of the canopy and loss of carbon in forests remaining forests, where the human disturbances are not associated with a change in land use and where, if not hindered, the forest is expected to regrow or be replanted.
Global	Bustamante et al.	2016	Forest degradation can be defined as the reduction of the capacity of a forest to provide key ecosystem services, such as carbon storage, and can be caused by natural (e.g., landslides and hurricanes) or human disturbances (e.g., selective logging and understory fires) (Parrotta et al., 2012).
Regional	Megevand et al.	2013	Forest degradation is "forest land remaining forest land and continuing to meet the basic national criteria related to minimum forest area, forest height, and tree crown cover" but gradually losing carbon stocks as a consequence of direct human intervention (for example, logging, woodfuel collection, fire, grazing). "Degradation" is thus the conversion of a forest class with higher average carbon stock density into one with lower average carbon stock density.
Cameroon	FRA	2020	La dégradation se définit par la baisse du stock de carbone des terres forestières restant terres forestières.
CAR	FRA	2020	La dégradation se définit par la baisse du stock de carbone des terres forestières restant terres forestières.
DRC	FREL	2018	La dégradation forestière concerne les terres forestières appartenant aux catégories « forêt dense humide sur terre ferme », « forêt dense humide sur sol hydromorphe » et « forêt sèche ou forêt claire » qui sont converties en « forêt secondaire ».
EqG	FRL	2020	Cambios en el bosque que afectan negativamente a la estructura o función de la masa forestal o el lugar, reduciendo su capacidad para suministrar productos y/o servicios.
Gabon	FRA	2020	La dégradation se définit par la baisse du stock de carbone des terres forestières restant terres forestières.
RoC	FREL	2017	La Dégradation Forestière est définie comme la diminution du potentiel de la biomasse tandis que la forêt reste forêt.

Annex XVII Observations of FONAREDD

DRC's comments on the CAFI-FAO programme on drivers of deforestation in the Congo Basin

03.06.2020

1. Background

The programme was reviewed by the FONAREDD Technical Committee at its 30th meeting (TC30) on 29 May 2020, in order to provide the DRC's observations and ensure that the programme produces useful results for the DRC and does not conflict with the work of the Ministry of Environment and Sustainable Development (MEDD) on the National Forest Monitoring System (SNSF). Prior to TC30, an ad hoc working group met twice, consisting of representatives of the GTCRR and the Ministry of Environment and Sustainable Development (MEDD), including the Directorate General of Forests (DIAF), the Directorate of Sustainable Development, the Directorate of Forest Inventories and Management, the National REDD Coordination, as well as SE FONAREDD. The ad hoc group had proposed that the DRC engage in the debate in order to ensure upstream that the programme creates beneficial results for the country that are not in contradiction with the work carried out to date at the national level.

The following list of observations from the DRC is based on the discussions of the ad hoc group and the TC30. The comments are based on the presentation of the FAO Representative at TC30 as well as on the programme document (PRODOC) that was provided to FONAREDD in early May, noting that revisions have since been incorporated.

2. DRC's comments on the proposed programme

a) Participation of the DRC in the programme

- **The DRC would like to take an active part in the programme** proposed by CAFI and FAO, given the importance of the country in the Congo Basin, **but would like to reserve the right to withdraw when the final PRODOC is presented**, if the country's concerns and proposals, as presented below, are not adequately reflected in it.
- In order to ensure the usefulness of the programme for the DRC, it would be necessary to ensure coordinated participation of the country and that there is **a participatory approach**.

b) Institutional Arrangements and Stakeholder Engagement

- The group took note of the planned composition of the programme's governance structures and would like to ensure **adequate representation of the DRC and to allow - as stated in PRODOC - "close coordination of the project between the CAFI Governing Board, FAO and the beneficiary countries".** In particular, the group proposes the following amendments:
- The provision of a **formal role for FONAREDD in the Programme's Technical Committee**; [21]
- The provision of a **formal role for a representative of civil society in the Technical Committee** of the programme, in order to ensure the participation not only of international civil society but also that of the beneficiary countries;
- The **official submission of the programme document to the MEDD hierarchy** (Minister and Secretary General in copy) by the FAO for the official designation of its representatives. This request could be accompanied by technical criteria to ensure a representation corresponding to the objectives of the Programme; and

[21] Note of 8 June 2020: amendment reflected in the document, section XIII

- **The inclusion of the target countries in the Programme Steering Committee**[22], not as observers, but as full active members. A system in which the DRC acts on behalf of the countries of the region, recognizing that it represents 60% of the territory covered by the planned study, could be envisaged, or any other system of rotation and representation of country perspectives.
- With regard to stakeholder consultation more generally, the ad hoc group noted the following:
- While it is planned to involve international expertise in this project in a comprehensive way, **it would be essential to rely on national experts as well;**
- It would be **important to involve the platforms of indigenous peoples' representative organizations in the study** at the country level and encourage their active participation;
- At the level of each country concerned by the study, it would be essential **to place national climate platforms**, such as the GTCRR in the case of the DRC, **at the same level as international NGOs** (such as WCS, RFUK and WRI). The GTCRR played a key role in piloting the quantitative component of the DRC national study on the drivers of deforestation conducted in 2011-2012; and
- In order to build a common understanding of the proposed study, it would be important to assess the **social risks associated with potential conflicts of interest between stakeholders**, bearing in mind that communities, civil society, the private sector and Government have divergent interests in relation to deforestation.

c) Objectives of the programme

- The development of the programme should take into account the need **to preserve the hard-won consensus on the drivers of deforestation and forest degradation in the DRC**, and not jeopardize the investments currently being made through FONAREDD;
- The objective and intended use of the programme should be better defined. In particular, it should be **clarified whether the study seeks to study the causes of deforestation or rather its magnitude**. If it is about the causes, it would be imperative that the study be based on field verifications, and not only on satellite data, recognizing that satellite observations, especially of degradation, can hardly be translated into causes ;
- Furthermore, it would be useful to **develop a typology of situations exploiting the causes and subcauses of deforestation and forest degradation** in the DRC, based on field studies, given that such scientific work has not yet been carried out systematically. This could be the result of another scientific study;
- The expected impact of the study as described in the PRODOC seems too ambitious, especially in speaking of a global effect without any other forest basin being involved. Furthermore, **it would be useful to develop a theory of change for the programme** in order to clarify how a programme consisting mainly of a methodological exercise will have an impact on improving forest governance;
- The programme's PRODOC has set the objective of demonstrating the relevance of the estimation method, but the study should rather aim to test the method in question, recognizing that there may be unanticipated limitations or challenges in its application;
- In response to FAO's clarification that the scope of the study should focus only on direct drivers of deforestation, care should be taken to ensure that all references to indirect drivers of deforestation are removed from the programme document.

[22] ibid

d) Geographic scale of the programme

- Recognizing the diversity of country dynamics and characteristics in the Congo Basin, it seems **too ambitious to try to reach a regional consensus on the direct drivers** of deforestation;Similarly, **it does not seem feasible to reach a regional consensus on definitions of forest**, deforestation and degradation, knowing that countries base their REDD+ efforts and processes on national definitions that have often been laborious to develop. Unless countries revise and align their national definitions to a new regional definition, which seems unlikely, the data generated by the study would not be comparable with national processes and therefore would be of limited usefulness;
- In this context, there is a **need to further clarify how mapping will be based on national and/or regional definitions** to ensure their relevance and use.
- It would also be necessary to clarify how **possible conflicts between regional and national data** would be managed. At the TC, FAO's response on this issue was not considered satisfactory and it is recommended that it be included in the initial discussions of the Regional Programme Technical Committee for resolution. The representatives of DRC in this committee will be in charge of ensuring that this aspect is properly taken into account and report the conclusions to M.E. FONAREDD for transmission to the TC;
- PRODOC indicates that the programme will help to respond to the drivers identified by a regional cooperation/strategy, while the countries of the region are currently operating on the basis of national strategies. It is therefore necessary **to clarify whether it is planned to implement regional cooperation and/or regional activities;**
- The split between the publication of regional and national data resulting from the study should be further clarified. Since the regional map foreseen by the programme would be built on the basis of the national maps, there is reason to believe that national data would be published, but it is not clear where and how. FAO's responses to this at the TC were not satisfactory;
- The PRODOC should better reflect the fact that **DRC has different capacities than other countries in the region in terms of REDD+ activities**, having an SNSF, submitted a NERF to the UNFCCC and started work for the submission of the BUR. In several places, PRODOC presents data for the DRC alone, thus demonstrating that the other target countries of the study do not have the same tools, and thus calling into question the comparability of data across the region
- Given that the programme covers six very diverse countries, it would be crucial to **examine the representativeness and character of the two pilot sites** planned for the study. Given that the programme covers six very diverse countries, it would be crucial to examine the representativeness and character of the two pilot sites planned for the study. It would be essential to clarify on what basis these two areas would be selected, as well as their characteristics and geographical dimensions, as these considerations have implications for the budget allocated to this activity.

e) Technical aspects of the study

- In order to enable DIAF to continue the work that would be launched by this study in the long term, it would be essential to **choose a methodology that is consistent with the tools available within DIAF, the weakness of Internet access and the capacity to download/storage/access high-resolution images;**
- In addition, the DRC has prepared its BUR with the REDD 2014-2016 technical annex that is currently being validated. If the data resulting from the program differs from the BUR, it will be important to clarify the origin of these differences as they will cover similar periods. Furthermore, if the program aims to have the new methodology developed for the BUR 2016-2018 adopted by the MEDD and the SNSF, **care should be taken not to put the DRC in a**

situation where it risks being criticized for a possible conflict or inconsistency with the methodology and data used in the NERF and the BUR 2014-2016. These aspects will have to be discussed by the Regional Technical Committee as they are as relevant for the DRC as for other countries;

- It would be necessary to **align the terminology of the study with that used by the countries of the region**, noting for example that PRODOC uses the expression historical and current direct factors, while the usual term is direct drivers ;
- It would be useful to **have a specific section that explains how the linkages between the NSSF (or country NSSFs) and the programme would be pursued** and how this programme would be nested;
- To enhance the added value of the programme, it would be beneficial to ensure that there is a particular **focus on degradation**, noting that the majority of previous studies on the Congo Basin have focused on deforestation;
- The **distinction between current and historical drivers of deforestation should be better reflected**, as historical drivers are assessed on the basis of a different methodology;
- It would be **important to avoid repeating the mistakes made by the DRC on the recommendation of the FAO to use an approach aimed at making all layers statistically represented** (including stable forest, non-stable forest, deforestation, forest degradation), so as not to risk overestimating certain layers and resulting in an inflation of the figures; and
- **In the case of geospatial data (cf. RfUK and WRI), it should be avoided that the analysis is influenced by the initial bias in the selection of sites**, bearing in mind that the different actors who generated the data have their own objectives.
- **The question of ownership and security of national data deserves to be clarified** in the PRODOC. DIAF is the authorized national entity for the DRC.

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