Forest Carbon Partnership Facility (FCPF)
Carbon Fund

Emission Reductions Program Idea Note (ER-PIN)

Country: Cameroon

ER Program Name: Emission reduction program in southern Cameroon

Date of Submission or Revision: 18th September 2015

Guidelines:

1. The FCPF Carbon Fund will deliver Emission Reductions (ERs) from activities that reduce emissions from deforestation and forest degradation, conserve forests, promote the sustainable management of forests, and enhance forest carbon stocks in developing countries (REDD+) to the Carbon Fund Participants.
2. A REDD Country Participant interested in proposing an ER Program to the Carbon Fund should refer to the selection criteria included in the Carbon Fund Issues Note available on the FCPF website (www.forestcarbonpartnership.org) and to further guidance that may be communicated by the FCPF Facility Management Team (FMT) over time.
3. ER Programs shall come from FCPF REDD Country Participants that have signed their Readiness Preparation Grant Agreement, using this ER Program Idea Note ('ER-PIN') template.
4. The completed ER-PIN should ideally not exceed 40 pages in length (including maps, data tables, etc.). If additional information is required, the FCPF FMT will request it.
5. Please submit the completed ER-PIN to: 1) the World Bank Country Director for your country; and 2) the FCPF FMT (fcpfsecretariat@worldbank.org).
6. As per Resolution CFM/4/2012/1 the Carbon Fund Participants' decision whether to include the ER-PIN in the pipeline will be based on the following criteria:
    i. **Progress towards Readiness:** The Emission Reductions Program (ER Program) must be located in a REDD Country Participant that has signed a Readiness Preparation grant agreement (or the equivalent) with a Delivery Partner under the Readiness Fund, and that has prepared a reasonable and credible timeline to submit a Readiness Package to the Participants Committee;
    ii. **Political commitment:** The REDD Country Participant demonstrates a high-level and cross-sectoral political commitment to the ER Program, and to implementing REDD+;
    iii. **Methodological Framework:** The ER Program must be consistent with the emerging Methodological Framework, including the PC's guiding principles on the methodological framework;
    iv. **Scale:** The ER Program will be implemented either at the national level or at a significant sub-national scale, and generate a large volume of Emission Reductions;
    v. **Technical soundness:** All the sections of the ER-PIN template are adequately addressed;
    vi. **Non-carbon benefits:** The ER Program will generate substantial non-carbon benefits; and
    vii. **Diversity and learning value:** The ER Program contains innovative features, such that its inclusion in the portfolio would add diversity and generate learning value for the Carbon Fund.

1. Entity responsible for the management of the proposed ER Program

1.1 Entity responsible for the management of the proposed ER Program *Please provide the contact information for the institution and individual responsible for proposing and coordinating the proposed ER Program.*	
Name of managing entity	National REDD+ Steering Committee on behalf of the Ministry of the Environment, Nature Protection and Sustainable Development (MINEPDED)
Type and description of organization	The National REDD+ Steering Committee (SC) is the highest decisional organ of the REDD+ process in Cameroon. Created by Prime Ministerial decree n° 103/CAB/PM of June 13th 2012, this multi-sectoral committee has been operational since then, providing guidance and orientation to the national REDD+ process. The SC is multi-stakeholder, composed of representatives of ministries managing natural resources (Forestry and Wildlife; Agriculture and Rural Development; Livestock, Fisheries and Animal Industry; Economy and Territorial Administration, Mines, Industry and Technology Development), civil society organizations, indigenous peoples and technical and financial partners accompanying the government, thus ensuring a multi-sectoral and participatory approach in the design and implementation of REDD+. MINEPDED, as the designated national authority of the climate change convention, is the president of the SC; and the Ministry of Forestry and Wildlife (MINFOF), which is responsible for the sustainable management of forest resources, is the vice president of the SC.
Main contact person	Amadou Wassouni
Title	National REDD+ Coordinator
Address	MINEPDED Cameroon
Telephone	+237 699 751 484
Email	wassouni.amadou@yahoo.fr
Website	www.minep.cm.gov

1.2 List of existing partner agencies and organizations involved in the proposed ER Program
*Please list existing partner agencies and organizations involved in the development of the proposed ER Program or that have **executive functions in financing, implementing, coordinating and controlling** activities that are part of the proposed ER Program. Add rows as necessary.*

Name of partner	Contact name, telephone and email	Core capacity and role in the proposed ER Program
REDD+ Technical Secretariat (TS)	**Dr. Amadou WASSOUNI** REDD+ National Coordinator Tel: +237 699 751 484 Email: wassouni.amadou@yahoo.fr **Professor Joseph Armathé AMOUGOU** UNFCCC Focal Point Tel: +237 69990 3210 Email: joearmathe@yahoo.fr **Mr. Bruno MFOUOU MFOUOU** Director of Forestry Tel: +237 6993 29729 Email: brunomfouou@yahoo.fr	The TS is the operational organ of the REDD+ process and ensures the coordination of REDD+ activities. The TS has the mandate to elaborate the national REDD+ strategy, to represent the management structure in the different ministries and among other stakeholders, and to guarantee the integration of REDD+ policies in national and sectoral strategies as well as other development initiatives.
REDD+ Technical Secretariat Support Programme (PAST)	**Dr René SIWE** Tel: +237 696 84 40 68 Email: rene.siwe@gmail.com	The PAST is the operational organ of the Technical Secretariat and has as mission the elaboration of the national REDD+ strategy. The PAST will have the role to monitor and coordinate the implementation of the ER-Program. It will work closely with the ER Program Task Force (to be established) and the regional and departmental technical committees in the ER Program area.
Ministry of Forestry and Wildlife (MINFOF)	**Mr. Denis Koulagna** Secretary General Tel: +237 242 22 94 86 Email: koulagnakkd@yahoo.fr	MINFOF is responsible for the conservation and sustainable management of forest resources and will thus play a key role in the ER Program.
Ministry of Agriculture and Rural Development (MINADER)	**Mr. Eugene Dikongue Matham Njoh-Lea** Inspector General Tel: +237 699 10 54 81 Email: dikomat@yahoo.fr	MINADER designs and implements national agricultural policies and will support the ER Program in this regard.
Ministry of Economy, Planning and Regional Development (MINEPAT)	**Mr. Libam Dieudonne** Tel: +237 677 78 72 49 Email: christianlibam@yahoo.fr	MINEPAT's mission is to plan the different land use patterns in Cameroon through a zoning plan and to coordinate

		foreign aid. In this role, it signs all foreign aid accords/agreements.
Ministry of Livestock, Fisheries and Animal Industry (MINEPIA)	**Mme. Renée Degrâce WEULASSAGOU** Tel: +237 699 84 23 63 Email: weutiako@yahoo.fr	MINEPIA's mission is to provide technical guidance and oversee the implementation of the activities related to livestock and fisheries.
Ministry of Mines, Industry and Technology Development (MINMIDT)	**Mr. Felix EBOA MPILE** Tel: +237 695 172 577 Email: mpileboa@yahoo.fr	MINMIDT is responsible for the coordination of mining and industrial activities, and technological developments and transfer.
Conservation Action Research Network (CARN), which includes the following organizations: ECOPARTNERS MOSAIC	**Dr. Thomas B SMITH** Tel: +1 310 206 4712 Email: tbsmith@g.ucla.edu	CARN will support the implementation of the ER Program through the Congo Basin Institute, Cameroon offices. The network will provide technical support on a broad range of subjects including among others: measuring and monitoring of carbon and non-carbon benefits; mobilizing Indigenous Peoples (IP), addressing safeguards at policy level, ensuring the maintenance of key ecological services, promoting biodiversity conservation and building capacity of IPs and civil society on REDD+ at ground level.
World Bank	**Serges Emeran MENANG** Tel: +237 699 989 748 Email: emenangevouna@worldbank.org	Technical and financial partner, supporting the mobilization of experts (national and international) for the elaboration of the ER Program. Also providing financial and material support to the REDD+ TS for the elaboration of the REDD+ strategy.
World Wide Fund for Nature (WWF)	**Bertin TCHIKWANGA** Tel: +237 6995 036 19 Email: btchikangwa@wwfcarpo.org	Technical partner supporting private sector engagement (including mining and agroindustry) through their Business and Industries program. WWF supports Protected Area conservation in numerous areas throughout the ER Program area, including through participatory management engaging local communities and indigenous people.
International Union for Conservation of Nature (IUCN)	**Ms. Ako Charlotte EYONG** REDD+ Project Officer Tel: +237 650636059 Email: charlotte.eyong@iucn.org	Technical, strategic and financial partner facilitating consultation and participation of different stakeholders; and bringing in decades of experience and ground work

		with the stakeholders in the ER Program area, including with MINEPDED on non-carbon benefits and environmental and social impacts of REDD+. During ER Program implementation, IUCN will mobilize participation of civil society networks, IPs, gender & other minority groups, support capacity building, and communication and partnerships.
International Institute for Tropical Agriculture (IITA)	**Dr. Rachid Hanna** Tel: +237 670190066 Email: r.hanna@cgiar.org	Technical partner, provide support for research on sustainable intensification of food crop production and in the development of cocoa culture to optimize the production and contribution to the reduction of emissions.
International Council for Research in Agroforestry (ICRAF)	**Dr. Zac TCHOUNDJEU** Tel: +237 +237 2221 5084 Email: Z.Tchoundjeu@cgiar.org	Technical and research partner supporting ER Program design especially in areas related to research on agroforestry and accompanying local population in setting up agroforestry systems.
Wildlife Conservation Society (WCS)/ (CARN)	**Olivier SENE** Tel: +237 699 2248 32 Email: olivier_sene@yahoo.fr	Technical partner bringing in experience in setting up carbon projects, elaborating reference emission levels and developing MRV systems.
Centre for International Forestry Research (CIFOR)	**Dr. Denis SONWA** Tel: +237 6771 348 81 Email: d.sonwa@cgiar.org	Technical partner supporting program design through evidence-based research on ER interventions and related barriers to implementation.
GIZ/Programme Forêt Environnement (PFE)	**Didier HUBERT** Tel: +237 679 54 58 99 Email: didier.hubert@eco-consult.com	Technical partner supporting forest management (concessions, council forests); sustainable agriculture, and wood energy.
Civil Society and Indigenous People Organizations	**Mrs Cecile NDJEBET** Civil Society Platform Tel: +237 6778 635 99 Email: cecilendjebet28@gmail.com **Mrs Hawe BOUBA** Representative of Indigenous People Groups Tel: +237 67778 7334 Email: hawebouba@yahoo.com	Facilitate the process of sensitization, information sharing, participation and consultation of the different stakeholders, especially civil society and indigenous people.

2. Authorization by the National REDD+ focal point

Please provide the contact information for the institution and individual who serve as the national REDD+ Focal Point and endorses the proposed ER Program, or with whom discussions are underway

Name of entity	Ministry of the Environment, Nature Protection and Sustainable Development
Main contact person	Amadou Wassouni
Title	National REDD+ Coordinator
Address	MINEPDED Cameroon
Telephone	+237 699 751 484
Email	wassouni.amadou@yahoo.fr
Website	www.minep.cm.gov

2.1 Endorsement of the proposed ER Program by the national government

Please provide the written approval for the proposed ER Program by the REDD Country Participant's authorized representative (to be attached to this ER-PIN). Please explain if the national procedures for the endorsement of the Program by the national government REDD+ focal point and/or other relevant government agencies have been finalized or are still likely to change, and how this might affect the status of the attached written approval. ER Program) must be located in a REDD Country Participant that has signed a Readiness Preparation grant agreement (or the equivalent) with a Delivery Partner under the Readiness Fund, and that has prepared a reasonable and credible timeline to submit a Readiness Package to the Participants Committee

The development of this ER-Program Idea Note (ER-PIN) is managed under the oversight of the REDD+ Steering Committee (SC), which is the multi-stakeholder decisional organ providing strategic and policy guidance for the design and implementation of REDD+ in Cameroon. The SC is supported by a Technical Secretariat (TS), which is the operational organ of the REDD+ process and ensures the coordination of REDD+ activities. A letter of endorsement of the ER-PIN has been signed by the Minister presiding MINEPDED and President of the SC (see Annex).

This ER Program is being developed and will be implemented by the REDD+ TS in collaboration with decentralized regional and divisional REDD+ technical committees, and technical development and research partners shortlisted in Section 1.2. The basic premise of and main interventions proposed by this ER Program have been presented to members of the SC and has the backing of all its members. The ER-PIN development process culminated in a final consultation workshop held on September 09, 2015 whereby the numerous relevant stakeholders voiced their approval and support for the ER Program. With the support of PAST, the R-Package is expected to be completed by May 2017. There are important synergies between the REDD+ strategy development and ER Program, and advancements in national Readiness and REDD+ implementation at the sub-national level are mutually reinforcing, providing information and institutional capacity building.

2.2 Political commitment

Please describe the political commitment to the ER Program, including the level of support within the government and whether a cross-sectoral commitment exists to the ER Program and to REDD+ in general.

The government of Cameroon has demonstrated consistent commitment in contributing to the stabilization of greenhouse gases (GHG) by combating the causes of deforestation and forest degradation as well as the conservation and enhancement of carbon stocks and the sustainable management of forests through its active engagement in implementing multilateral and bilateral conventions, including but not

limited to the United Nations Framework Convention on Climate Change (UNFCCC), Convention on Biological Diversity (CBD), the Central African Forest Commission (COMIFAC) on conservation and sustainable management of forest ecosystems in Central Africa. Cameroon's Intended Nationally Determined Contributions (INDC) – to be submitted before the 1st of October 2015 – outlines the country's mitigation commitments, whereby land use and forestry is a central strategy.

The National REDD+ Steering Committee (SC) is the highest decisional of the REDD+ process in Cameroon. The SC is multi-stakeholder, composed of representatives from the Presidency, the Prime Ministry, Ministries in charge of natural resources and land-related sectors (MINEPDED, MINFOF, MINEPIA, MINADER, MINMINDT, and MINEPAT), civil society organizations, indigenous peoples and the private sector. Their different roles have been outlined in section 1.2. The SC's expressed commitment and strong support of the ER Program exemplifies the high-level and multi-sectoral endorsement of the Program. By connecting carbon finance with specific programs and initiatives that deliver results, the Government of Cameroon expects that the development and implementation of the ER Program in Cameroon will enable the transition from *Readiness* to the *Demonstration* phase, laying the foundation for results-based programs.

The REDD+ Technical Secretariat is the main developer of the ER-Program and is supported by financial and technical partners accompanying the government of Cameroon in its REDD+ process. The ER Program will be further developed in line with the national REDD+ strategy and is considered a first step towards implementation of Cameroon's future REDD+ strategy. The Program will bring together key stakeholders in the natural resource utilization and management sectors, whilst demonstrating the feasibility of different strategic options to combat deforestation and forest degradation as outlined in the R-PP. The lessons learnt from the ER Program will be crucial in expanding REDD+ implementation in other agro-ecological zones in the country.

The government of Cameroon aims for the country to become an "emergent country" by 2035. The 2035 Vision has the following goals related to environmental sustainability: Cameroon aims "to ensure environmental sustainability by reducing to half the proportion of people without access to portable drinking water, improve habitats by integrating the principles of sustainable development into country policies and reverse the loss of environmental resources." Thus the Government's strategy in this area is to organize and encourage individual initiatives, associations, partners, and civil society in favour of sustainable and sound development of the environment. It targets implementation actions in favour of environmental management of rural sector, biodiversity management and the development of resources, including deforestation and forest plantation development.

Rural development is a key element of this *Vision 2035,* achieved through investment in agriculture to increase productivity, alleviate food insecurity and create green employment. The government recognizes the importance of ensuring that national development ambitions do not compromise sustainable management of the country's forests and biodiversity. For example, the National Palm Oil Strategy has the objective of increasing palm oil production with little or no impact on the forest ecosystem, i.e. zero deforestation (through expansion on non-forest land, rehabilitation of old/abandoned plantations), while ensuring all production respects internationally recognized environmental and social norms. REDD+ is considered fundamental to achieving these sustainable development goals, and provides the mechanism through which finance, technology transfer, capacity building and broad stakeholder participation can be achieved. In this line, a REDD+ Governance Matrix is on-going development, under the coordination of the

MINEPAT. This Matrix aims at improving transparency and governance in natural resource management and facilitates national and international fundraising.

Furthermore, under the guidance of MINEPAT reflections are ongoing to elaborate a cross-sectoral zoning plan in the South, East and Centre regions. On a related note, the German Development Bank (KfW) is also preparing a study to submit to MINEPAT and MINEPDED on climate protection, REDD+ and land management.

Cameroon is committed to the Central Africa Forests Initiative (CAFI). A National Forest Investment Plan will be elaborated in this respect. This plan will ensure coherence with the Forest Investment Program (FIP). These initiatives permit Cameroon to mobilize additional funds for the implementation of the ER-Program.

3. STRATEGIC CONTEXT AND RATIONALE FOR THE ER PROGRAM

3.1 Brief summary of major achievements of readiness activities in country thus far
Please briefly provide an update on REDD+ readiness activities, using the component categories of the R-PP as a guide. If public information is available on this progress, please refer to this information and provide a link.

The table below summarizes the status of REDD+ readiness activities as per the component categories of the R-PP.

Components	Achievements	Assessment of progress
Sub-component 1a – National disposition for REDD+ management	REDD+ National Coordination and Technical Secretariat operational; Multi-sectorial, multi-stakeholder Steering Committee in place and functional; Civil society REDD+ and climate change platform established and functional	Good progress has been made at national level but the decentralized structures (regional and divisional REDD+ technical committees) are still to be set; likewise the setting up of an organ for conflict management
Sub-component 1b – Stakeholder consultation and participation	Development of FPIC guide for REDD+ and strengthening capacity on the use of the FPIC guide via training of trainers; Development of a national consultation plan is ongoing; Civil society forum on REDD+ and climate change held in Yaoundé, Hotel Mont Febe, 23-25 July 2014	Good progress but subject to improvement. The national consultation plan will set the frame for further consultations and participation during the elaboration of the national REDD+ strategy.
Sub-component 2a: Assessment of land use, forest policy and governance	Technical partners GIZ ProPSFE and IUCN in collaboration with the REDD+ TS have established methodologies for the identification and assessment (quantitative and qualitative) drivers of deforestation and forest degradation in the Southwest region and the TNS and TRIDOM. These methodologies will serve as basis for the assessment of drivers in all agro-ecological regions. Study on REDD+ governance/corruption being carried out by Transparency International	Good progress subject to improvement. Nationwide analysis of drivers of DD pending. ToR elaborated and study will be launched in the course of the year. Study will be finalized by June 2016.
Sub-component 2b: REDD+ strategic options	The *Programme National de Développement Participatif* (PNDP) is working with the REDD+ TS to test various strategic options proposed in the R-PP in different agro-ecological regions. The projects are developed by local communities and administrations (councils) supported by NGOs	Good progress subject to amelioration. The PINs for the council-level REDD+ projects are currently being evaluated and project implementation is expected to begin later this year. Parallel to that, a study on the analysis of strategic options will be launched in 2016.

Sub-component 2c: REDD+ implementation framework	Provisional institutional arrangement for REDD+ readiness. Study on REDD+ governance/corruption carried out by Transparency International	Development required; analysis of the strengths and weaknesses of the existing institutional arrangement for REDD+ implementation; establishing a legal framework for REDD+; conflict management; benefit sharing etc.
Sub-component 2d: Socio-environnemental impacts	A call for Expression of Interest for the SESA and ESMF has been finalized and firms have been shortlisted	Development required. Study on SESA/ESMF will commence later this year.
Component 3 – Reference scenario and reference level	Modelling future drivers of deforestation and forest degradation using the GLOBIOM economic model	Development required. Study to be launched later this year.
Sub-component 4a: National Forest Monitoring System	Development of an action plan for a national system on forest carbon monitoring; Elaboration and validation of parameters required for forest carbon monitoring – forest definition, land representation etc.; Outlining key issues for the MRV national strategy.	Significant progress. Existence of the action plan and a Draft0 MRV strategy.
Sub-component 4b: Information system on non-carbon benefits	IUCN has launched 2nd phase of its Pro-poor REDD+ Project in the ER-Program area, where demonstration activities provide insights to the type of non-carbon benefits generated by REDD+	Further development regarding systems for monitoring non-carbon benefits required.

Reference: FCPF Country Progress Report (September 2014 to August 2015).

3.2 Current status of the Readiness Package and estimated date of submission to the FCPF Participants Committee (including the REL/FRL, REDD+ Strategy, national REDD+ monitoring system and ESMF).

The REDD+ Technical Secretariat has begun developing the national REDD+ strategy. A series of activities (strategic studies and consultations with stakeholders) are ongoing and planned to provide information for the different components of the strategy. These activities include: launching and monitoring of strategic studies (See 3.1) and accompanying consultations with different stakeholders to present the outcome of these different strategic studies. Feedback from different stakeholder groups will be taken into consideration before integration into the national REDD+ strategy. The stakeholder consultations will be carried out on the basis of a national consultation plan presently being elaborated. Other ongoing activities include:

- Elaboration and transmission of the INDC (Deadline 1st of October 2015)
- Elaboration of a national REDD+ consultation plan (launched by December 2015);
- Implementation of the communication strategy (Commenced since July 2015)
- Launching pilot projects to test the feasibility of different strategic options proposed in the R-PP in communal forests in the 5 agro-ecological regions (begin January 2016);

- Design of the regional and divisional REDD+ committees and capacity building of the communities (reflections ongoing);
- Submission of the Mid Term Progress Report (MTR) by September 2016;
- Preparation of the Readiness package (over 20 months between October 2015 and May 2017).
- Monitoring and supporting activities carried out by civil society and indigenous people in supporting the REDD+ strategy development;
- Elaboration a Draft0 national strategy (end of September 2015).

These studies and consultation activities will be finalized in 2016 and the national REDD+ strategy is expected be ready by the **end of 2016**. It is envisaged that for each strategic option, technical meetings will be organized prior to broader consultations with stakeholders to outline critical issues. The consultation plan (currently being elaborated) will provide an outline on the consultation procedure – who to consult, when to consult, what to consult etc.

3.3 Consistency with national REDD+ strategy and other relevant policies
Please describe:

a) *How the planned and ongoing activities in the proposed ER Program relate to the variety of proposed interventions in the (emerging) national REDD+ strategy.*
b) *How the proposed ER Program is strategically relevant for the development and/or implementation of the (emerging) national REDD+ strategy (including policies, national management framework and legislation).*
c) *How the activities in the proposed ER Program are consistent with national laws and development priorities.*

The activities in the ER Program are in line with the vision of the REDD+ strategy, which is to make REDD+ a tool for Cameroon's sustainable development. The ER Program will address activities related to reducing emissions and increasing removals. Historic rates of deforestation and forest degradation, are projected to increase substantially with the national goal of transforming the economy and making the country emergent by 2035. The strategy will thus aim to address measures for a low carbon impact development pathway. The Program will also be designed to bring all relevant actors together within a sub-national strategy for local development and climate change mitigation in line with the National REDD+ Strategic Framework.

The ER-Program activities are in line with the strategic vision of REDD+ which has all the five eligible REDD+ activities as fundamental building blocks: reducing emissions from deforestation, reducing emissions from forest degradation, enhancing forest carbon stocks, conservation of forest carbon stocks and sustainable management of forests. Furthermore, the national REDD+ strategy and likewise the ER-Program will be built on a set of principles that will ensure that safeguards are respected in the pursuit of the strategic goals. These principles are cross-cutting, focusing on comprehensiveness, coordination and complementarities with other sectors and among branches of government, and include:

- Inclusion and equity (territorial, cultural, social and gender);
- Plurality and grassroots participation;
- Transparency and legality;
- Equitable distribution of benefits;
- Certainty and respect for property rights of landholders and owners and sustainable use of natural resources;
- Free, prior and informed consent of communities;

- Promotion of the competitiveness of rural economies associated with forests, including that of communal forest businesses.

The outline framework for national REDD+ strategy has already been approved by the REDD+ Steering Committee, and the full strategy document is due completion. According to the guiding principles of this framework, the national strategy will:

- Be consistent with the overall development strategy of Cameroon in its dual objectives of sustainable management of forests (SMF) and poverty alleviation;
- Follow effective participatory and consultative processes;
- Fully value and capture the benefits of Cameroon's diverse forest ecosystems in the context of REDD+;
- Recognize that forest ecosystems play a vital role in adaptation to climate change and the climate change mitigation through REDD+;
- Ensure multi-stakeholder involvement in all aspects of REDD+, utilize relevant stakeholder capacity and contribute to further capacity enhancement in the context of REDD+;
- Ensure social, environmental and economic safeguards in REDD+ implementation;
- Ensure equity in benefit sharing by seeking to clarify issues related to forest use rights and carbon ownership rights;
- Establish mechanisms for effective coordination at local, sub-national and national levels among the relevant beneficiaries and sectors, and at the international level with development partners and financing agencies/institutions;
- Ensure that double counting of carbon credits is avoided;
- Develop appropriate National Forest Information and Monitoring Systems; and
- Focus on generating non-carbon benefits.

Activities in the ER Program will be consistent with these principles and therefore serve as a model for activities in the emerging national REDD+ strategy. The proposed ER Program will help to ensure continued political support for REDD+ in Cameroon by generating visible results beyond readiness processes, including planning and cross-sectoral integration and successfully attracting scaled-up finance to Cameroon to support ER activities. The timing of the proposed ER program is therefore important in order to maintain current interest and momentum in Cameroon. The ER program will pilot innovative policies and practices within forestry and related sectors that can potentially be expanded in other landscapes under the completed national REDD+ strategy.

Activities proposed in the ER program are well harmonized with the Government's development priorities as articulated in Vision 2035. For example, Vision 2035 outlines strategic guidance on land use planning to, amongst others, protect the environment and fight against the emerging consequences of climate change and to achieve locally autonomous regional development. Regional land use plans are expected to promote regional development and employment and serve as the framework for establishing partnership contracts between the state and the regions, state and municipalities (councils). Vision 2035 envisages putting in place a legal and regulatory framework for spatial planning (law, master planning, setting up a territorial development observatory), and the ER-Program will work to ensure REDD+ objectives are integrated into such laws and guidelines.

The Growth and Employment Strategy Document is the framework for government action for the period 2010 - 2020, and indicates the government's intention to: (i) focus the strategy on wealth creation, (ii) to

support job creation to ensure better distribution of the fruits of growth, (iii) implement a governance improvement strategy and, (iv) pursue the achievement of the Millennium Development Goals. The growth and employment strategies revolve around growth through infrastructure development, modernization of production facilities, human development, regional integration and diversification of trade, financing of the economy; and employment by increasing the supply of decent jobs, matching of labour demand, and improving the efficiency of the labour market. The strategy lays out Government ambitions to launch an extensive program of increasing and modernising agricultural production to meet not only the demand for food but also to supply agro-industries. Concrete actions include: improving the availability of factors of production including land, water and agricultural inputs; promoting access to technological innovations, in particular through strengthening the linkage between research and extension; and improving the competitiveness of production chains. The ER-Program is fully consistent with and supportive of these goals.

In addition, the national FPIC guidelines provides the framework for engaging local communities, placing specific emphasis on indigenous peoples and other communities affected by the ER Program. The ER-Program will support implementation of FPIC, including through the development of regional policy and local by-laws requiring FPIC for all REDD+ activities.

4. ER Program location and lifetime

4.1 Scale and location of the proposed ER Program

Please present a description and map of the proposed ER Program location and surrounding areas, and its physiographic significance in relation to the country. Indicate location and boundaries of the proposed ER Program area, e.g., administrative jurisdiction(s).

Cameroon is divided into 10 regions, 58 divisions and 361 sub-divisions placed under the authority of governors, divisional officers and sub-divisional officers respectively. The decentralisation of the REDD+ institutional arrangement reflects this administrative hierarchy – that is the creation of regional and departmental REDD+ technical committees (right down to communal REDD+ technical committees if required) under the supervision of the respective governors, senior divisional officers and sub-divisional officers. These committees (divisional and regional) are multi-sectoral in nature and mirror the composition of the national REDD+ steering committee (i.e. with representation from sectoral ministerial delegations, administrative heads of the jurisdiction, civil society representatives, IPs and private sector).

The ER Program area covers seven administrative divisions in the southern part of Cameroon: Dja and Lobo, Ocean, Vallée du Ntem, Nyong and So'o, Nyong and Mfoumou and Haut Nyong. It covers an area of 93,328km² (9,332,800 ha). Since the ER Program area occupies 7 divisions within 3 regions, a Task Force that will be responsible for the coordination and supervision of the project activities will be established to work under the supervision of the TS and with the divisional and regional technical committees. It will be composed of the different stakeholders drawn from the divisional and regional technical REDD+ committees. The Task Force will work directly under the auspices of the REDD+ TS which is the operational organ of the National REDD+ steering committee. Decision making will reside with the National SC.

The ER Program area includes 9,267,606 ha of forest which accounts for 89% of the area. Total aboveground and belowground biomass in the program area is estimated at 1,725 Mt C/1.725 Gt of biomass, which is approximately 37% of the country's total carbon stocks. 63 % of the total area corresponding to 5,878,000 ha is classified as permanent forest.

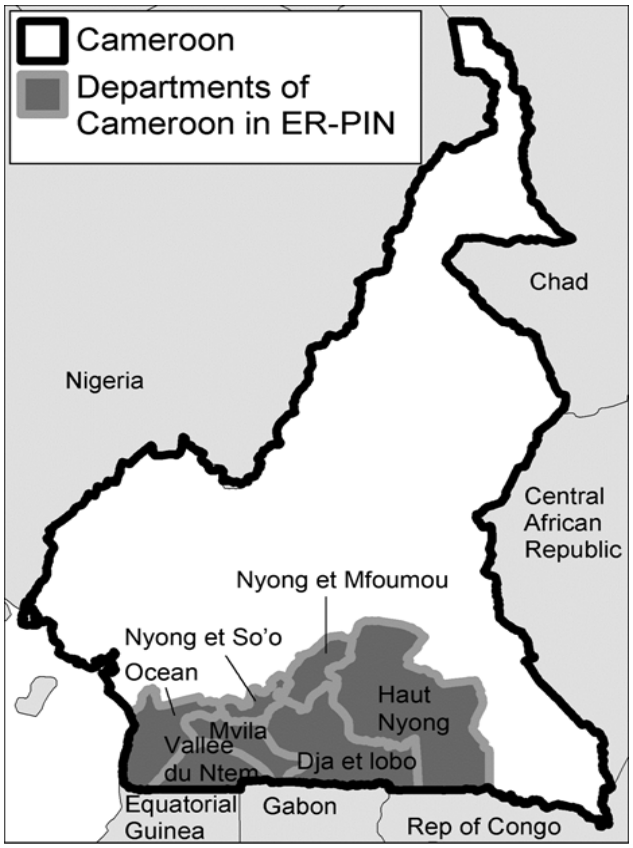


Figure 4.1. Departments included in the 93,328 km^2 proposed ER-PIN activity area.

The area includes the Dja Biosphere Reserve (DBR), a UNESCO World Heritage Area; the Akom-II and Bipindi area, an area with very high biodiversity and plant endemism and high ecological value; the Mengame Gorilla Sanctuary and the Campo Ma'an National Park. The area also includes Cameroon sections of the transboundary landscapes TRIDOM (Dja-Odzala-Minkebe Tri-National) and TNS (Tri-National) and part of the Congo Basin. The forests are mostly Congolian evergreen lowland forest in the east and in the coastal drainages, there are large areas of Atlantic and Biafran forest. In addition, significant forests in the ER Program area are designated for different types of forest management, as shown in Table 4.1 below.

Table 4.1: ER Program forest uses

Forest use/designation	Area (ha)	Percentage
Permanent forest domain	**5878061**	**62,98282402**
Protected area	1350647	14,47204483
Concession (FMU)	3158993	33,84828776
Council forest	1368421	14,66249143
Non-permanent forest domain	**749932**	**8,035444883**
Community forest	511623	5,481988256
Sales of standing volume (SSV)	90126	0,965690897
Agroindustrial zones	148183	1,587765729
Mines exploration	4710949	50,47733799

Source: Cameroon Interactive Forest Atlas (WRI 2012)

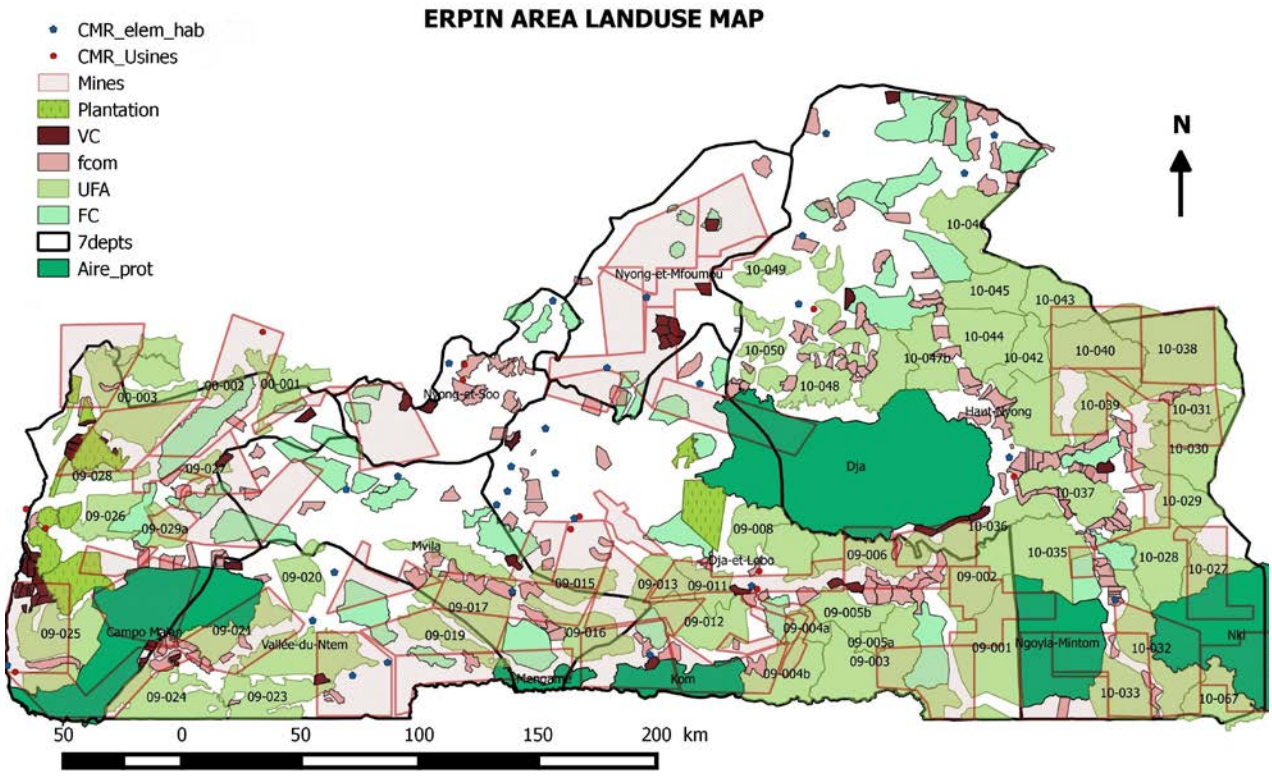


Figure 4.1a: Landuse map (sourced from WRI Interactive Forest Atlas), note plantations refer to agroindustrial zones

The population resident in the area was estimated at 1,152,362 in 2005 including numerous ethnic groups. Indigenous peoples in the area include the Bakola, Bagyeli and Ba'ka. Table 4.1a presents the demographic distribution in the Program area. Many of the rural communities in this region obtain food staples from farming and others bring in income through selling of crops, bushmeat and other forest products. Other land uses include: small-holder agriculture, industrial agriculture, forestry operations, and mining exploration concessions.

Table 4.1a. Demographics of ER PIN departments. [1]

Region	Department	Area (sq. km)	Pop. 1987	Pop. 2005	Growth rate (1987-2005)
Center	Nyong et Mfoumou	6,172	88,349	10,4507	84.54
	Nyong et So'o	3,581	96,038	11,5960	82.82
East	Haut Nyong	36,384	148,475	19,6519	75.55
South	Dja et lobo	19,911	121,059	196,951	61.47
	Mvila	8,697	116,996	179,429	65.20

[1] Population data was obtained from the Annuaire Statistique du Cameroun (2012).

	Ocean	11,280	92,994	179,093	51.92
	Vallee du Ntem	7,303	42,749	179,903	23.76

For an effective implementation of measures, policies and activities, the ER Program area is divided into Optimal Action Zones (ZOAs) (See Section 7.1). These ZOAs do not correspond to administrative boundaries, but rather represent areas with similar historic deforestation trends and causes, within which similar measures, policies and activities will be implemented or carried out to address the drivers. These ZOAs can be subsets of a division or may cut across different divisions.

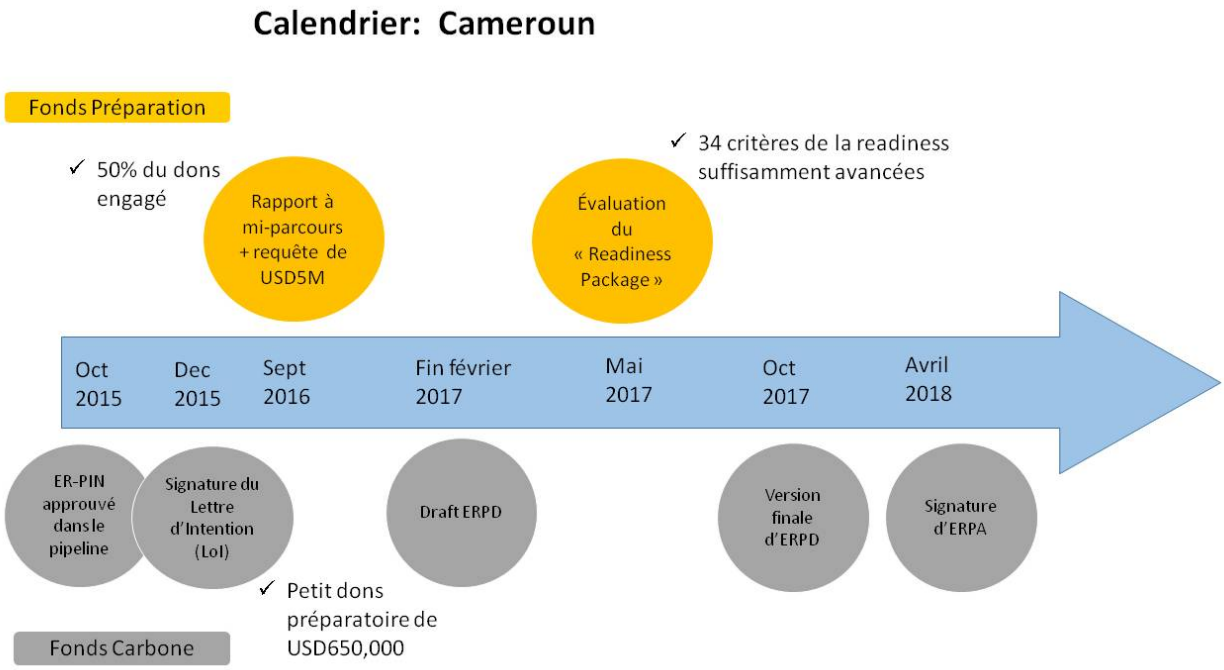
4.2 Expected lifetime of the proposed ER Program

Please describe over how many months/years the proposed ER Program will be:

a) prepared; and

b) implemented (including expected start date of the proposed ER Program).

The ER Program will be a) prepared over 24 months between October 2015 and October 2017 and b) implementation will be initiated in September 2018 and run for 10 years to August 2028.



5. Description of activities and interventions planned under the proposed ER Program

5.1 Analysis of drivers and underlying causes of deforestation and forest degradation, and conservation or enhancement trends

Please present an analysis of the drivers, underlying causes and agents of deforestation and forest degradation. Also describe any policies and trends that could contribute to conservation and enhancement of carbon stocks. Please distinguish between both the drivers and trends within the boundaries of the proposed ER Program, and any drivers or trends that occur outside the boundaries but are affecting land use, land cover and carbon stocks within the proposed ER Program area. Draw on the analysis produced for your country's Readiness Preparation Proposal (R-PP) and/or Readiness Package (R-Package).

The R-PP provides an overview of drivers in Cameroon according to agroecological zones. The ER-Program area covers both the mono-modal and bi-modal forest zones. The main drivers preliminarily identified in the R-PP for the Program area include: agroindustry, subsistence farming, cash crop farming, logging, fuelwood consumption, and developments in infrastructure and mining.[2]

A number of studies have been carried out in the program area to analyze land use dynamics affecting forest cover and composition.[3] These studies show that the drivers, agents and underlying causes are diverse and often depend on the designated land use type, with limited deforestation occurring in Protected Areas but increasing significantly in the buffer zones and non-permanent forest domain. Given the interaction between these land use types in terms of biodiversity, and socioeconomic dynamism, an integrated landscape approach will be employed, as explained in Section 5.3.

Table 5.1 Summary of the main drivers of deforestation and forest degradation in the program area

Land use type	Area (ha)	GHG Emission Sources	Agent	Causes	Targeted ER Program Interventions Proposed
Permanent forest domain (total: 5,878,061 ha)					
Protected area	1,350,647[4]	Relatively low deforestation detected in these areas, adverse effects on forests stemming from poaching		Poor law enforcement	Awareness raising, biodiversity conservation and improved law enforcement
Protected area buffer zone	1,223,500 (Dja) 507,594 (Campo-Ma'an) 309,365 (Nki)	Unplanned deforestation due to small-scale slash and burn agriculture	Small-scale farmers	Lack of land use planning and tenure security for small-scale farmers; population growth and poverty	Improved agriculture practices, agroforestry, and forest protection and establishment

[2] Government of Cameroon, 2013. R-PP. Available for download here : https://www.forestcarbonpartnership.org/cameroon.

[3] IUCN, 2014. " Les Factuers de Déforestation et de Degradation des Forêts : Résultats d'une analyse participative dans les Paysages TNS et TRIDOM. " ; REDD Pilot Project Cameroon, Final Report GAF AG. 2011 ; Njepang, A.D. 2010. Ecological Management of Tropical Forests: Implications for Climate Change and Carbon Fluxes. PhD Thesis at University of Göttingen.

[4] These include 624,007 (Dja); 264,074 ha (Campo-Ma'an); 309,365 ha (Nki National Park); 1000000 ha (Reserve de Faune de Ngoyla-Mintom); Biodiversity offset for CamIron, the Kom National Park and the Mengame gorilla sanctuary.

Forest Concession	3,158,993	Unplanned degradation due to illegal logging Planned degradation due to logging	Timber companies	Lacking law enforcement and lack of incentives for improved forest management	Reduced impact logging incentivized through support for sustainability certification
Non-permanent forest domain (total : 749,932 ha)					
Non-permanent forest domain	749,932	Planned deforestation due to mining, infrastructure and agroindustry Unplanned deforestation due to small-scale agriculture (commercial and subsistence)	State; small and large entities engaged in agriculture; business actors affecting land use such as mining companies	Agriculture: Lack of land use planning and tenure security for small-scale farmers; population growth and poverty; market demand and commodity prices; Vision 2035 development targets; high land demand by industrial companies Mining: low law enforcement, corruption, development targets	Improved agriculture practices, rehabilitation of abandoned plantations, agroforestry, and forest protection and establishment; land use planning to reduce impacts on forest from the establishment of agricultural plantations, from mining and infrastructure development
Non-forest land (total: 2,704,807 ha) **Total Program area: 9,332,800 ha**					

Source for areas: Cameroon Interactive Forest Atlas (WRI 2012)

The ER Program area has high remaining forest cover. However, there is likely to be an increase in deforestation and forest degradation in the coming years due to increasing international and national pressure for mineral extraction, road development, the development of the deep water port in Kribi, agribusiness, and biofuels, in addition to subsistence agricultural expansion. These are described in more detail below:

UNPLANNED DRIVERS; AGENTS AND UNDERLYING CAUSES

Small-scale subsistence and cash crop agriculture. Research in Cameroon's southern rainforests has shown that the livelihood strategies of forest communities relate to forestry, energy, fishing, and agriculture, with shifting cultivation the main farming method for small-scale farmers. These livelihoods are sensitive and exposed to climate variability and change, with farm sizes expanding yearly to respond to the declining productivity of shifting cultivation.[5]

Small-scale farmers in the ER Program area include native and migrant groups, with migrant populations generally entering farming by buying or gaining user rights to land from the local chiefs or traditional leader. The newly occupied land is then converted to agriculture, most often at the forest frontier. Many farmers are involved in both subsistence and commercial farming, with cocoa the main cash crop. Although cocoa farmers traditionally maintain a mix of multi-purpose shade trees on their farms, the establishment of new cocoa agroforestry systems is increasingly associated with continuous degradation of dense forest ecosystem as newer methods promote less shade and more inputs. Cocoa management is normally poor

[5] Eugene Loh Chia, Olufunso A. Somorin, Denis J. Sonwa, Youssoufa M. Bele & M.A. Tiani (2014): Forest–climate nexus: linking adaptation and mitigation in Cameroon's climate policy process, Climate and Development, DOI: 10.1080/17565529.2014.918867

and farmers often lack the knowledge on good practices for cocoa management, resulting in relatively low yields. In general, the level of management, fungicides and insecticides in cocoa production systems represent the higher end of the existing intensification gradient found within cocoa agro-forests in southern Cameroon.

Depending on the crops planted and the location to markets, farmers respond to different market forces. In areas close to agroindustry, small and medium palm oil plantations are established, often carried out through formal or informal outgrower schemes with commercial producers.

Small- and medium scale informal logging. The logging carried out in the ER Program area is comprised of a diversity of forestry operators. These range from international forestry companies certified for sustainable forest management to small-scale informally operating loggers carrying out activities mainly on or near farms and fallows but increasingly affecting the permanent forest domain. Research has shown that informal logging mainly destined for national and regional timber markets roughly equals the volume of industrial timber produced for export.[6] Local demand for timber and wood products is expected to increase in line with population growth, construction and infrastructure development. Most internal demand is for low cost (and often unsustainably produced) timber and wood products.

In addition to the above drivers, recent analysis[7] suggests artisanal mining and unsustainable fuelwood extraction are also major drivers of deforestation and forest degradation in the program area. These drivers and their respective agents and underlying causes will be assessed in a comprehensive drivers assessment carried out during ER Program design.

PLANNED DRIVERS; AGENTS AND UNDERLYING CAUSES

Agroindustry. The deforestation agents relevant can be generalized as being medium to large-scale investors, with a growing group of national investors, often elites, purchasing 5-100 ha of land for agriculture, but the farm size can be even larger. This is combined with agroindustrial investors. Both are motivated by real or projected increases of international commodity prices.

At the policy level, Vision 2035 defines clear goals for the agriculture development, aiming to shift from extensive to intensive agriculture with increases in yields, via an increase in farm size, mechanisation, irrigation, provision of appropriate agricultural inputs and a professionalization of the agricultural work force. The Growth and Employment Strategy Document goals are often translated into state or private investments in agroindustry.

Infrastructure. Planned infrastructure developments for the region include railways connecting mining areas to deep sea ports, hydrodams and related electricity networks. State planners currently have limited understanding of the environmental and social impacts of infrastructure development. The underlying causes include population growth and demands for energy, as well as sub-regional integration targets achieved through the building of trans-national road networks affecting the region. These drivers will be addressed through land use planning that incorporates REDD+ priorities.

Mining. Numerous mining exploration permits exist in the ER Program area, some overlapping with others or other land uses such as forestry and even conservation areas that have been established in the area. For

[6] Cerutti, Paolo Omar, and Guillaume Lescuyer. *The domestic market for small-scale chainsaw milling in Cameroon: Present situation, opportunities and challenges.* Vol. 61. CIFOR, 2011.
[7] IUCN, 2014. " Les Factuers de Déforestation et de Degradation des Forêts : Résultats d'une analyse participative dans les Paysages TNS et TRIDOM.

example, a mining permit was issued to GeoCam/Geovic in 2003 in the Haut Nyong to the East of Dja Fauna Reserve, however mining has not yet been initiated there. This mine would use a strip mining approach, removing vegetation and burning it to provide power to the processing facility. Other mining interests in the area are for open-cut mines, which will directly clear forest for the pits but which are also bound to impact vegetation over a broader region. This includes Cam Iron SA, owned by Sundance Resources of Australia, which has initial approval for the Mbalam Iron Ore Project. This project includes a plan to build a rail link from the mine in the east of the ER program area to a new deep water port to be constructed on the coast. There are other iron ore prospects in neighboring Republic of Congo and to the west of Mballam in the Djoum, Akom II and Bipindi areas.

During ER-Program design, a thorough and spatially explicit analysis of drivers and strategy options to address drivers will be conducted to ensure Program effectiveness in reducing emissions. During R-PP development, the Government and civil society representatives expressed a need to define and classify all drivers of deforestation and forest degradation by agro-ecological zone and two feasibility studies funded by GIZ in the South-west Region and by UICN in the south east (site partially covered by the project area) were used to pilot methodologies to apply at a national study. Terms of references have now been validated by the National REDD+ Coordination to conduct an assessment across the entire country, including the ER program area. This study will provide the ER-Program with reliable and up to date information on drivers, especially on future trends and the projection of drivers.

5.2 Assessment of the major barriers to REDD+
Please describe the major barriers that are currently preventing the drivers from being addressed, and/or preventing conservation and carbon stock enhancement from occurring.

As explained in the R-PP, the ER-Program will combine cross-cutting policy measures to improve the enabling environment with sector interventions that generate emission reductions using an integrated landscape approach. This means that the Program aims to improve land productivity while reducing emissions from the main relevant land uses based on a coordinated land use planning process that involves multi-stakeholder participation and multi-sector coordination.

Barriers to REDD+ are exemplified by the difficulty to develop financially viable and competitive alternatives to deforestation and forest degradation for all stakeholders, including the government, the private sector and local communities. The main barriers to reducing emissions while contributing to regional development objectives include the following:

Lack of awareness and understanding of climate change and REDD+. The lack of transparent communication and access to information in Cameroon often means that communities and other important stakeholders are unable to effectively contribute to sustainable natural resource management.

Lack of land use planning frameworks and government sectoral development planning. Land use planning is an acute issue as Cameroon's growing population is in need of significant infrastructure development to provide the necessary electricity, water, transport and other resources through development of new hydroelectric plants, electricity distribution networks, ports and road networks etc. Insecurity of land tenure also encourages rapid exploitation of resources and discourages investment and sustainable land use practices, particularly in the absence of a land use planning instrument. The right to land ownership and access for women and indigenous people is a problem experienced in the traditional land tenure system which is predominant in many rural areas in Cameroon.

Lack of demonstrated cross-sectoral coordination for program development. Inter-ministerial collaboration remains a major challenge in implementing integrated landscape management in Cameroon. The Government agencies with mandates affecting forests include the Ministry of Forest and Wildlife (MINFOF), Ministry of Environment Nature Protection and Sustainable Development (MINEPDED), Ministry of Agriculture and Rural Development (MINADER), Ministry of Industry, Mines and Technological Development (MINMITD), Ministry of the Economy, Planning and Regional Development (MINEPAT), Ministry Water Resources and Energy (MINEE), Ministry of Scientific Research and Innovation and its specialized agencies, e.g. Institute for Agriculture Research and Development (IRAD), National Forest Development Agency (ANAFOR). Horizontal and vertical information dissemination is also an important barrier to inter-sectoral collaboration and effective multi-stakeholder engagement.

Lack of research dissemination for improving agricultural productivity. There is often limited technical know-how for land users, including communities and businesses, to implement, monitor and improve sustainable land use practices. The success of many of the proposed ER activities are sensitive to climate variability and changing biophysical factors, thus requiring timely inputs from researchers with regards to weather and local climatic variations.

Compliance and law enforcement. Weak governance and lack of resources for adequate law enforcement can prevent the effective implementation of forest and mining laws and environmental legislation. There is also a lack of technical capacity in terms of new legislation and monitoring techniques.

5.3 Description and justification of planned and ongoing activities under the proposed ER Program
Please describe the proposed activities and policy interventions under the proposed ER Program, including those related to governance, and justify how these activities will address the drivers and underlying causes of deforestation and forest degradation and/or support carbon stock enhancement trends, to help overcome the barriers identified above (i.e., how will the ER Program contribute to reversing current less sustainable resource use and/or policy patterns?)

The overarching vision of the program has been developed through the on-going national and local consultation process that underpins the REDD+ process in Cameroon, beginning with the development of the R-PP in 2011. This vision for REDD+ to be a tool for sustainable development, reducing poverty especially in rural areas.

The overall goal of the ER Program is to achieve regional green growth through zero net deforestation and forest degradation, sustainable natural resource management and biodiversity conservation which provides alternative income sources, reduces poverty and addresses the challenge of climate change. The ER Program aims to support achievement of Cameroon's Vision 2035 development ambitions along a low carbon pathway. As the first large scale REDD+ and green development program in Cameroon, the Emission Reduction Program in southern Cameroon seeks to i) reduce emissions through an integrated landscape approach; ii) enable natural resource conservation and management around protected areas within the program area; iii) reduce agricultural emissions while enhancing long-term livelihood, security and well-being; iv) build capacity and support technology transfer. The Program will also be designed to bring all relevant actors together within a sub-national strategy for local development and climate change mitigation in line with the National REDD + Strategic Framework.

To achieve these objectives and contribute to the long term vision of the proposed ER Program's goal, a combination of enabling environment (non-carbon activities) and sector interventions (ER activities) are proposed which will address the causes of deforestation and forest degradation. The enabling environment interventions are shown in Table 5.3.

Table 5.3: Cross-cutting and enabling environment interventions proposed

Enabling environment intervention	Description	Institution responsible for implementation
Awareness and understanding of climate change and REDD+	Implementation of national REDD+ consultation plan	MINEPDED
Land use planning	Implementation of national ambitions related to land use planning in a manner that supports decentralized natural resource management and improved land tenure	MINEPAT and Regional and decentralized administrations
Promotion of scientific research and education	Conservation research promotion and grants through the Congo Basin Institute Resourcing and animating the Bouamir Research Centre in Dja Reserve and field research station in Campo Mann National park South-south and North-south research promotion Technology transfer	Government at national and decentralized level (i.e. MINRESI and regional and local extension services) Technical partners such as CIFOR, IITA and CARN
Biodiversity conservation	Strengthen monitoring patrols Support local forest administration Full involvement of local communities and indigenous people on National Steering Committee, Regional and Divisional committees. Equitable sharing of benefits Promoting long-term biodiversity research Promote Eco-tourism	MINFOF and MINEPDED and technical partners such as WCS, WWF, CIFOR and IUCN
Compliance and law enforcement	Improved enforcement of environmental and social standards for business; anti-poaching strategy for protected area management	State agencies, including MINEPDED, MINFOF, in collaboration with law enforcement agencies as appropriate

The cross-cutting interventions will focus on strengthening the sustainable management of natural resources, with the aim to induce political commitment at the regional and local level including the private sector, indigenous peoples and local communities.

Awareness and understanding of climate change and REDD+. Awareness raising activities will be fully aligned with the national REDD+ consultation strategy. This component is essential in order to ensure free prior informed consent of all stakeholders and to enable effective engagement in ER Program activities. During program design and implementation, key stakeholders that play an important role in program implementation (see Component 6). This will ensure effective participation, representation, ownership and transparency in the implementation of the program.

Land use planning and implementation. Land use planning is an enabling environment intervention that has the potential to produce significant ERs in and of itself, if successfully implemented. Significant infrastructure development is planned for the ER Program area to connect the Ngoyla-Mintom mining area with a deep sea port. Proper planning that reduces avoidable impacts on forests could thus generate emission reductions as compared to the business as usual scenario. Land use planning will be undertaken with active participation of ministries of planning, environment and forestry and wildlife, and support local government empowerment and governance. Participative cartography and zoning will be undertaken in priority zones to define areas for limitation of deforestation and degradation and to determine practical actions to achieve these goals. This process will enhance broader commitment and engagement of stakeholders towards the program objectives. This action has the additional benefit of clarifying use and tenure rights over forests and forest resources and is an initial step towards recognition of these rights by the National and Regional administrations.

Scientific research and education. Two field research stations will be established. A research station will be reestablished in the center of the Dja Biosphere Reserve. The UCLA Center for Tropical Research ran a research station with a 25km^2 study area at the Bouamir site near the center of the reserve for nearly 10 years. New support and resources for this station, will have multiple positive benefits, including acting as a hub for scientific research and conservation, enhancing protection of forests from poaching and illegal timber harvesting, bringing in financial resources to the local communities through the hiring and training of local workers including people from indigenous Baka communities (e.g. as camp staff, camp managers, scientific assistants and as researchers), increasing the value of intact forest to the local communities, and ensuring traditional forest knowledge is retained and valued. The efficacy of this approach was demonstrated during the 10 years the research station was in operation. Furthermore, the research station will provide a hub for ecoguards conducting surveillance and for the recently established Congo Basin Institute in Yaoundé, which would use it to provide training and field research opportunities for students and researchers. A second field station will be established in Campo Mann national park, to both spearhead research activities within and outside of the park. The Conservation Action Research Network (CARN), working with the Congo Basin Institute will provide research grants to students from the area to undertake Masters and PhD level research projects related to biodiversity conservation and management in the program area and help connect students with and researchers to the local and international universities.

Biodiversity conservation. The biodiversity of the region is one of the richest in central Africa. It is also unique because many areas are well preserved and extensive forests mean many species exist in sufficient numbers for viable breeding populations. However, this biodiversity is at great risk, currently from degradation and unsustainable bushmeat hunting, which is reducing the population of large vertebrates to the extent that even forest seed dispersal will be negatively affected, reducing the long-term prospects for the roughly 90% of tree species that rely on such animals for dispersal. The vast majority of the wildlife species in this area are understudied, and there are many which are unknown to science. Their potential uses for assisting crop and fruit production, providing unique new chemicals for medicines, or increasing our understanding of nature, are unknown but their potential is great. By preserving this biodiversity Cameroon is safeguarding one of its most precious resources.

Biodiversity monitoring programs to assist species management and conservation will be integrated into the ER program. Two main forest blocks with different biodiversity characteristics are found in the area, the coastal Atlantic Forests in the west with very high endemism, and the Congolian Forest block in the east whose biodiversity remains poorly known to science. The aim will be to maintain connectivity within the

two blocks and aim to reduce overhunting to sustainable levels, especially in terms of large mammals. As all members of the community have an important role to play, this issue will be tackled with a long-term perspective:

- Local governance empowerment for natural resources management;
- Agricultural intensification programs to increase community availability of meat sources in rural Cameroon;
- Anti-poaching and surveillance support for communities focusing firstly on protected species and protected areas and eventually on sustainable offtake models for partially protected and unprotected species;
- Promote biodiversity research and monitoring;
- Promotion of eco-tourism.

Compliance and law enforcement. The program will support the local authority to ensure awareness of and compliance with laws and regulations regarding exploitation of natural resources. Options for community rangers and ecoguards to be trained and equipped will be examined as well as joint enforcement teams made up of BIR and Ecoguard that have been successfully employed in other parts of Cameroon to control poaching.

Sector interventions

In addition to the above measures to improve the Program's enabling environment to reduce emissions, sector interventions will be introduced that result in **direct and attributable emission reductions**. To provide focus for proposed activities carried out within the Program's 93,328 km^2, a spatially explicit prioritization process will be undertaken during the design phase to identify priority intervention areas. These areas may be "hotspots" at highest risk of future deforestation and forest degradation, or areas considered most promising for forest carbon stock enhancement activities, participatory forest protection measures, etc. Identified hotspot locations will be assessed for their compatibility with project objectives and goals, especially focused on: 1) the potential to reduce deforestation of threatened forests around protected areas, 2) ability to generate non-carbon benefits such as green job creation or sustainable income streams for communities, and 3) biodiversity conservation priorities. On a landscape scale, areas already receiving support will be identified to analyze how the ER Program can improve the effectiveness of existing interventions, expand those where appropriate or create new locations following a participatory rural appraisal process.

The majority of the sector interventions proposed have been tried and tested for their effectiveness in the numerous project and research activities that have been initiated within the ER Program area (such as the Ngoila-Mintom REDD+ project, the SNV/IITA REDD+ Cocoa project, IITA's USDA Fruit for Progress and Humid Tropics projects, WWF protected areas in Campo Ma'an, UCLA research station in Dja, IUCN's conservation and natural resources management project in the Dja reserve). ER Program partners hold a significant amount of knowledge regarding which potential REDD+ interventions is the most promising for generating ER while ensuring non-carbon benefits. All proposed activities not only generate ERs but also non-carbon benefits, as this ensures the ER Program activities are sustainable and easily adopted, as local communities and other agents may often be more motivated by non-carbon benefits as opposed to ERs.

The activities will be supported directly or indirectly by the enabling environment interventions listed above. Further planning will be done during the design phase in order to identify complementary activities

that maximize results and ensure the ER Program is developed through close consultation with implementing agencies such as communities and private sector. Emission-reducing activities that directly generate ERs will be planned with communities, private sector (both large-scale, i.e. agroindustry and small scale, i.e. cooperatives) and other stakeholders, including potentially through a payment for environmental services program focused initially on carbon. The entire program will be organized following the principle of results-based performance payments. The overall activity performance will be measured in terms of carbon abatement, along with social and environmental indicators following the objectives of the ER Program. The most promising activities preliminarily identified include:

Table 5.3a: Sector interventions to generate net ERs and non-carbon benefits

Sector	Activity to generate Emission Reductions	Agency responsible for implementation	Associated non-carbon benefits	Implementation risks
Agriculture	Intensification through crop mixtures, new varieties, green manure, improved tillage and propagation	MINADER, IRAD (MINRESI), IITA, IUCN, state and non-state extension service providers, communities, development partners, research community	Support local and durable development through establishment and capacity building for cooperatives; food security	Weak uptake due to ineffective extension services; lack of research dissemination due to unorganized and dispersed nature of farmers
	Improved cocoa production via improved drying and storing techniques, introducing high yield and disease resistant varieties	MINADER, IRAD (MINRESI), IITA, ICRAF, IUCN state and non-state extension service providers, communities, development partners, research community	Adaptation to climate change, diversify and increase local income	State unable to enforce land use planning, resulting in continued farm expansion
	Improve agroforestry through fruit trees, nitrogen fixers, community nurseries for citrus and forest trees	MINADER, IRAD (MINRESI), IITA, ICRAF, IUCN, state and non-state extension service providers, communities, development partners, research community	Improved soil quality and adaptive capacity of communities by increasing productivity of land	Weak uptake due to ineffective extension services; lack of research dissemination due to lacking farmer engagement in ER Program
Forestry	Forest protection through forest reserve zoning, patrolling and monitoring	MINFOF in combination with law enforcement agencies and supported through BIR	Biodiversity conservation, improved resilience to increased climate variability	Institutional conflicts result in lacking uptake of decentralized administration at local level
	Sustainable forest management of timber concessions, introduction of reduced impact logging	MINFOF and forestry companies	Biodiversity conservation, social license to operate for forestry companies as SFM standards	Lacking incentives for forestry companies to engage in ER Program

			require improved social engagement	
	Increasing tree cover and enrichment planting in fallows and old fields	MINFOF, ANAFOR, IUCN, local population	Increased resilience against climate change, diversified and increased local income strategies	Communities lack incentives to engage, weak extension services translating research to practice
	Support NTFP production, including beekeeping, mushroom growing and improved NTFP value chain	MINFOF, IUCN, development partners, communities and local population	Food and income security, strengthen local community organizations	Interventions prove not sustainable, if not based on viable business planning
Mining	Professionalization of artisanal miners through outreach programs	MINMIDT, technical partners	Reduce adverse environmental impacts, improve job security for miners	Interventions not viable due to lack of aggregation structures of artisanal miners
	Promote compliance with REDD+ objectives by industrial mining companies	MINMIDT, technical partners, mining companies	Reduce adverse environmental and social impacts, create green jobs	Companies unwilling to engage in ER Program due to lack of incentives
Infrastructure development	Application/utilization of low-carbon impact methods and techniques	MINMIDT	Creation of green jobs and reduction of adverse environmental and social impacts	Cost effectiveness of the alternative technologies
	Support compensation programs like reforestation, afforestation and restoration of degraded vegetation	MINMIDT, MINFOF, MINEPDED, local communities	Compensate for adverse ecological impacts.	Increase in investment costs might demotivate companies

Agriculture. The agriculture interventions will engage both small and large-scale actors. With regards to small-scale farmers, the program will build upon existing organizational structures that aggregate farmers, such as the cocoa producer cooperatives established through farmer field schools and SNV/CIFOR IITA cocoa project and USDA Fruit for Progress Project in Ayos. Agroforestry will be promoted throughout the region as a sustainable and profitable alternative to slash-and-burn agriculture and poaching. These agroforestry systems will combine food crops, tree crops, timber trees, leguminous trees and cocoa: this will increase the ecological value and sustainability of agriculture, as well as increase carbon stocks. This component will be achieved through working with the World Agroforestry Center (ICRAF) and the International Institute of Tropical Agriculture (IITA), which together have wide experience in making agroforestry systems work in this region. The Congo Basin Institute will in addition work with IITA and ICRAF partners to enhance their effectiveness by engaging academic experts to address and find solutions using science based approaches.

Large-scale actors include both commodity buyers (cocoa) and producers (oil palm). This component will build on existing programs such as the WWF Business and Industries initiative (where WWF supports companies to conduct sound environmental and social impact assessments and thereafter implement the environmental and social management strategies resulting from the impact assessments) and IUCN's intervention in encouraging intensification of agriculture and livestock through the subvention to local households in selected fallow zones of the project area. Zero deforestation commodity chains will be promoted through investments in intensification combined with land use planning to reduce agriculture expansion.

Forestry The capacity for communities to participate and adhere to forest protection is driven by how they are motivated and incentivized. A number of conservation and business actors have tried and tested strategies for joint forest management in the ER Program area, including WWF and IUCN and forestry enterprises operating in the region. In addition, some of Cameroon's first REDD+-type projects exist in the ER- Program area, including the Payment for Environmental Services (PES) project implemented by Center for Environment and Development, CED (see Infobox below). Such community engagement experience demonstrates that agriculture and forestry interventions are intrinsically linked at the local level, as the main pressure on forest ecosystems stems from agriculture expansion.

Infobox: REDD+ implementation through Community Forests in Cameroon
In 1994, Cameroon was the first country in Central Africa to introduce community forests into its Forest Law, granting rural communities access and management rights for up to 5,000 hectares of forest resources in or around their villages. Community forestry has since been emulated by neighboring countries, but Cameroon remains the only country in Central Africa with legislative decrees to implement community forests. The stated goal of community forests in Cameroon is sustainable participatory forest management and poverty reduction in rural areas. Community forests can be created in Cameroon's non-permanent forest estate by legal agreement between the State of Cameroon (represented by the Senior Divisional officer) and the village communities. The forest areas are managed by communities with technical assistance from the Forestry Administration (MINFOF). Communities receive management rights for the forest upon approval of the Simple Management Plan. Integrating REDD+ activities into the Community Forest Simple Management Plans has already been tested in a number of communities in the ER-Program area, including through a

number of Payments for Environmental Services project in the East and South Regions. This experience demonstrates that the legally recognized entity created through a community forest can operate as a channel for REDD+ funds at the community level. CED with support from BioClimate Research and Development (BR&D), developed two PES projects in Nkolenyeng in the Djoum Sub-Division of Dja and Lobo in the Southern Region and Nomedjoh, which is part of the Lomié Sub-Division of Upper Nyong Division in the East Region. The latter is predominantly a Baka community, with a strong tradition of hunter-gathering combined with a growing emphasis on agriculture. The Plan Vivo standard was used to develop an avoided deforestation project, whereby the forest area boundary was demarcated by the Community Forest and communities were encouraged to alter practices to alleviate some of the pressure from agricultural expansion on the forests. This approach is being replicated by WWF in Ngoyla-Mintom through the project titled «*Réduction de la déforestation et de la dégradation dans le Massif Forestier de Ngoyla-Mintom (N-M) par la mise en œuvre d'une gestion durable intégrée dans le cadre du paysage tri-national Dja- Odzala - Minkébé (TRIDOM)»,* financed by EU. Lessons learned from these projects will be sought during ER Program design.

Reforestation is planned for some protected area buffer zones around the Dja Biosphere Reserve and Campo-Ma'an National Park, using agroforestry systems involving high value native timber species and cocoa, spices, traditional medicinal plants, and high value non-timber forest products. These activities will restore the ecological value of degraded areas in the program area, provide a sustainable income source for the local populations, increase carbon stocks and provide buffer areas for priority conservation zones such as national parks and reserves. Over time the aim is for this component to expand to enable the production of sustainable agroforestry.

The creation of conservation concessions/community forest conservation is planned in some logging concessions. These could be places under the management of the logging companies or other entities. Efforts could also be made to promote NTFP production and to support legal artisanal logging in community forests.

Efforts will be made to promote and enhance natural forest regeneration processes. With roughly 90% of all rainforest trees dispersed by vertebrate there is a premium on leveling vertebrates to disperse seeds and promote regeneration. This can take many forms such as constructing nest box for large avian dispersers such as hornbills to increase densities and seed rain or controlling poaching to allow populations of frugivous species such as primates and elephant to recover. The Congo Basin Institute will work with partners to innovate and enhance these approaches.

With regards to industrial forestry, the sector is very active throughout the project zone with multiple forestry companies present in the area. Forestry operations in Cameroon are highly selective with limited marketable species harvested. Forestry companies are required by law to develop and implement forest management plans, however adherence to these often remain lacking, exemplified by Cameroon's current efforts to implement the Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership Agreement (VPA) whereby all timber circulating in the country will be tracked in a legality verification system. The ER Program will be designed to support VPA compliance and wherever possible, reduced impact logging, amongst the range of forestry actors, including industrial and semi-industrial forestry companies, informal timber producers and community and council forests.

Furthermore, a study carried out by MINEPDED, MINFOF and FAN Bolivia in the scope of REDD+ South-South cooperation REDD+ initiative compared the collateral damage due to the selective exploitation of

wood in a certified concession and in an uncertified concession. The results demonstrate that a substantial amount of emissions can be reduced by adhering to reduced impact logging practices. The study showed that 1.34 t C are damaged for every t C extracted in a certified concession, while in an uncertified concession 1,99 t C are damaged for every t C extracted.

Mining

The concrete interventions to address mining drivers and agents of deforestation and forest degradation will be further explored during ER Program design. In parallel, the situation with regards to industrial mining will be newly assessed as many mining companies in the program area have been unable to find the investment required to transition from exploration to exploitation.

5.4 Risk/benefit analysis of the planned actions and interventions under the ER Program
Please explain the choice and prioritization of the planned actions and interventions under the ER Program identified in 5.3 taking into account the implementation risks of the activities and their potential benefits, both in terms of emission reductions and other non-carbon benefits.

The implementation risks specific to the proposed ER interventions are detailed in Table 5.3a. General risks to timely and effective program implementation are described below:

As the actions and interventions proposed in the ER-PIN are inclusive and also multi-sectoral, they require a high level of coordination and management, both external to the Program (for example, among the various levels of technical administration and structures) and internally (with stakeholders and within the implementation team). Various administrations will be involved in coordinating, implementing and monitoring activities in the field. While there is an ongoing process to establish Regional, Divisional and local REDD+ focal points and committees and to strengthen local organizations within the agricultural sector, these structures and individuals may face difficulties in fulfilling their mandate due to the lack of capacity and experience.

Social conflicts due to land tenure, informal mining or protests by indigenous groups and local communities may negatively affect the implementation of the projects if community consultation and effective participation is not ensured. The nationally validated FPIC process should help to reduce this risk.

The increase in numbers of migrants (drawn by several big projects in the ER-PIN area such as dams, deep sea port, mining, rail construction and industrial plantations) may result in negative impacts which could exceed the implementation capacity of the ERP projects.

Some local organizations may not have enough resources to participate effectively in the program. Local administrations, communities and indigenous organizations have identified needs for specific and ongoing technical, logistical and other types of assistance. Additionally, migrants may be excluded from the projects as they may not fall under formal organizational structures.

Land use zoning and land tenure interventions may negatively affect vulnerable population groups such as indigenous peoples and local communities. An increase in conservation activities limiting access to fertile forests land may further increase the vulnerability of local communities if not properly design and implemented. Due to predominant cultural norms, it is possible that women could be marginalized with regards to decision-making, training, land titling, resource management, and forest use.

At present, there is a lack of baseline studies (social, economic and environmental), this will hinder adaptive monitoring and management of the project and the evaluation of the results. The coming baseline studies and the initial program phase will be crucial in terms of process planning.

6. Stakeholder Information Sharing, Consultation, and Participation

6.1 Stakeholder engagement to date on the proposed ER Program
Please describe how key stakeholder groups have been involved in designing the proposed ER Program, and summarize issues raised by stakeholders, how these issues have been addressed in the ER Program to date, and potential next steps to address them.

In the process of elaborating the ER-PIN document, the government is capitalizing on previous stakeholder consultations carried out in the scope of REDD+. During the elaboration of the national FPIC guide, the government in collaboration with GIZ, WWF and Centre of Environment and Development (CED) carried out consultations with indigenous people and local communities in the ER Program area regarding how these communities want to be consulted. These communities and indigenous people groups include:

- Indigenous people of Bedzang de Gambe Tikar
- Indigenous people Bagyeli and Bakola d'Akanga
- Indigenous people Baka of Dimako, the Baka Dissassoé of Koumela
- The Akok and Djabilobe communities of Campo Ma'an
- The Bantou community of Dimako
- The Dioula community of Salapoumbé and Moloundou
- The Lelene and Djadom communities of Ngoyla

The "*Programme National du Développement Participatif*" (PNDP) has also carried out a campaign to sensitize all the national councils on the REDD+ process, strengthening capacity and working closely with NGOs to elaborate project ideas on REDD+ in the different communities. As a result all the councils in the ER Program area are conversant with the REDD+ mechanism.

A wide range of stakeholders are active in the ER Program area. These include public sector actors, private sector actors (mining industries, agri-business, etc.); local councils, civil society and indigenous people organizations. The Annex includes a table outlining the different stakeholders operating in or of relevance to the Program area. During the elaboration of the ER Program, the REDD+ Technical Secretariat has been using civil society and indigenous people platforms to reach out to civil society and indigenous people. Prior to the beginning of the elaboration, technical meetings were organized with different stakeholders to explain the basic idea of the ER-Program. Furthermore, various workshops/meetings organized by civil society organization and indigenous people were used to present the ER Program idea and sample feedback from the respective groups/organizations. These workshops include: national workshop on MRV held in Douala; the indigenous people workshop on FPIC in Abong Mbang; the indigenous people workshop on REDD+ institutional arrangements in Lomie; civil society regional workshop on REDD+ project initiatives in Garoua and Buea; civil society national workshop on REDD+ negotiations in Yaoundé.

Some of the issues raised by stakeholders during the various technical meetings and workshops include:

- Compensation from the ER Program should target deforesters; and should at least meet the level of the opportunity cost;

- The ER Program strategies related to sustainable agriculture may require up to a decade of implementation before they result in measureable emission reductions;
- Sufficient resources (technical and financial) should be made available to peasant farmers to enable them grasp and implement the knowledge of sustainable farming practices;
- The intensification of agriculture might be detrimental to small-scale subsistence farmers;
- Implementing Reduced Impact Logging (RIL) will increase operation costs that might be difficult for forest concessioners to bear if customers are not willing to pay;
- Leakage: restoration of organic soils in the ER Program area may lead to degradation of soils in other areas;
- Permanence: carbon soil enhancing measures face future risk of disturbances.

The first draft of the ER-PIN was shared with stakeholders prior to the organization of consultation workshop involving all stakeholders in the ER Program area. The stakeholder sensitization and consultation meeting was effectively held in Mbalmayo on September 9, 2015. Some major recommendations from stakeholders during the consultation meeting include:

- The ER Program should clearly identify activities to be implemented by local communities;
- Activities related to the training of local communities on sustainable forest management at the base should be introduced;
- Agriculture should be considered as an independent sector within the ER-PIN document;
- The ER program should ensure equitable and effective right of access to land by indigenous peoples and local communities;
- Promotion of large scale processing of non-timber forest products by the program.

These recommendations have been taken into account in the revised version of the ER-PIN submitted after the technical meeting held on the 16th and 17th of September to address comments that emanated from the stakeholder consultation and consolidate a final version of the document.

6.2 Planned outreach and consultation process
Please describe how relevant stakeholder groups will participate in further design and implementation of the proposed ER Program and how free, prior and informed consultation leading to broad community support for the ER Program and key associated features, including the benefit-sharing arrangement, will be ensured. Please describe how this process will respect the knowledge and rights of Indigenous Peoples and local communities, by taking into account relevant international obligations, national circumstances and laws.

The outreach and consultation process for the ER Program design will build on existing outreach and consultation processes, including the structures put in place by the REDD+ Technical Secretariat for national REDD+ strategy development. The consultative and participatory process mentioned in 6.1 above will be strengthened with forthcoming readiness process activities including consultations for the elaboration of a national REDD+ consultation plan, thematic consultations of REDD+ institutional arrangements, legal and policy framework, benefit sharing and conflict management, SESA, reference emission levels and MRV.

The consultation process will be fully aligned with the national communication strategy and the participative consultation plan (under development) to inform the full design of the REDD+ strategy.

The National FPIC guidelines earlier developed will be an opportunity to ensure that the mechanism of obtaining free, prior and informed consent from local community to protect the rights of stakeholders is guaranteed.

The REDD+ Technical Secretariat has strengthened the partnership with the REDD+ CSO and IP organization network; providing them with technical and financial support to further build their capacity, strengthen the organizational set up, and provide technical assistance when needed. Existing networks and decentralized structures of civil society and indigenous people organizations will be used to enhance participation, communication and outreach. Through the support of IUCN, national strategies for the involvement of women and indigenous people for the REDD+ process have been developed, to ensure effective involvement of these group of stakeholders in the REDD+ process.

7. Operational and financial planning

7.1 Institutional arrangements

Please describe the governance arrangements anticipated or in place to manage the proposed ER Program (committee, task force), and the institutional arrangements among ER Program stakeholders (i.e., who participates in this ER Program, and how, including the roles of civil society organizations and forest dependent communities).

The National REDD+ Steering Committee is the main organ overseeing the implementation of REDD+ in the country. It is supported in its duty by a REDD+ Technical Secretariat comprising four technical units (SESA, MRV, Program/Projects and Information Education and Communication). Current institutional arrangements for the implementation of REDD+ also envisages the creation of decentralized structures - regional and divisional REDD+ Technical Committees. The setting up and operationalization of the regional and divisional REDD+ technical committees is currently ongoing with a focus on departments with REDD+ pilots. It should be noted that the Divisional Technical Committees are essential organs in the national REDD+ institutional arrangement – ensuring decentralization of the REDD+ mechanism. These Divisional Technical Committees will monitor the daily operations of the ER Program. They will be supported in their respective duties by the technical units of the REDD+ technical secretariat.

Given the ER Program area covers seven administrative departments in three administrative regions (East, Centre and South), an **ER Program Task Force** will be created to oversee and coordinate the implementation of the ER Program activities. The Task Force will be under the auspices of the REDD+ Technical Secretariat and will comprise members of the administration, civil society, indigenous and forest dependent people, private sector, technical and financial partners/promoters of the ER Program. Management practices and decision-making will be conducted in a transparent and inclusive manner according to a clear governance framework.

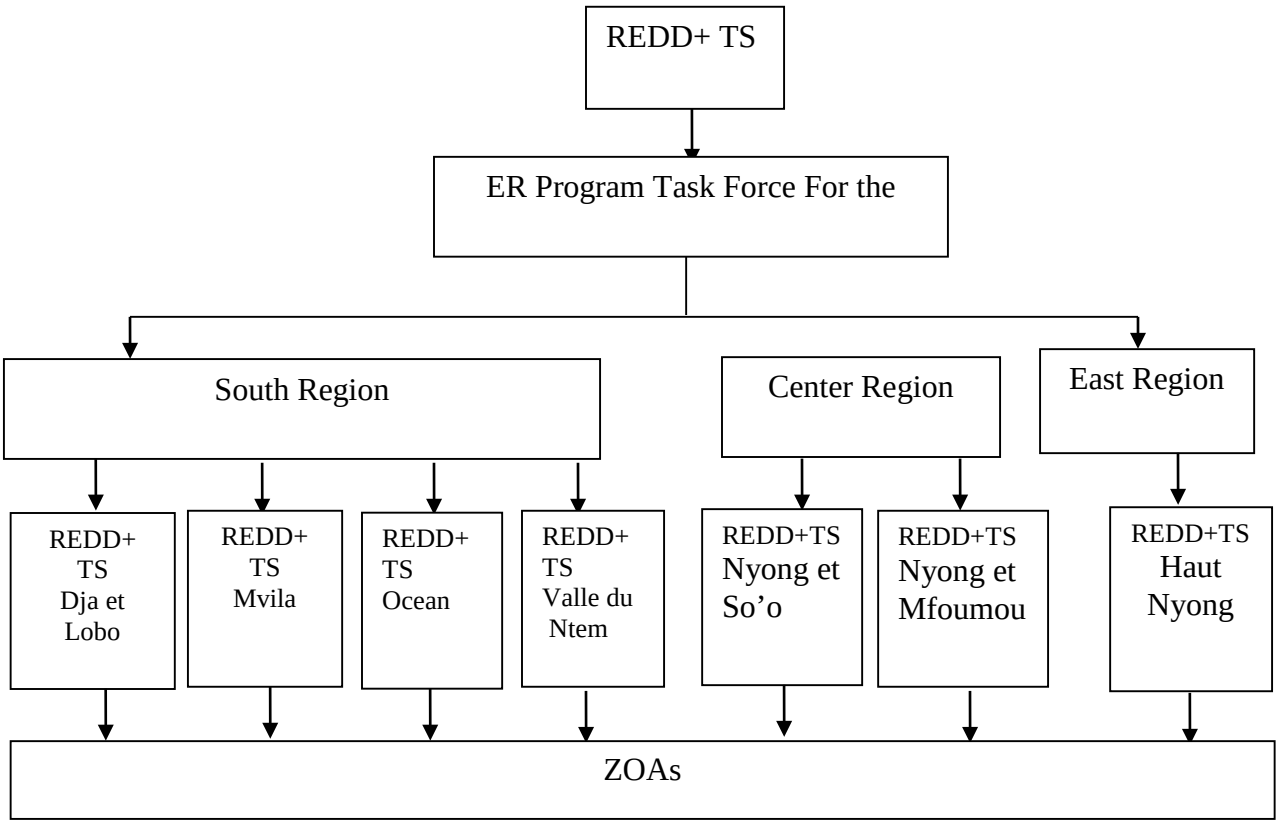
The members of the Task Force will be drawn from the seven Divisional Technical Committees, the three Regional Technical Committees and other key stakeholder representatives.

This Task Force will play an important role in allowing for the ER Program to exercise its jurisdictional mandate, and will serve as the entity that allows for achieving ER based on enabling environment interventions such as land use planning and multi-sectoral coordination. The Task Force will ensure uniform implementation arrangements over the large program area. As a jurisdiction is by definition an area administered by a government entity, the ER Program will be able to make the policy and governance adjustments required to achieve net ERs across the program area, such as structuring the incentives affecting DD agents and land-user decisions, clarifying and strengthening land and forest tenure rights, creating an enabling environment for the private sector, and coordinating participatory land-use planning. The spirit of the ER-Program Task Force is to leverage the skills and competencies of the private sector partners, civil society and indigenous people who possess substantial experience in the management of forest and other natural resources in area. The operationalization of the ER Program Task Force will benefit from lessons learned from similar natural resource management institutions operating at the landscape level in Cameroon, such as the Technical Operation Units.

7.2 Linking institutional arrangements to national REDD+ implementation framework
Please describe how the institutional arrangements for the proposed ER Program fit within the national REDD+ implementation framework.

To ensure coherence and coordination of all program activities, an ER Program Task Force will be created and embedded within the existing national REDD+ institutional arrangement as explained in 7.1. Figure 7.2 below shows the relationship between the ER Program Task Force with the Technical Secretariat and the Regional and Divisional Technical Committees.

Figure 7.2 ER Program Decentralized Institutional Arrangements



It should be further acknowledged that design of the REDD+ implementation framework will be further refined during ER Program design and will be informed by the on-going consultations being carried out for the REDD+ strategy. The opportunity to undertake the ER-Program concurrently will allow specific on the ground learning activities to be able to feed into the REDD+ readiness process. It will be in the spirit of "learning by doing" at a phase of REDD+ preparation activities feeding into the national REDD+ national implementation framework.

7.3 Capacity of the agencies and organizations involved in implementing the proposed ER Program
Please discuss how the partner agencies and organizations identified in section 3.1 have the capacity (both technical and financial) to implement the proposed ER Program

Ministry of Environment, Nature Protection and Sustainable Development (MINEPDED) Cameroon: Provide policy guidance for REDD+ implementation. In charge of directing the operation of a National REDD+ framework to meet national sustainable development goals as well as advise and approve implementation of project level REDD+. The REDD+ Technical Secretariat Support Program has the required expertise to develop the national REDD+ strategy and monitor the implementation of REDD+ in the country.

Ministry of Forestry and Wildlife (MINFOF) Cameroon: Provide policy guidance throughout the project and help address legal implications for successful project implementation. Also provide documentation and support in the process of cutting illegal logging, and ensuring that companies involved in logging concessions adhere to submitted management plans. MINFOF will continue to provide conservation services to the reserves in the area through its technical staff.

Other public administrations like the Ministries of Agriculture and Rural Development (MINADER); Mines, Industry and Technology Development (MINMIDT); Economy, Planning and Territorial Administration (MINEPAT); Livestock, Fisheries and Animal Industry (MINEPIA); Water Resources and Energy (MINEE) will play a key role in the implementation of the ER Program. These ministries are equipped with technical experts and field staff capable of intervening at different levels during Program implementation.

Conservation Action Research Network (CARN) is a non-profit research organization focused on advancing conservation efforts that conserve biodiversity and ecosystem health, protect threatened wildlife species and habitats, and promote environmental sustainability. CARN is comprised of leaders in the fields of tropical research and evolutionary biology, conservation science and awareness, public health, and international development with a history of working in Central Africa for over 30 years. Based in California, United States, CARN works closely with other international organizations to conduct and support evidence-based research activities that complement their respective missions regarding environmental and wildlife conservation.

Recently, The International Institute of Tropical Agriculture and the University of California created the Congo Basin Institute to address pressing issues of higher education, human health, environment, Climate Change and development in Central Africa (see http://newsroom.ucla.edu/releases/ucla-partners-in-new-congo-basin-institute-a-game-changer-for-environmental-protection). The CBI, based in Yaoundé, is a center for research and training in the heart of the Congo Basin rainforest. A major focus of the CBI and its partners is to focus on forest carbon issues. Its partners have many years of experience working on biodiversity and sustainability issues in the region and will support the project by providing technical expertise and advice, managing research stations and research area, through scientific monitoring and helping to promote various efforts such as the ecotourism component of the project.

The **International Union for Conservation of Nature (IUCN)** has been working in Cameroon to cover a wide range of activities including protection of forests and vulnerable ecosystems, protected area management and climate change mitigation and adaptation and is a strategic partner to Cameroon government (an IUCN member) agencies especially in the domain of climate change. Within the framework of REDD+, IUCN has been working with vulnerable groups and various climate change stakeholders to ensure climate change adaptation and mitigation. The work strategy goes from field-based operation to informing policy and has been supporting the country since it engaged in the REDD+ readiness process. IUCN's niche has been

ensuring stakeholder participation in the REDD+ process with particular attention to local communities and indigenous people. IUCN supported the establishment of the REDD+ national civil society platform, accompanied the country during its R-PP elaboration process and is currently supporting the government in its national REDD+ strategy elaboration process through studies related to (i) REDD+ benefit sharing, (ii) governance within the REDD+ perspective, (iii) the strategy for the involvement of women in the REDD+ process, (iv) the strategy for the involvement of indigenous people in the REDD+ process, (v) the analysis of drivers of deforestation and forest degradation.

IUCN is mobilizing its technical expertise and financial contribution from existing projects within the ER program ranging from ecosystem-based adaptation activities, to livelihood enhancing options to reduce deforestation and forest degradation such as agricultural intensification, enhancement of degraded lands and support to sustainable cocoa production.

Conservators of Dja Biosphere Reserve, Mengame Gorilla Reserve and Campo-ma'an National Park: The conservation of Dja, Mengame and Campo-Ma'an are the representatives of MINFOF on the ground and are leading administrative and bio-monitoring aspects of these protected areas. They are committed to assisting the project through the full process, and will be heavily involved in most aspects of the project's implementation.

Local communities: The community leaders will coordinate community participation and ensure success of activities undertaken within and with their respective communities. They will also guide the project on issues of benefit sharing and ensure it takes place efficiently and equitably. Representatives of the councils will be represented on the project management board. It should be noted that all the municipal councils in the ER Program area have been sensitized on REDD+ and have benefitted from capacity building and training through the *Programme National de Développement Participatif* (PNDP). The communities are working closely with Environmental NGOs in their region are thus equipped to support the ER Program.

7.4 Next steps to finalize the proposed ER Program implementation design (REL/FRL, ER Program monitoring system, financing, governance, etc.). Provide a rough timeline for these steps.

The table below illustrates the next steps for the finalization of the ER Program design

Next steps for the conception of the ER Program	2015				2016				2017			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
1. Setting up the institutional arrangement for project management and coordination												
2. Addressing legal and policy framework												
3. Sensitization and consultation												
4. Establishing conflict management mechanism												
5. Establishing a benefit sharing mechanism												
6. Addressing drivers of deforestation and forest degradation and measures to enhance and conservation forest carbon stocks and sustainable management of forests												
7. Testing the feasibility of different strategic options												
8. Setting up the MRV system												
9. Developing the Forest Reference Level												
10. Draft ER PD												
11. R-Package												
12. Final version of ER PD												

7.5 Financing plan (in US$ million)

Please describe the financial arrangements of the proposed ER program including potential sources of funding. This should include both near-term start-up cost and long-term financing. If the proposed ER program builds on existing projects or programs that are financed through donors or multilateral development banks, provide details of these projects or programs, including their financing timeframe. Use the table in Annex II to provide a summary of the preliminary financial plan

Start-up cost for the elaboration of the ER Program will be sourced from the FCPF grant and from other forest funding mechanisms like the Forest Investment Program (FIP), the Central African Forest Initiative (CAFI) and the KfW REDD+ Early Movers (REM) initiative. The in Annex II provides a preliminary financial plan subject to amendments during the elaboration of the ER Program.

8. Reference Level and Expected Emission Reductions

8.1 Approach for establishing the Reference Emission Level (REL) and/or Forest Reference Level (FRL)
Please briefly describe how the REL/FRL for the proposed ER Program has been or will be established. Describe how the approach for establishing the REL/FRL is consistent with UNFCCC guidance available to date and with the emerging Methodological Framework of the FCPF Carbon Fund, and with the (emerging) national REL/FRL (or with the national approach for establishing the REL/FRL).

Cameroon's National System for Forest Carbon Monitoring (SNSCF)

The *Plan d'action pour la mise en oeuvre d'un systeme national de surveillance du carbone forestrier au Cameroun* outlines the general approach, tools, and phases for the development of a National System for Forest Carbon Monitoring (SNSCF) that includes the establishment of a Reference Emissions Level (REL). The Cameroon Ministry of the Environment, Nature Conservation, and Sustainable Development (MINEPDED) alongside the Ministry of Forest and Wildlife (MINFOF) are responsible for the implementation plan of the SNSCF that remains in the planning stage (Phase I). MINEPDED released a Terms of Reference (ToR) to solicit expressions of interest from qualified consultants on the elaboration of the reference emissions level (REL) in order to further the SNSCF Action Plan. The following activities are foreseen as components within the study of an REL:

- Determination of the scope and definition of REL/RL;
- Elaboration of a concept for reference scenario level at both sub-national and national level;
- Assessment of the availability of datasets required for the elaboration of the reference scenario at Tier 2 (minimum);
- Analyzing existing national historical data to estimate activity data with at least three time intervals;
- Collecting and analyzing preliminary field data to produce a conservative national estimate for emission factors (while prioritizing significant carbon pools) for the forest types where significant deforestation and forest degradation have occurred;
- Identification of data gaps and proposition of the development or procurement of the missing datasets;
- Demonstrate the reference scenario development in an administrative region or ecological zone with the "best" data availability.

The implementation of SNSCF currently remains in Phase I that includes planning and preparation for the development of an MRV system and REL. Through the Southern Cameroon REDD+ ER Program, the SNSCF will be moved to Phase II where pilot projects, monitoring of activities, and results of land-use change will be collected, analyzed, and presented. Along with the elaboration of the REL as specified above, the following elements of Cameroon's SNSCF will be defined through the following means, timelines, and standards to be defined:

Forest Definition – following the guidance of the Methodological Framework (MF) and UNFCCC decision 12/CP.17 the definition of forest used for the REL will be consistent with other greenhouse gas inventories reported internationally. With support from the US Forest Service a national definition for forest has been validated by REDD+ stakeholders. This definition has the following parameters: minimum area 0,5hectare; minimum crown cover 10% and minimum tree height 3m.

Carbon Pools - in accordance with the MF (Criterion 4) and UNFCCC the carbon pools used to define the REL will include all pools and greenhouse gases that are significant.

Reference Period – an end-date for the reference period will be chosen to be the most recent date before 2013 for which Forest-cover data is available to enable IPCC Approach 3 and the start-date will be between 10-15 years before the end-date as specified in the MF (Criterion 11). It should be noted that a comprehensive assessment of historic rates of deforestation for the epochs 1990, 2000 and 2010 has been carried out for the three regions comprising the ER Program area (East, South Centre). The ER Program development will build on this existing data.

Sinks & Sources – at a minimum the REL will account for emissions from deforestation. If emissions from degradation are more than 10% of total forest-related emissions at the national or sub-national level than these sources will be included in the REL in accordance with the MF (Criterion 3).

The determination of program-specific definitions and boundaries at the national level through the efforts of MINEPDED and MINFOF will be ingested by the Southern Cameroon REDD+ program and within its definition of a REL.

Proposed REL Determination for the Southern Cameroon REDD+ Program

Activity Data

The REL for the Southern Cameroon REDD+ Program will be calculated using Approach 3 as defined by the IPCC GPG 2006.[8] A hybrid LULC mapping imagery and sampling strategy will be used to establish a REL for the program area. The sampling strategy will follow the methodology used by REDD Systems which constitutes the Monitoring, Reporting, and Verification (MRV) platform for the ER program (see Section 9 for more details). Additionally, high-resolution imagery is made available through REDD Systems that uses Planet Labs constellation of Dove satellites and will supplement the determination of LULC within sampled areas.

As a sampling strategy is used to define the REL, the activity data from land use change is not spatially explicit. However, wall-to-wall satellite imagery from Planet Labs constellation of Dove satellites will be available to provide alerts on deforestation events (See Section 9: *REDD Systems - Live Warning System*). With these approaches, precise estimates of emissions reductions are achieved through an efficient and precise sampling strategy while the spatially explicit information to inform regional trends and informed management is met by the Live Warning System. With this hybrid approach, cost-effectiveness is achieved while the important spatial information of Approach 3 is maintained to drive emission reductions.

Following the REDD Systems sampling methodology, a stratified random sample of 1-km^2 hexagonal units across the ER Program area will be established to define LULC classes in accordance with IPCC standards (MF - Criterion 5). Semi-automated classification backstopped by user interpretation of satellite imagery within sampled units will be used to define the classes within each 1-km^2 hexagon. Since a sampling strategy is used, human interpretation of each sampling unit is not cost prohibitive and results in an increased precision of LULC change estimation.

The data library of Planet Lab's Dove satellite imagery begins in 2014, thus allowing this data layer to be used only for future monitoring and verification of emissions. Using both the sampling strategy defined and the continually updated and digitized hexagonal tiles, a precise REL can be defined by similar methods only

[8] IPCC LULUCF 2003 GPG have been improved by the 2006 IPCC 2006 GL – Volume 4.

using different satellite imagery. Available satellite imagery spanning through the reference period is defined in Table 8.1 below. Medium and high-resolution imagery will be used to define the LULC classes within each sampling unit and the high resolution data from Planet Lab's Dove satellite will also be available to inform potential land uses in a given sampling unit for increased precision.

Carbon Stocks

The carbon stocks to be used for the ER Program systems and REL establishment will be defined during ER Program design. Determination of aboveground biomass density for different LULC classes within the program area will be carried out through a combination of remote sensing data and field measurements to provide an accurate and cost-effective estimation of aboveground biomass across varied LULC classification types and broad spatial extents. The use of remote sensing products (LiDAR, RADAR, hyperspectral/hyperspatial imagery) in combination with a relatively small number field plots can be used to achieve a statistically valid sample. The main procedural steps in this tool are i) field and remote sampling; ii) predictive model development; iii) assessment of error and uncertainty.

With regards to the field and remote sampling, a combination of forest inventory plots along with collected LiDAR data will provide the basis for aboveground carbon estimates. An assessment of existing forest carbon plots will be undertaken to see whether they are methodologically consistent. Afterwards, a network of plots will be established following the recommendations of the Verified Carbon Standard VT0005 tool and pilot program for biomass measurement. These plots will directly measure soil organic carbon and litter and will indirectly measure aboveground biomass, below ground biomass, and dead wood through locally or regionally derived allometric equations.

A second sampling will be put in place using remote sensing techniques of LiDAR, RADAR, and hyperspectral imagery that will be collected by a random sample of transects. The sampling approach can be either systematic or stratified depending on available information.

Statistically valid models will then be determined using regression techniques that will use the forest inventory plots as calibration/ validation of the remote sensing sampling. The predictive models will be able to estimate above-ground biomass for the entire sample of remote sensing information which, given its large spatial coverage, will provide an accurate and precise estimate. To estimate belowground biomass, locally derived biomass expansion factors (BEFs) that are able to relate aboveground biomass to belowground biomass will be determined. For carbon pools of litter and soil organic carbon, no predictive models will be built but rather these pools will be sampled and aggregated by traditional means as part of the forest inventory.

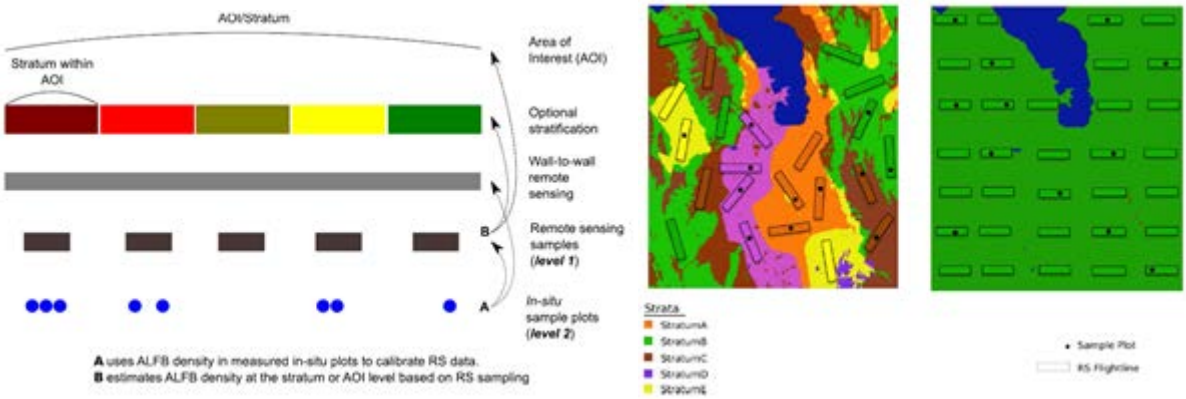


Figure 8.1: Schematic diagram for the procedure to estimate aboveground biomass (left) and a schematic diagram of the sample strategy used for both forest inventory and remote sensing data.

Stratified Sampling Strategy

The area of Southern Cameroon will be sampled using a stratification approach, with enhanced precision sought in areas undergoing LULC change. The following hierarchical stratification strategy will be used to identify strata with a high likelihood of deforestation and/or degradation; these will consequently be sampled more intensely.

LULC Maps – existing LULC maps determined at the national level and/or subnational level within the program area will be used to determined land classes using the IPCC classification scheme (MF – Criterion 5).

LULC Change Areas – the rate of change across the ER Program area will be determined and those areas with higher rates of change will be subject to increased sampling.

Forest Fragmentation – forest classes will be further broken down based on their fragmentation and distance from forest edge. This sub-stratum will indicate areas that are more likely to undergo deforestation and/or degradation (more fragmented) versus those that are less likely (less fragmented or "core forest").

After the stratification of the program area, the following steps for calculating the REL will be implemented:

1. Stratify the program area land-use type into appropriate sub-strata, yielding an area per sub-stratum based on the hierarchical stratification process defined above;
2. Determine LULC classes in accordance with IPCC GPG 2006 for 2014/ 2015 using Planet Lab's Dove satellite imagery;
3. For three time periods in the reference period, collect medium and high-resolution imagery across the samples and digitize the LULC class in accordance with IPCC GPG 2006. The 2014/ 2015 LULC classification can be used to aid interpretation;
4. Apply emission factors to each sub-stratum area, yielding carbon stock per hectare for each sub-stratum (CO_2e/ha);
5. Aggregate all sub-strata to yield a total carbon stock estimate for time period 1 (latest image date).
6. Repeat for time period 2 (earliest image date);
7. Subtract total carbon stock of time period 1 from time period 2 to achieve total change in carbon stock over the historical reference period, repeated for 4 epochs;
8. Divide the result from step 5 by (time2 – time1, or the total number of years between the first image and the second image) to achieve an REL for the ER Program area;

9. Calculate accuracy (uncertainty) for the change estimation (AD and EFS) overall and for each strata land-use type in accordance with MF criterion 9 and IPCC GPG 2006.

Data Types	Years	Characteristics	Extent	Sources
Landsat 5 TM	1982 - Present	Waveband: 0.45-12.50µm Resolution Spatiale: VIS-SWIR, 30m; TIR: 120m Swath width: 185km	National	NASA
Landsat 7 ETM+	1999 - Present	Waveband: VIS-TIR: 8 canaux: 0.45-12.5µm, Panchromatic channel: VIS 0.5-0.9µm Résolution Spatiale: Pan: 15m, Vis-SWIR: 30m, TIR: 60mSwath with: 185km	National	NASA
ASTER	2000 - Present	Waveband: VIS&NIR: 3 bands in 0.52-0.86µm, SWIR: 6 bands in 1.6-2.43µm, TIR: 5 bandes sur 8.125-11.65µm Résolution Spatiale: VNIR: 15m, stereo: 15m horizontal et 25m vertical, SWIR: 30m, TIR: 90m Largeur de la Fauchée: 60km	Partial coverage	NASA
SPOT-2 HRV CNES	2000-2007	Waveband: VIS: B1:0.5-0.59µm, B2:0.61-0.68µm, NIR: B3:0.79-0.89µm, Panchromatic: VIS 0.51-0.73µm Resolution Spatiale: 10m (panchromatic) or 20m larger de la Fauchée: 117km (i.e. 60km + 60km with 3km overlap) - steerable up to ±27 deg off-track	Partial coverage	CNES
SPOT-5 HRG	2002 - Present	0.61-0.68µm, NIR: B3: 0.79-0.89µm, SWIR: 1.50-1.75µm, Panchromatic: 0.49-0.69µm Résolution Spatiale: Panchromatic: 2, 5m, Multi spectral: 10m Largeur de la Fauchée: 60km (1 instrument), 117km (2 instruments). Same as SPOT 4 avec une capacité de pilotage hors-piste (±27 deg)	Partial coverage	CNES
SPOT 4 HRVIR	1998 - Present	Waveband: VIS: B1: 0.50-0.59µm, B2: 0.61-0.68µm, NIR: 0.79-0.89µm, SWIR: 1.58-1.75µm, Panchromatic:(B2) 0.61-0.68µm Spatial résolution: 10m (0.64µm) or 20m Largeur de la Fauchée: 117km (i.e. 60km + 60km avec 3km de chevauchement). Orientable à ±27 degree hors-piste	Partial coverage	CNES
ALOS	2007	Résolution 10m Trois instruments de bord (panchromatique, AVNIR et radar)	Partial coverage	NASA
Images SPOT 4 (already purchased)	2002	20 x 20m	45 scenes	ASTRIUM
Images SPOT 5 (already purchased)	2010	10 x 10	40 scenes	ASTRIUM

Table 8.1: Potential satellite imagery to be used for the definition of the Southern Cameroon REL.

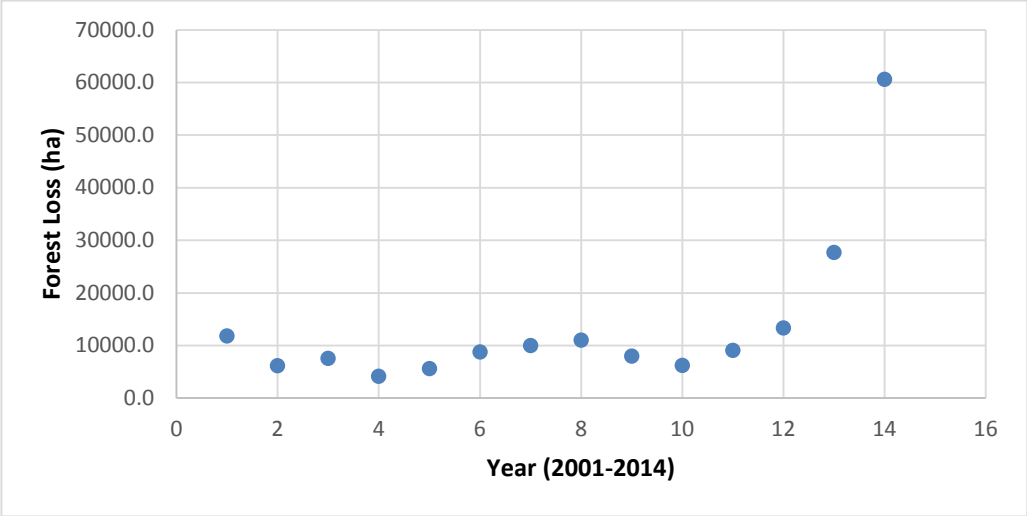
As the proposed methodology for developing a REL in the program area requires further development and data collection, a preliminary analysis is proposed herein. Estimating emissions require two input datasets: activity data and emission factors. Activity data refers to the area extent of the activity while the emission factor describes the carbon stock per unit area. A preliminary assessment of the expected REL is provided below based on publicly available information regarding land use/ land cover (LULC) change and carbon stocks. The REL is also presented using two approaches on establishing the deforestation rate 1) historical average, 2) High Forest Cover, Low Deforestation country (HFLD) upward adjustment of the deforestation rate.

High Forest Cover, Low Deforestation

The FCPF's Methodological Framework allows for the REL to be established using either a historical average approach or an REL adjusted above average historical emissions. In order to allow for an upward adjusted REL a country must qualify as a HFLD.

The HFLD category is defined as a developing country that has more than 50% forest cover and a deforestation rate below 0.22% per year.[9] The proposed ER Program meets the definition of HFLD as 89% of the program area is forest (Table 8.5), 63% is primary forest alone, and the historical deforestation rate has been observed at 0.11% in our analysis as well as other peer-reviewed studies. At a national level and considering the newly validated forest definition with a 0,5 hectare minimum area, 10% crown cover and 3m minimum height, the total forest cover in the country will increase to more than 75% when forest land and other-wooded land are considered (FAO FRA 2005).

In addition to meeting the HFLD criteria set forth by deFonseca et al (2007), there is substantial evidence that the ER Program jurisdiction will experience higher rates of deforestation in the future due to pressure from international investments in mining, agro-industrial development, and population dynamics. Hansen's data for 2013 and 2014[10] show a significant increase in deforestation linked to agro-industries and potential trends will be further explored during ER Program design (Figure 8.2).



[9] deFonesca, G., Rodriguez, C., Midgely, G., Bush, J., Hannah, L., Mittermeier, R. 2007. No Forest Left Behind. PLoS Biology, 5(8), 216.

[10] Hansen, M. C., Potapov, P. V., Moore, R., Hancher, M., Turubanova, S. A., Tyukavina, A. & Townshend, J. R. G. (2013). High-resolution global maps of 21st-century forest cover change. S*cience*, *342*(6160), 850-853.

Figure 8.2. Hansen forest cover in agro-industrial areas of southern Cameroon demonstrating increased deforestation rate between 2013-2014.

The annual rate of deforestation has progressively increased since the 1980s[11] from 0.08% between 1990 and 2000 to 0.14%.[12] and more recently to 1%.[13] Additionally, the rate of population growth is high in southern Cameroon. Small urban centers, such as Bertoua, are facing rapid expansion, often accompanied by slash-and-burn agriculture.[14]

More concerning than recent academic studies, however, are recent political commitments. The "Cameroon Vision 2035" specifies increased investments in mining and agro-industrial plantations.[15] This style of international investment has already occurred in the program area as two agro-industrial parks have been established (High Deforestation Areas 1 & 2).

Given the current socio-economic conditions of the ER Program area, an upward adjustment to the REL is applied herein. For the purposes of contrast as well as the demonstration of compliance with FPCF Methodological Fund requirements (Criterion 13), the results from both the historical average REL and HFLD REL are provided below.

LULC Activity Data

The scope of activity data was defined following guidance from the FCPF MF and UNFCCC guidance. In the preliminary analysis of the REL of the project area, activity data for the project area was restricted to the "deforestation" type. Ultimately this leads to a conservative estimate of a REL as other activity data types leading to emissions and removals in the project area are relevant. In particular, logging activities in Central Africa and Cameroon, both legal and illegal, are growing and are a main contributing factor to degradation (Bellassen & Gitz, 2008; deWasseige et al, 2009).[16] The presence of this activity type within the project area is significant. However, due to data availability, degradation is not included in the current assessment of the REL and leads to a conservative estimate of emissions (noting the EFs are not corrected for degradation). Following the requirements of the FCPF's Methodological Framework and available LULC maps of the project area, a reference period from 2000 to 2012 was chosen for the analysis of an REL. Lastly, the forest definition provided above was used as a threshold to distinguish "forest" and "non-forest" as well as determine a deforestation rate.

[11] Van Soest, Daan. "Tropical deforestation: An economic perspective." Labyrint Publication, The Netherlands (1998).
[12] de Wasseige, Carlos, et al., 2008. The Forests of the Congo Basin: State of the Forest 2008. Publications Office of the European Union, 2010.
[13] Megevand, C., 2013 "Deforestation Trends in the Congo Basin: Reconciling Growth and Forest Protection. Washington, DC: World Bank.
[14] Republic of Cameroon, 2010. 3ème Recensement général de la population et de l'habitat (3e RGPH) – rapport de présentation des résultats définitifs. Yaoundé, Cameroon.
[15] Dkamela, G.P., 2011. The Context of REDD+ in Cameroon: Drivers, Actors and Institutions. Occasional Paper 57. CIFOR, Bogor.
[16] Bellassen, V., Gitz, V., 2008. Reducing emissions from deforestation and degradation in Cameroon — assessing costs and benefits. Ecol. Econ. 68, 336–344; de Wasseige, C., Devers, D., de Marcken, P., Eba'a Atyi, R., Nasi, R., Mayaux, P. (Eds.), 2009. The Forests of the Congo Basin – State of the Forest 2008. Publications Office of the European Union, Luxembourg

Following the project scope and boundaries defined above, the Hansen global forest-cover dataset[17] was then used to analyze the historical rate of deforestation within the program area using both a historical average and upward adjusted deforestation rate based on HFLD criteria. To calculate the deforestation rate, the initial forest cover in 2000 was compared to that in 2012 with a threshold of between forest and non-forest of 30% forest cover as defined by Hansen et al. (2013). This dataset has a low LULC resolution with two classes: "forest" and "non-forest" and is a simplification of forest dynamics within the program area. However, the use of the Hansen et al. dataset leads to a conservative estimate of emissions in the program area, as degradation is not estimated.

Emission Factors

There has been several research activities and studies conducted in different regions of Cameroon to identify activity data on land use change and emissions factors. However, these studies are limited in scope, are not based on systematic inventory data collections, and use slightly different methodological approaches to meet individual research objectives. There is a lack of analysis as part of Cameroon's REDD+ Readiness activities to determine forest carbon stock extensively over the forest areas. There has been, however, few REDD pilot projects established in Cameroon after 2007 to examine the feasibility of REDD+ mechanism in the country. These projects were established under auspices of the European Space Agency (ESA) and in the framework of GMES Service Element on Forest Monitoring for REDD+ implementation and testing in Cameroon with user consultation and endorsement in 2007. In addition to monitoring forest cover change, these projects also focused on carbon emission accounting by: 1) establishment of a protocol for biomass accounting based on field inventories, 2) assessment of carbon stock per hectare and estimation of damage factor due to timber exploitation, and 3) econometric modeling to obtain projections of future timber harvesting levels for different degradation classes and their corresponding future GHG net emissions.

Existing estimates of carbon stock from ground inventory lack any systematic sampling, do not cover all land cover types required by the ER program, and often do not agree in fundamental factors such as forest definition or use of similar tree allometry that collectively may result in uncertainty in emission factors. The uncertainty associated with carbon stocks is expected to be reduced as the ER-PIN moves forward into the detailed design phase and as the forest definition, allometric models, national inventories with permanent sample plots (PSPs), and forest classification are formalized.

A preliminary estimation of carbon stocks are based on refined LULC maps of the program area and carbon stock estimates based on remote sensing products (e.g. synthetic aperture radar). Carbon stocks were estimated per land class for aboveground and below biomass by using maps developed by Saatchi et al. (2011)[18] at 100 ha (1-km) spatial resolution and been recently updated to 250 m[19] and LULC classifications of the program area. The carbon stock maps developed by Saatchi et al. (2013) were also used as part of the Winrock International and USAID carbon calculator (http://www.afolucarbon.org).

[17] Hansen, M. C., Potapov P.V., Moore, R., Hancher,M., Turubanova, S.A., Tyukavina, A., Thau, D., Stehman, S.V., Goetz, S.J., Loveland, T.R., Kommareddy, A., Egorov, A., Chini, L, Justice, C.O., and Townshend, J.R.G. 2013. High-Resolution Global Maps of 21st-Century Forest Cover Change. Science. 342, (6160).

[18] Saatchi, S. S., Harris, N. L., Brown, S., Lefsky, M., Mitchard, E. T., Salas, W., ... & Morel, A. (2011). Benchmark map of forest carbon stocks in tropical regions across three continents. *Proceedings of the National Academy of Sciences*, *108*(24), 9899-9904.

[19] Saatchi, S. (2013) Improvement of Tropical Forest Carbon Stocks Benchmark Map to 250 m Spatial Resolution, USAID Winrock Report, 2013 . (http://www.afolucarbon.org).

Reference Emissions Level Methodology

To establish an REL, the results from both the assessment of activity data and carbon stocks were combined to demonstrate expected annual emissions for a 10-year period following the project start date (April 2018). In order to combine the results from the analysis of emissions factor and activity data, estimates of carbon stocks for each LULC class was simplified to "forest" and "non-forest". This was done by calculating a weighted average of all forest classes (e.g. primary forest, degraded forest, secondary forest, wetland forest, and plantation) and non-forest classes (e.g. wetland non-forest, grassland, cropland, settlement) based on area estimates. The HFLD adjustment was determined relative to the HFLD definition from deFonseca et al (2007) and the FCPF's Methodological Framework limiting threshold of 0.1% of carbon stocks.

8.2 Expected REL/FRL for the ER Program
Please provide an estimate of the REL/FRL for the proposed ER Program area. Even a very preliminary estimate would be helpful.

LULC Activity Data

Following the methodology presented above for the *preliminary* REL determination, the deforestation rate was analyzed across the program area. To harmonize the assessment with project activities in the program area, the analysis was divided by the R-PP defined Optimal Action Zone (*Zone Optimal d'Action* - ZOA)[20] (Section 5) where targeted activities are presented based on the nature of deforestation in these areas (Figure 8.3). The deforestation rate was calculated for each area and is summarized in Table 8.2. The average deforestation rate across the project area was found to be 0.11% using the method proposed by Puyravaud[21] with a range in the different ZOAs of 0.02-0.96%. Several estimates of annual deforestation rates in Cameroon were observed to be in similar ranges to that found in our analysis. Ernst et al (2013)[22] found that from 1990-2000, the deforestation rate was 0.10% and from 2000-2005, it was 0.17%. Bruggeman et al (2015)[23] found a deforestation rate of 0.07% in a subset of southern Cameroon from 2000-2007. The scale and location of each estimate of the deforestation rate is variable and leads to different estimates. However, these peer-reviewed findings corroborate the results of our analysis.

Zone de Mise en Oeuvre	Deforestation Rate (%/yr)
High Deforestation Area 1	0.52%
High Deforestation Area 2	0.96%
Kribi	0.11%
Ebolowa	0.13%
Yaounde	0.18%
Lomie	0.02%
Bertoua	0.15%

[20] This corresponds to the Emission Management Unit (EMU) as defined in the REDD System approach.
[21] Puyravaud J.P. 2003. Standardizing the calculation of the annual rate of deforestation. *Forest Ecology and Management*. 177, 593-596.
[22] Ernst, C., Mayaux, P., Verhegghen, A., Bodart, C., Christophe, M., Defourny, P., 2013. National forest cover change in Congo Basin: deforestation, reforestation, degradation and regeneration for the years 1990, 2000 and 2005. *Global Change Biol*. 19, 1173–1187.
[23] Bruggeman, D., Meyfroidt, P, Lambin, E. 2015. Production forests as a conservation tool: Effectiveness of Cameroon's land use zoning policy. *Land Use Policy*, 42, 151-164.

Sangmelima	0.09%
Program Area	**0.11%**

Table 8.2: Forest reference level for each ZOA based on Hansen et al (2013) data.

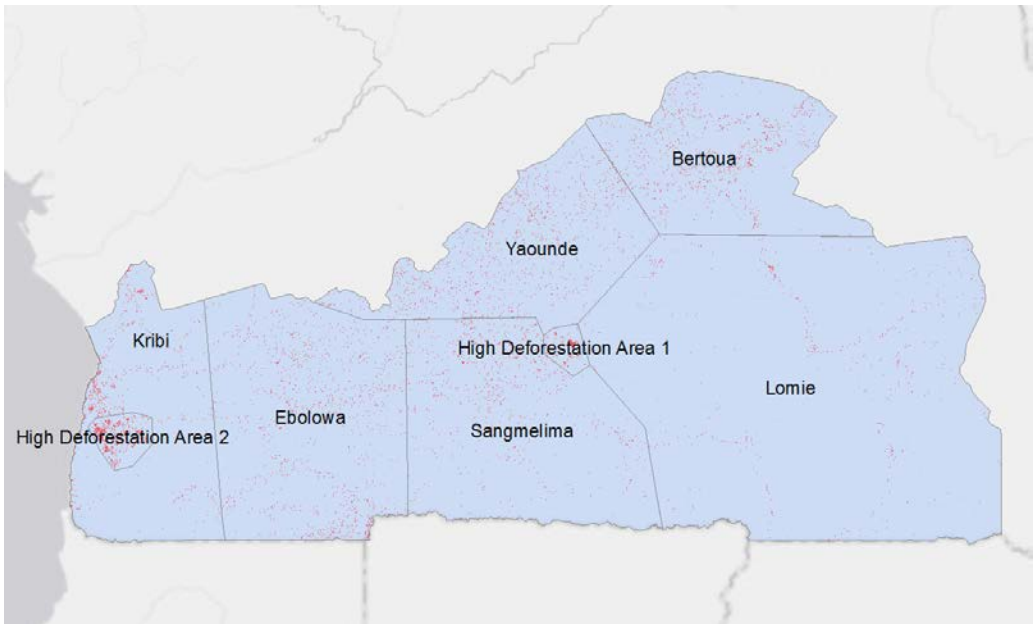


Figure 8.3: ZOAs in the ER Program jurisdiction with deforestation (red) from 2000 to 2012

Emission Factors

A LULC map was created from Landsat and GlobCover 2009[24] data and defined the following land use and land cover types (LULC): primary forest, degraded forest, secondary forest, grassland, cropland, plantation, wetland non-forest, wetland forest, settlement, and water (Figure 8.4). The GlobeCover was used as a reference map for general categories of the LULC. The cloud free (< 10% cloudy pixels) 2013 Landsat scenes were selected and used in a maximum likelihood classification approach to separate the LULC class types at 30 m spatial resolution. The most important section of the LULC for inclusion in the emission analysis was to include the degraded forest areas. The map was integrated with the global forest cover change products (Hansen et al. 2013) to compare and improve the deforested and secondary forest classification. The map was finally aggregated to 250 m (6.25 ha) spatial resolution for comparison with the forest biomass maps of the project areas for estimation of carbon stocks and emission factors associated with each LULC class.

The LULC map of southern Cameroon was then combined with a carbon stock map of southern Cameroon developed by Saatchi et al. (2013) (Figure 8.5). Together these two map products allowed the determination of mean carbon stocks for each LULC class for both above ground and below ground biomass (Table 8.3). The new above ground map improves the 2011 map in resolution from 1000 m to 250 m, and improves the estimates by including a large ground dataset to capture the variations of forest types and wood density. For other carbon pools, we used models to covert the aboveground to belowground following the IPCC guidelines (IPCC, 2006) and measurements performed in similar forest types (Mokany

[24] Arino O., J. Ramos, V. Kalogirou, P. Defourny and F. Achard. GlobCover 2009. ESA Living Planet Symposium, 27 June . 2 July 2010, Bergen, Norway

et al. 2006). Dead wood and litter carbon pools were estimated using ground measurements from different sites in the Central Africa region compared with the IPCC default values to come up with factors that scales with forest type and above ground biomass statistically. These factors would provide approximate estimates for the dead and litter pools.[25]

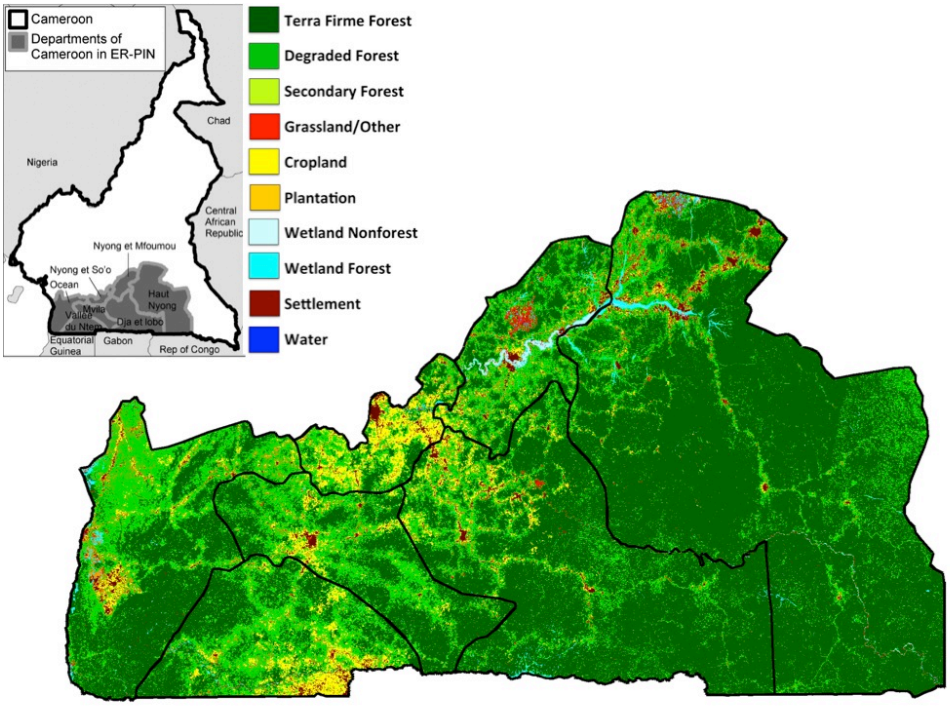


Figure 8.4: Map of LULC types of the Southern Cameroon jurisdictional REDD region separating the old growth forests from degraded, secondary and deforested landscapes. The map was developed using a combination of Landsat imagery and other ancillary data acquired for the year 2012.

[25] Carlson, B. "Gabon's Overlooked Carbon: A tropical forest study of coarse woody debris," Master of Science Thesis, Nicholas School of Environment, Duke University, 2013.

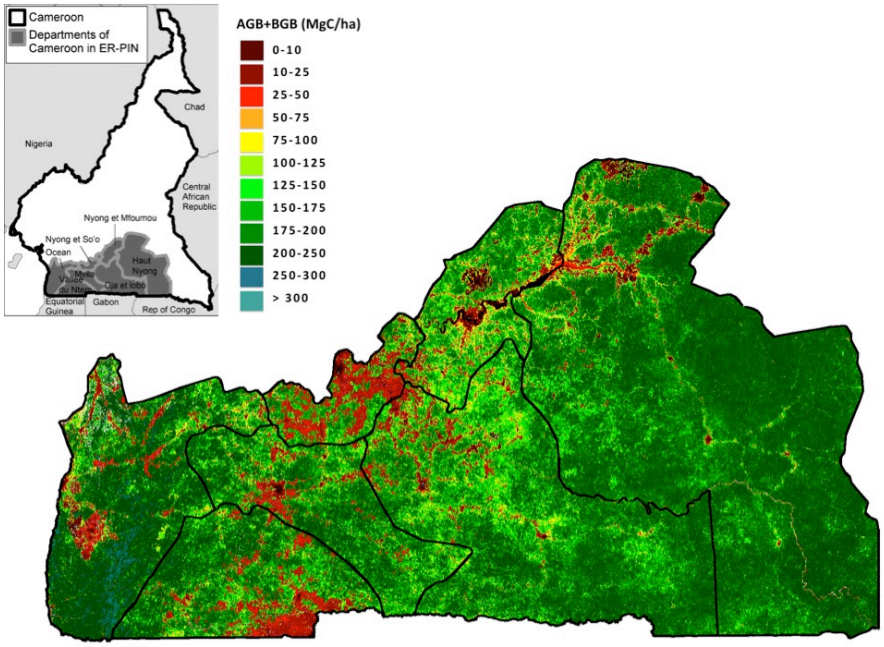


Figure 8.5. Distribution of forest carbon stocks in above and below ground biomass in the ER-PIN jurisdictional region from Saatchi et al. 2011 and 2013 maps at 250 m spatial resolution.

LULC	AGB (Mg/ha)	BGB (Mg/ha)	Dead (Mg/ha)	Litter (Mg/ha)
Primary Forest > 75% cover	319.6	83.3	35.09	4.47
Degraded Forest (30-75)	187.9	44.9	35.72	5.45
Secondary Forest (Hansen class)	69.2	16.8	13.14	1.75
Wetland Forest	196.7	47.9	23.6	2.96
Wetland nonforest	20.38	7.3		
Grassland	24.88	8.56	0	2.4
Cropland	34.66	11.47	0	3.4
Plantation	93.8	27.83	0	9.3
Settlement	12.08	3.4	2.98	0.26

Table 8.3. Estimates of above and below ground biomass of forest types of LULC classes

Several studies exist in the ER Program area and Cameroon that assess carbon stocks for aboveground and belowground carbon pools in different land classes. These studies are briefly described below and presented in Table 8.4. These studies confirm our findings in a preliminary analysis of carbon stocks in aboveground and belowground pools for different land classes.

1. A study was carried out in Lobéké national park located in southeastern Cameroon with semi deciduous forest.[26] Five types of land uses were identified using narrow transect plots (20 x 2500 m); plantations, fallows, secondary forest, primary forest and wetland, covering respectively 9.84

[26] Letouzey, R. (1985). Notice de la carte phytogéographique du Cameroun au 1:500.000 . Institut de la cartographie internationale de la végétation, Toulouse, France.

ha, 26.66 ha, 2.07 ha, 25.17 ha and 1.32 ha (Zapfack et al. 2013). The transects were used to collect tree diameter and species data and forest biomass was estimated based on allometric equation (Brown et al. 1989) for all forest types found in the study region. Belowground biomass was calculated using a root-to-shoot ratio.

2. A study was conducted in the Mengamé gorilla sanctuary and the Kom National Park, both within the KMFCC. The KMFCC covers 94,920 ha and is included in the Trinational Dja-Odzala-Minkébé Congo Basin Forest Partnership landscape that stretched across Cameroon, Congo, and Gabon (Fongnzossoie et al, 2014). The inventory data included 56 transects, 54 of which measured 2,500 m x 5 m each, and two transects measured only 500 m x 5 m and 1,100 m x 5 m in marshy grassland areas. The study used the Chave et al. (2005)[27] model to calculate the biomass using diameter only equation. The values in the paper were given in MgC/ha in aboveground carbon stocks but the values were very high even for secondary, swamp, and crops compared to other regions. These estimates even though presented here, were ignored due to the exceptionally high values even for crop fields.
3. A field study was conducted in 2004 by Kammegne[28] as part of the PhD thesis funded by the University of Wageningen and Tropenbos International on acid soils in the humid forest zone of Southern Cameroon, to characterize the traditional slash-and-burn land uses, assess the major effects of land use change on soil nutrient stocks, flows, and soil biological quality, and to explore alternatives for sustainable land management. There were a series of plots established in the region and forest aboveground biomass was estimated for different forest types, among them primary and secondary forests.

Forest Cover Classification	Source	Carbon Stocks (tC/ha)
Primary Forest		
	Saatchi et al. 2011, 2013 (AGB+BGB)	201.45
	Fongnzossie et al. 2014 (AGB only)[29]	240.0
	Zapfack et al 2013 (AGB + BGB)	160.87
	Kammegne, 2004	210.25
Degraded Forest		
	Saatchi et al. 2011, 2013 (AGB+BGB)	116.4
	Fongnzossie et al. 2014 (AGB only)	151.5
	Zapfack et al 2013 (AGB + BGB)	155.27
Secondary Forest		
	Saatchi et al. 2011, 2013 (AGB+BGB)	43
	Fongnzossie et al. 2014 (AGB only)	144.95
	Zapfack et al 2013 (AGB + BGB)	42.73

[27] Chave, J., Andalo, C., Brown, S., Cairns, M. A., Chambers, J. Q., Eamus, D., ... & Yamakura, T. (2005). Tree allometry and improved estimation of carbon stocks and balance in tropical forests. *Oecologia*, *145*(1), 87-99.; Chave, J., Réjou-Méchain, M., Búrquez, A., Chidumayo, E., Colgan, M. S., Delitti, W. B., ... & Vieilledent, G. (2014). Improved allometric models to estimate the aboveground biomass of tropical trees. *Global change biology*, *20*(10), 3177-3190.

[28] Kanmegne, J. (2004). Slash and burn agriculture in the humid forest zone of southern Cameroon: Soil quality dynamics, Improved fallow, Management and farmers' perception . Wageningen University.

[29] Fongnzossie, E. F., Sonwa, D. J., Kemeuze, V., Auzel, P., & Nkongmeneck, B. A. (2014, August). Above-ground carbon assessment in the Kom-Mengamé forest conservation complex, South Cameroon: Exploring the potential of managing forests for biodiversity and carbon. In *Natural Resources Forum* (Vol. 38, No. 3, pp. 220-232).

	Kammegne, 2004	57.7
Swamp Forest		
	Saatchi et al. 2011, 2013 (AGB+BGB)	122.3
	Fongnzossie et al. 2014 (AGB only)	143.29
	Zapfack et al 2013 (AGB + BGB)	108.13

Table 8.4. Carbon stocks available in the program area and Cameroon from literature.

Following the methodology described above in Section 8.1 for a preliminary REL determination the carbon stocks data was simplified to "forest" and "non-forest" using a weighted average based on area (Table 8.5). Using this approach, the biomass of the forest class and non-forest class were estimated to be 389 Mg/ha (195 tC/ha) and 40 Mg/ha (20 tC/ha), respectively. The emission factor for forest transitions was thus calculated to be 175 tC/ha.

LULC Class	Area (ha)	Area (%)
Primary Forest > 75% cover	5,863,181	63.1%
Degraded Forest (30-75)	2,440,425	26.2%
Secondary Forest (Hansen class)	19	0.0%
Wetland Forest	12,288	0.1%
Plantation	115,250	1.2%
Wetland non-forest	70,413	0.8%
Grassland	181,869	2.0%
Cropland	472,044	5.1%
Settlement	143,075	1.5%

Table 8.5: LULC of the program area based on a combination of Landsat and Globcover data.

Reference Emissions Level

The reference emissions level was calculated based on a historical average and HFLD approach that are summarized below. Provided that the historical deforestation rate is approximately half of the deFonseca et al (2007) threshold of 0.22%/y, the adjustment was determined as 0.05% of carbon stocks per year. This equates to an upward adjustment to the historical average REL of approximately 760,000 tC/yr.

REL - Historical Average

The product of the activity data described above and the emission factor yields historical average REL over a 10 year period at 6.03 million tons of CO_2e emissions per year (Table 8.6).

Zone de Mise en Oeuvre	Annual Forest Loss (ha/yr)	Emission Factor (tC/ha)	Annual Emissions (tCO2e/yr)
High Deforestation Area 1	**272**	**175**	174020
High Deforestation Area 2	**809**	**175**	518318
Kribi	**1,027**	**175**	657612
Ebolowa	**1,941**	**175**	1243506
Yaounde	**1,754**	**175**	1123348
Lomie	**840**	**175**	538140
Bertoua	**1,488**	**175**	953116
Sangmelima	**1,284**	**175**	822370
Program Area	**9,415**	**175**	6,030,430

Table 8.6: Historical average reference emissions level (REL) for each ZOA within the ER Program.

REL – HFLD Adjustment

Using the activity data described above, the adjusted emission factor, and an upward adjusted historical average deforestation rate a HFLD REL was calculated and found that over a 10 year period 6.80 million tons of CO2e emissions per year are expected (Table 8.7).

Zone de Mise en Oeuvre	Annual Forest Loss (ha/yr)	Emission Factor (tC/ha)	Annual Emissions (tCO2e/yr)
High Deforestation Area 1	272	175	196,112
High Deforestation Area 2	809	175	584,118
Kribi	1,027	175	741,095
Ebolowa	1,941	175	1,401,367
Yaounde	1,754	175	1,265,956
Lomie	840	175	606,456
Bertoua	1,488	175	1,074,113
Sangmelima	1,284	175	926,769
Program Area	9,415	175	6,795,986

Table 8.7: HFLD reference emissions level (REL) for each ZOA within the ER Program.

9. Forest Monitoring System

9.1 Description of approach and capacity for measurement and reporting on ERs
Please describe the proposed approach for monitoring and reporting the emission reductions attributable to the proposed ER Program, including the capacity of the proposed ER Program entities to implement this approach.

Monitoring and Reporting in the ER Program

For the ER Program, the REDD Systems will constitute the MRV system and will follow the guidelines of the National MRV system. REDD Systems is a flexible platform that will integrate the tools and methods of nested projects into the national system to ensure consistency between jurisdictional and nested project-level MRV. REDD Systems is a technological framework for REDD+ program operators or jurisdictions that utilizes high spatial and temporal satellite imagery produced by the constellation of Dove satellites manufactured and managed by Planet Labs. REDD Systems has three main elements that provide both an MRV system as well as a project activity to prevent deforestation/ degradation. These elements are:

- *Cadent Monitoring System*

  The Cadent Monitoring System collects activity data on LULC change and combines it with forest inventory results to provide carbon accounting and technical bookkeeping. Land use change is monitored in real time based on Planet Labs constellation of satellites using a hybrid LULC mapping and sampling approach. Hexagonal sampling units are used based on the Forest Inventory and Analysis (FIA) program of the U.S. Forest Service and are chosen based on a stratified random sampling approach (Figure 9A). The sampling approach minimizes costs and allows a semi-automated and user interpretation approach to LULC classification with higher precision. In addition to the increased precision and reduced cost, the cadent monitoring system provides real time feedback that mitigates the risk of non-performance, enables adaptive management, and informs carbon credit supply requirements and financial decision-making.

- *Live Warning System*

  The Live Warning System predicts and maps incipient land use change from Planet Labs satellite imagery that is analyzed daily allowing immediate detection of deforestation and degradation events. Subscribers can then be notified by a web interface and SMS alerts to drive on-the-ground action and efficient allocation of resources.

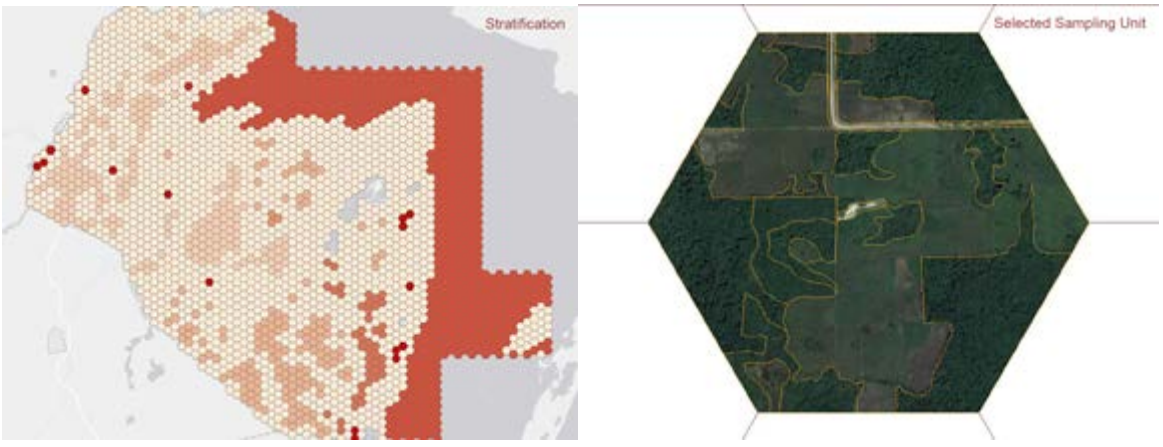


Figure 9A: An example of the REDD Systems sampling approach and land-use digitization of sample.

- *Action Tracking System*

  The Action Tracking System is coupled with the Live Warning System and documents interventions made to prevent deforestation and degradation. This platform transparently catalogs documented actions over time that clearly demonstrates emissions reductions and adds value to transacted credits.

Determination of aboveground biomass density for different LULC classes within the program area will be carried out through a combination of remote sensing data and field measurements to provide accurate and cost effective estimation of aboveground biomass across varied LULC classification types and broad spatial extents. The use of remote sensing products (LiDAR, RADAR, hyperspectral/hyperspatial imagery) in combination with a relatively small number field plots and can be used to achieve a statistically valid sample applying this tool. The main procedural steps in this tool are i) field and remote sampling; ii) predictive model development; iii) assessment of error and uncertainty.

Field and remote sampling

With regards to the field and remote sampling a combination of forest inventory plots along with collected LiDAR data will provide the basis for aboveground carbon estimates. An assessment of existing forest carbon plots will be undertaken to see whether they are methodologically consistent with the *VT0005 Tool*. Afterwards a network of plots will be established according to the methodology put forward in the program. These plots will directly measure soil organic carbon and litter and will indirectly measure aboveground biomass, below ground biomass, and dead wood through locally or regionally derived allometric equations.

A second sampling will be put in place using remote sensing techniques of LiDAR, RADAR, and hyperspectral imagery that will be collected by a random sample of transects. The sampling approach can be either systematic or stratified depending on available information.

Predictive Model Development

Statistically valid models will then be determined using regression techniques that will use the forest inventory plots as calibration/ validation of the remote sensing sampling. The predictive models will be able to estimate above-ground biomass for the entire sample of remote sensing information which, given its large spatial coverage, will provide an accurate and precise estimate. To estimate belowground biomass, locally derived biomass expansion factors (BEFs) that are able to relate aboveground biomass to belowground biomass are determined. For carbon pools of litter and soil organic carbon, no predictive models will be built but rather as part of the forest inventory these pools will be sampled and aggregated by traditional means.

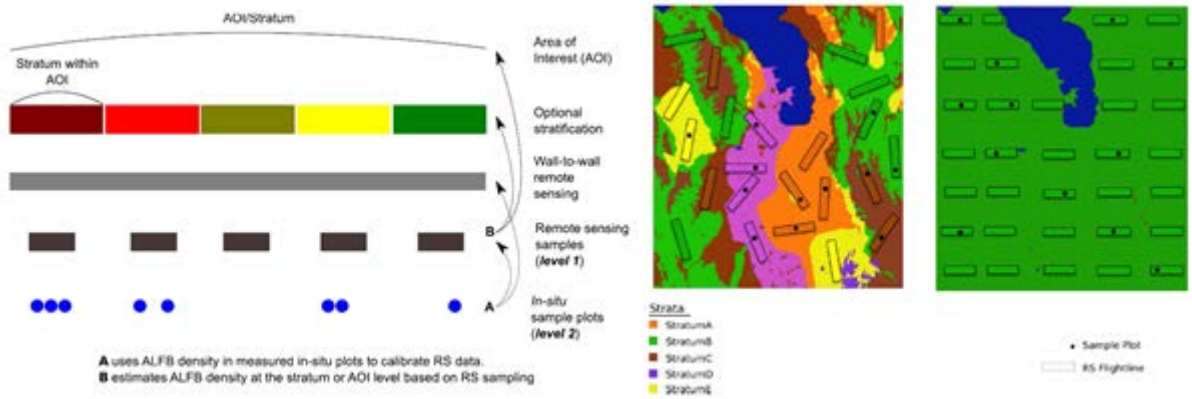


Figure 9B: Schematic diagram for the procedure to estimate aboveground biomass (left) and a schematic diagram of the sample strategy used for both forest inventory and remote sensing data.

Assessment of error and uncertainty

The calculation of variance and uncertainty of the mean value will then be calculated following the methodological guidance provided by VT0005. The calculation of uncertainty in these methodologies principally relies on Stahl et al (2011).

Institutional Capacity

The Sub-Department of Forest Inventory and Management (SDIAF *in French*) placed under the supervision of the Department of Forest is responsible for forest cover monitoring including forest resource inventory. It will be supported technically by the National Herbarium of Cameroon (IRAD) which belongs to the Ministry of Research and Innovation and has been involved in the implementation forest inventories in Cameroon.

Two Units within SDIAF are directly responsible for activities related to forest cover monitoring and forest inventory:

- Inventories and Monitoring of Forest Area Dynamics Unit
- Mapping (Cartography) Unit

The Mapping (Cartography) Unit is in charge of the continuous monitoring of forest cover and the elaboration and updating of forest maps.

The Inventories and Monitoring of Forest Area Dynamic Unit and the National Herbarium of Cameroon (IRAD) are responsible amongst others for the conceptualization of forest inventory programs; the definition, dissemination and monitoring of the application of forest inventory norms and standards.

The Unit of Ecologic Monitoring in MINEPDED is responsible for greenhouse gas reporting in all sectors including the forest. The unit works in close collaboration with experts from ANAFOR and academic institutions under the supervision of the UNFCCC Focal Point.

It is worthy to mention the National Institute of Cartography which is under the tutelage of the Ministry in Charge of Scientific Research and Innovation. The institute has as mission to:

- Participate in the elaboration of governmental policies related to the environment
- Implement activities related to remote sensing and mapping
- Delimit international frontiers and administrative borders

Forest inventory equipment at SDIAF is quite basic and not suitable for any extensive forest inventory. There is a general lack of field logistical equipment including transportation and communication facilities, material equipment like chain saws, clinometers, paints, rain coats etc. are also absent. It should be noted that the material procured during the KfW sponsored REDD Cameroon Pilot Project could be put at the disposition of SDIAF. Most of the personnel have benefited from training from previous Development Co-operation initiatives notably Canadian International Development Agency (CIDA).

The capacity of the Mapping (Cartographic) Unit of MINFOF in performing its task of continuous forest monitoring is quite limited. Human resource capacity constitutes four permanent staffs and some interns with basic knowledge on satellite image processing. Through an accord with MINEF in 2002 (renewable every three years – currently in its third extension), World Resource Institute (WRI) has been providing technical assistance in the compilation, review and updating of forest management information using EO-based data. Through this Agreement, the unit can now boast of hardware (about 8 desktops) and student licenses of ArcGIS 9.3.1 on every desktop. ERDAS Imagine licenses are installed on a few computer desktops.

The National Institute of Cartography (NIC) has a mandate to create and maintain a network of geodetic reference points, the coordination of all cartography and remote sensing activities.

Other initiatives worthy of mention include: *Centre Technique de Fôrets Communautaires du Cameroun*, which provides technical advice and services on forest management to councils: council forest mapping and forest inventory assistance; GIZ ProPSFE which provides technical assistance in sustainable management of forest resources – development of statistical and cartographic database containing maps of land cover types, land cover/use and changes etc.

The mapping unit of SDIAF (*Service de Cartographie*) has a stock of aerial photographs acquired during the 80s, national and site specific maps acquired during the 70s, a database on all forest management units that is updated on an annual bases, stock of satellite imagery acquired through its technical partners (World Resources Institute, FAO etc.), national and site specific inventory data acquired through partners including FAO, logging companies and biodiversity management projects over the years. These data and products need to be examined further in terms of quality, reliability and completeness before being incorporated in any REDD scheme.

WRI is currently re-negotiating its Agreement with ESRI which will lead to the updating of the ArcGIS licenses. It is foreseen that ArcGIS 10 licenses will be installed on all the computer desktops in the Mapping (Cartographic) Unit. Even though the agreement between MINFOF and WRI is at the end of its third extension, there is optimism that a fourth convention will be signed as CARPE financing has been assured.

The Japanese International Corporation Agency (JICA) and the French Development Agency through the C2D initiative have expressed interest to assist Cameroon in forest inventories and monitoring. The nature of the assistance is still under negotiation.

There exists basic infrastructural capacity in performing forest inventories. SDIAF have benefited from financial and material support from a range of technical corporations notably CIDA in the past. Most of the material acquired in the scope of this activity is presently out of use. Nevertheless, this initiative enabled the training of staffs on forest inventory, and forest cover mapping most of who are still attached to different administrative services at MINFOF. Other SDIAF staffs as well as forest technicians from regional administrations participated in the FAO FRA inventory.

The capacity to perform EO-based forest cover monitoring is very basic. Infrastructure (hardware and software) are completely non-existent and in cases where they exist there is need to update them. Remote Sensing and GIS technicians have benefited from training from different programs and projects but the absence of adequate infrastructure makes it impossible for them to exercise/practice thus the need to always repeat training modules rather than building on previous ones.

The capacity within the administration will be supported by a host of national and international institutions accompanying the government in implementing the ER Program:

ecoPartners - The ecoPartners team is internationally recognized experts in REDD+ and IFM project types. ecoPartners served as technical consultant for approximately half of all validated and verified REDD projects to date, accounting for over 7.4 million tonnes of verified reductions on 800,000 hectares. ecoPartners not only brings project management experience but also technical capacities in GIS, remote sensing, inventory design, and forest carbon modelling for REDD+ project development.

GeoEcoMap – GeoEcoMap has extensive expertise in designing and implementing carbon inventory and assessments systems at national and project levels to quantify the stocks, emissions, and removals for greenhouse gas (GHG) monitoring and reporting. The expertise has been evolved through more than twenty years of experience in a combination of satellite and field approaches developed and tested in tropical forests by the science staff members of GeoEcoMap.

9.2 Describe how the proposed ER Program monitoring system is consistent with the (emerging) national REDD+ monitoring system.

The national strategy for M&MRV is currently being elaborated and it builds on the National MRV Action Plan which has been validated by REDD+ stakeholders. Key issues that are currently being deliberated by technicians and stakeholders include the following:

1. Organizational Structure
    - Definition of functions of the structure
    - Elaboration of the institutional arrangements for MRV
    - Defining roles and responsibilities and interactions and inter-relationships
2. National Circumstances
    - Defining the scope of the MRV (carbon, non-carbon, integrated natural resource monitoring)
    - Elaboration of key definitions: forest, deforestation, forest degradation, sustainable management of forests, conservation of carbon stocks, enhancement of carbon stocks
    - Assessment of key categories in the different agro-ecological regions
    - An analysis of significant carbon pools and gases in the different agro-ecological regions
    - Analysis of existing data and information and their utility for the national MRV system (metadata assessment).
3. Elaboration of a concept for forest carbon monitoring
    - Methods compendium and technical specifications (input data, thematic classes, products, accuracy etc.) for the analysis of remote sensing data to map/measure/quantify activity data

- Concept for estimating EF (sampling design, pre/post stratification etc.)
- Techniques for relating AD and EF

4. Integrated QC/QA Plan
    - Documentation
    - Data flow
    - Information storage and backup
    - Uncertainty assessment for AD, EF and emissions
    - Uncertainty assessment (historic assessments)
5. Accounting for non-carbon benefits
    - Defining the scope
    - Development of integrated methods to quantify non-carbon benefits like biodiversity, ecotourism, payment of environmental services, water catchment etc.
6. How to integrate community-based monitoring in the national MRV concept
7. Capacity building (human resources and infrastructure)

Even though a consolidated approach on all the issues shortlisted has not been reached, the ER Program is built along the lines of these issues and is adopting the outcomes as they are reached. For example, the ER Program will use the forest definition that was recently validated by stakeholders. Furthermore, thematic classes for land representation in Cameroon has also been adopted. The ER Program will take this into consideration when classifying land using remote sensing technology. Finally, a series of criteria and indicators have been established for the monitoring socio-economic parameters during REDD+ implementation. The ER Program will also adopt these parameters and indicators during implementation.

9.3 Describe how the proposed ER Program monitoring system is consistent with UNFCCC guidance available to date and with the emerging Methodological Framework of the FCPF Carbon Fund.

The MRV system proposed by the ER Program will align with the UNFCCC guidelines and the FCPF Carbon Fund Methodological Framework. With regards to the FCPF Carbon Fund Methodological Framework the proposed MRV system meets Criteria 14, 15, and 16:

Criterion 14 – as described in section 9.1 the MRV system aligns with the sources and removals of GHG emissions as defined in Cameroon's R-PP and are thus within the scope of the ER Program. Additionally, the Cadent Monitoring System is updated in real-time and in the 5-year Term of the ERPA can be reported periodically and as frequently as necessary. As described in section 9.1 Approach 3 is used for the MRV system by combining the spatial explicit information provided by the Live Warning System and the accounting of emission reductions provided by the Cadent Monitoring System. Lastly, emission factors will be determined as discussed in section 9.1 for both the REL and the MRV.

Criterion 15 – the MRV system fits within the National System for Forest Carbon Monitoring as it adopts the definitions of sinks and sources of GHG emissions, carbon pools to be included within emission factors, and eligible activity data as described in section 9.1

Criterion 16 – Discussions are currently underway on how to incorporate community-based monitoring into the MRV component of the national REDD+ strategy. IUCN and WWF have broad experience on community-based monitoring with communities in the ER Program area. Different options are currently

being assessed on how to customize certain components of the MRV system to the local communities and how specific knowledge from the local communities can be integrated into the monitoring and reporting system. The outcome of these discussions will be a system that also integrates parameters relevant to the communities.

9.4 Describe any potential role of Indigenous Peoples or local communities in the design or implementation of the proposed ER Program monitoring system.

Local and indigenous communities will be involved in the development and implementation of the monitoring system at several levels, described as follows:

- Through their representatives in the National SC, Task Force, Regional and Divisional committees to develop the policy and procedural framework of the ER Program, which will help frame the MRV system, including the question of the involvement of local communities and indigenous projects and in monitoring individual ER projects;
- They will be mobilized on the ground to monitor the indicators of program performance, including the monitoring of ER activity proxy and social performance;
- They will be integrated into program MRV efforts, particularly for forest inventory. Tree species identification is the most difficult aspect of forest inventory work. Often, local forest communities possess extensive, unparalleled knowledge of forest biodiversity. It is vital to program success that these groups are heavily engaged in carbon inventory work, both for technical purposes as well as the tangible community benefits / stakeholder acceptance that employment of local forest peoples brings to the ER Program.

9.5 Describe if and how the proposed ER Program monitoring system would include information on multiple benefits like biodiversity conservation or enhanced rural livelihoods, governance indicators, etc.

Past consultation processes have identified a series of potential indicators for tracking multiple carbon benefits associated with planned REDD+ interventions (see Section 5.3) such as biodiversity as well as socio-economic, governance, and institutional capacity strengthening (see Sections 13.1 and 16.1), which will complement the forest cover and emission reductions indicators included in MRV. During the design of the ER Program, these indicators will be further defined and a baseline and tracking methodology will be developed. The process will be conducted by the REDD+ Technical Secretariat, supported by CARN and ECO-PARTNERS. It will involve local administration and communities, civil society as well as indigenous people. Other institutions, such as environmental NGOs, universities, international organizations, indigenous organizations will also be included. Multiple biodiversity conservation reference points will be established and studied longitudinally to determine changes in animal populations and hunting offtake and to determine conservation trends in the area related to the program. The Dja Reserve Bouamir research Station will act as a reference point for an area under conservation management to compare with sites affected by program activities and similar sites where no program activities have taken place. Data on multiple benefits and indicators will be incorporated in the Program MRV system and later on the National registry.

10. Reversal

10.1 Activities to address risks of reversal of greenhouse gas benefits
Please describe major risks of anthropogenic and non-anthropogenic reversals of greenhouse gas benefits (from e.g., fire, agriculture expansion into forest, changes in commodity prices). Also describe any activities or design features in the proposed ER Program that are incorporated to minimize and/or mitigate the anthropogenic risks or reversals, and how these activities are consistent with the design features of the (emerging) national REDD+ strategy to address risks of reversal.

Risks of catastrophic loss through forest fire is unlikely in the ER program area because surface fire is uncommon in the area given the moisture levels and forest type. As these forests are put under improved management practices, localized fire incidence will also be reduced.

There are risks of reversals resulting from illegal logging and unsustainable harvest of forest products, if local employment opportunities or forest products are not commercializable at a reasonable price. The proposed ER program will be developed in consultation with all stakeholders, to reduce risks of reversal.

Proposed improved enforcement of forest laws to reduce deforestation and forest degradation will also help to address reversal. Woodlot and other silviculture interventions in the ER program area will result in increases in both carbon stocks and timber supply, reducing pressures on the forest.

With strong local ownership of forest management, the risks of anthropogenic reversals within Cameroon are significantly mitigated. The history of community-based forest management within Cameroon has demonstrated that the benefits are long lasting once these local models are in place.

During the ERPD development phase, the REDD Cell will launch a study that includes the following:

- Assess the anthropogenic and natural risk of reversals that might affect ERs during the term of the ERPA, and the potential risk of reversals after the end of the term of the ERPA.
- Identify measures to support effective ER program design and implementation to mitigate significant reversal risks, and address the sustainability of ERs, both during the term of the ERPA, and for a reasonable period beyond that term.
- Determine ways to account for reversals from ERs that have been transferred to the Carbon Fund during the term of the ERPA; and propose, as feasible, arrangements to address the risk of reversals for the long term.
- Recommend reversal management mechanisms to address potential reversals.
- In the course of ER program implementation, any significant emissions in the Accounting Area or changes in ER program circumstances that the ER program considers could lead to reversals of previously transferred ERs by the next monitoring event, and will be reported to the Carbon Fund within the timeline prescribed in the Carbon Fund Methodological Framework

11. Displacement

11.1 Description of the potential risks of both domestic and international displacement of emissions (leakage)
Please describe the potential risks of both domestic and international displacement of emissions from the proposed ER Program activities. Then also describe how the proposed ER Program activities will minimize the risk of domestic displacement and international displacement (if applicable), via the design of the proposed ER Program and the ER Program activities and the selection of locations. For sub-national programs, pay special attention to identifying domestic risks of displacement of emissions, the proposed ER Program activities to mitigate these risks, which otherwise would contribute to fewer net emission reductions generated by the proposed ER Program, and how these activities are consistent with the design features of the (emerging) national REDD+ strategy to address risks of displacement.

While developing the ER-PD, Cameroon will prioritize the most significant sources of displacement risk, assess their associated risk for displacement, and propose effective strategies to mitigate and/or minimize potential displacement to the extent possible. A procedure to estimate in-country displacement will also be developed, which may include, for example, the monitoring and evaluation of potential areas where displacement occurs in the National Forest Monitoring System, or use of default factors of displacement appropriate for Cameroon and drivers of deforestation and forest degradation, or other appropriate methods.

The risk of domestic displacement will be minimized through the improved supply of forest products in a sustainable manner and community based forest fire monitoring and control to significantly reduce leakage from forest fire incidence. The displacement program shall include better law enforcement (e.g. promoting the role of community-based law enforcement). Illegal logging for example can be addressed by rethinking forest policy with a particular focus on redressing the rights of access and secure tenure for local forest dependent communities, promoting wood residues and the review and facilitation of timber license procurement process. Agriculture intensification and diversification proposed in the ER-Program could be extended across scale (from local to sub-regional and regional level) for example to avoid displacements related to agriculture. Also, all the ER activities will be planned, developed and implemented with extensive consultation and active participation of all stakeholders including IPs, CSOs and local people at all levels, which will contribute to ownership by all stakeholders and mitigation of displacement. The on-going national zoning plan elaboration will also serve as a means to prevent leakages. As part of ER implementation, the Government of Cameroon will develop a mutual process to addressing any cross border issues. Since Cameroon has an open border, cross-border issues such as timber smuggling, wildlife trade and poaching are rampant. In order to address those issues, there are mechanisms in place to hold annual bilateral meeting on transboundary biodiversity conservation in Cameroon. A proposed way to address transboundary displacement of emissions is to enhance the transboundary landscape management for example, the case of the TNS and TRIDOM landscapes which are part of the project area. Similarly, Cameroon has signed a Memorandum of Understanding for transboundary biodiversity conservation and a regional project financed by the World Bank to improve the effectiveness of wildlife and habitat conservation. The activities proposed in the ER program are directly linked to the REDD+ strategic options identified during the R-PP elaboration and to be addressed by the REDD+ national strategy.

12. Expected emission reductions

12.1 Expected Emission Reductions (ERs)
Please provide an estimate of the expected impact of the proposed ER Program on the REL/FRL (as percentage of emissions to be reduced). Based on this percentage, also estimate the volume of ERs, as expressed in tonnes of CO_2e, that would be generated by the ER Program:

a) up to December 31, 2020 (currently the end date of the FCPF)
b) for a period of 10 years; and
c) the lifetime of the proposed ER Program, if it is proposed to continue longer than 10 years.

The following table represents a preliminary estimate of potential emission reductions and is based on the following:

- It is assumed that the ER Program will become operational in April 2018.
- The expected annual emission reductions are based on both a historical average REL (low)- and HFLD adjusted REL (high) scenario of abatement. The underlying assumptions for both scenarios are provided for each module below the table.

The table provides average estimates (i.e. the average of the low- and high scenario) of the expected emission reductions a) up to 2020 and b) over ten years. The program is not currently designed to extend beyond 10 years and hasn't been included in this analysis.

The historical average REL and HFLD adjusted REL are described above in section 8.2 and both approaches are summarized here. To establish the program scenario for both RELs effectiveness factors were assigned over a 10 year period for each ZOA. Depending on the project activities put in place and the extent of deforestation expected in given ZOAs varying effectiveness factors are used. Over the 10 year period a conservative estimate 30% of the emissions would be prevented by the proposed activities in Section 5. Table 12.1 provides the effectiveness factors for each ZOA over 10 years.

ZOA	1	2	3	4	5	6	7	8	9	10
High Deforestation Area 1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
High Deforestation Area 2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Kribi	5%	10%	15%	20%	25%	30%	30%	35%	40%	45%
Ebolowa			2%	5%	8%	14%	18%	20%	25%	35%
Yaounde	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%
Lomie			1%	2%	3%	4%	5%	6%	7%	8%
Bertoua		5%	10%	15%	20%	25%	30%	35%	40%	45%
Sangmelima	2%	5%	8%	14%	18%	20%	25%	30%	35%	40%

Table 12.1: Effectiveness factors for each ZOA in the program area over 10 years.

Table 12.2 summarizes the net emission reductions anticipated by the two elaborated RELs. The historical average scenario estimates 1.85 MtCO2e/yr in emission reductions and the HFLD adjusted scenario estimates 2.09 MtCO2e/yr in estimated emission reductions. As the program will begin in 2018 the calculation of emission reductions up to December 31, 2020, the end date of the FCPF, spans over 3 years of emission reductions.

	Historical Average Scenario	HFLD Adjsuted Scenario
Reference Emissions Level (MtCO2e/yr)	6.03	6.80
Emission Reductions (MtCO2e/yr)	1.85	2.09
ERs up to 2020 (MtCO2e)	3.17	3.57
ERs over 10 years (MtCO2e)	18.55	20.90

Table 12.2: Net emissions reductions for the Southern Cameroon REDD+ Program

12.2 Volume proposed for the FCPF Carbon Fund
Please explain the portion of the expected ERs that would be offered to the Carbon Fund, and if other carbon finance providers or buyers have been identified to date, the portions of the expected ERs that would be offered to them.

Based on the conservative estimates presented in Chapter 12.2, the country intends to propose 3.17 adjusted to 3.57 MtCO2/year, representing approximately 17% of the total emission reduction in 10 years. The country plans to contact other carbon financiers and buyers during the elaboration of the program.

13. Preliminary assessment of the proposed ER Program in the context of the national Strategic Environmental and Social Assessment (SESA) and the Environmental and Social Management Framework (ESMF)[30]

13.1 Progress on SESA/ESMF
Please describe the country's progress in the implementation of SESA and the development of the ESMF, and their contribution or relationship to the proposed ER Program.

Cameroon has several laws, policies, and institutions that address environmental and social safeguards in forestry operations and development activities. A prime ministerial decree was signed on 14th February 2013, fixing the modalities for the realization of an Environmental and Social Impact Assessment in Cameroon. This decree, which complements the 1996 Framework Law on Environmental Management, and several Ministerial Orders elaborate the requirements relevant for a SESA, including the timeframe and procedure for its implementation.

Following Cameroon's Readiness Preparation Proposal (R-PP), a national SESA will be conducted. The terms of reference for the preparation of the SESA has been elaborated and approved; the SESA team has been recruited and is currently working on technical SESA-related aspects; the selection process for the consulting firm is currently on-going. Once selected, the consulting firm will immediately start the SESA study. The Environmental and Social Management Framework (ESMF) will be developed based on the SESA. The ESMF will frame all REDD+ related programs in Cameroon, including the ER-Program. The implementation of the SESA framework and the development of the ESMF are integral components of Cameroon's FCPF REDD+ readiness process.

The REDD+ Technical Secretariat is thus equipped with a SESA Unit which will support the ER Program Task Force and the Regional and Divisional Technical Committees in coordinating activities related to risk assessment and mitigation measures for all ER Program activities, minimizing or eliminating potential environmental and social impacts, particularly on vulnerable groups.

The national REDD+ institutions work in close collaboration with women's organizations, IP organizations, civil society and other key stakeholders, to mainstream gender and IP's considerations into Cameroon's REDD+ process. This is approach is considered in the scope of the ER Program.

13.2 Incorporation of SESA outputs and/or outcomes into the proposed ER Program
Based on the progress outlined in 7.1, please describe how the proposed ER Program is expected to make use of the outputs and/or outcomes of the SESA process. Provide an analysis of the ways in which activities planned under the proposed ER Program will rely on the measures and procedures included or to be included in the ESMF. Are there likely to be any gaps or issues regarding the compliance of the proposed ER Program activities with applicable safeguard standards, including the UNFCCC safeguards?

The proposed ER program will integrate the outputs and outcomes of the SESA process particularly on risk mitigation measures that are relevant for the specific ER program context. According to agreed guidance in the Carbon Fund Methodological Framework, ER Program design and implementation will comply with applicable World Bank safeguard policies and procedures, promote and support safeguards included in the

[30] The SESA is the assessment process to be used in FCPF REDD+ countries during R-PP implementation and REDD+ readiness preparation. The ESMF is an output of SESA that provides a framework to examine the issues and impacts associated with projects, activities, and/or policies/regulations that may occur in the future in connection with the implementation of the national REDD+ strategy but that are not known at the present time.

UNFCCC Cancun decisions. Safeguards plans will be prepared during the design phase, including appropriate monitoring arrangements.

Cameroon has adopted a multi-stakeholder approach in its REDD+ process and seeks to ensure the participation of local communities, indigenous peoples and other relevant stakeholders in all phases of the REDD+ process. The inclusive and participatory nature of the REDD+ process in Cameroon will be especially important for the SESA and ESMF development. The potential safeguard issues requiring more attention during the SESA and potentially addressed through the future ESMF include the following:

- Benefits sharing implication for the lack of secure (i.e. officially registered) land tenure for local population, especially relevant for REDD+ activities conducted on communal land;
- Potential conflicts amongst crop cultivators and livestock herders regarding land use matters, especially regarding potential resettlement or sedentarization;
- Equity trade-offs when identifying which drivers to address based on relative contributions to net ERs, i.e. supporting agroindustry companies versus dispersed smallholder farmers operating informally;
- Access and rights to land ownership for women and Indigenous people following customary rules;
- What is the relationship and level of trust between communities and the government?
- How to ensure effective participation of forest-dependent communities through equitable and attributable REDD+ compensations?
- What are the impacts of the implementation of pilot projects by the private sector on the well-being of communities dependent on natural and forest resources?
- How to avoid leakage to other countries?
- How to avoid overburdening communities with consultations?
- How to make sure that the grassroots communities, including indigenous people are the true beneficiaries of the REDD+ mechanism, by avoiding monopolies of benefits by local elite?
- How to equitably share benefits among project/program implementation zones and the rest of national territories?
- How to ensure grievances are addressed in a timely and professional manner?
- What is the role of traditional and administrative local authorities in the benefit-sharing process?

In 2014, Cameroon validated national guidelines for Free, Prior, Informed Consent (FPIC). These guidelines are meant to ensure the full and effective engagement of indigenous people and local communities in the design and implementation of REDD+. These guidelines were developed based on decades of experience in engaging specific IP groups in Cameroon, including for example the MAPAPPY - *"Méthodologie d'Approche Participative des Populations Pygmées"* (Participatory approach to the Pygmy population), a Participatory Rural Appraisal tool developed specifically for indigenous forest communities of Cameroon.

13.3 Feedback and grievance redress mechanisms
Please describe the mechanism(s) that are or will be put in place to resolve any disputes regarding the proposed ER Program.

The feedback and grievance redress mechanisms (FGRM) of relevance to REDD+ are being explored at the national level as part of REDD+ Readiness. The elaboration of this FGRM has been included in the terms of reference of the consulting firm involved in the elaboration of Cameroon's REDD+ benefit sharing mechanism. The selection process of the consulting firm is on-going and should be completed by February 2016. This work will identify and analyze existing mechanisms and their effectiveness and accessibility for a wide range of stakeholders. Traditional and customary grievance management mechanisms to resolve

local conflicts exist and will also be explored, including in remote areas where communities (especially the indigenous peoples) will be able to have a platform to voice concerns and feedback on any issues related to REDD+.

The recruiting process for a consulting firm to lead this work is currently underway. This work will eventually result in preparation of an options paper on dispute resolution mechanism and social accountability for Cameroon, taking into consideration the legal and policy framework for REDD+. The REDD+ strategy options analysis will include recommendations for grievance redress mechanism at various levels for addressing grievances related to rules for benefit sharing, resource and tenure rights. The process will include consultations with key stakeholder groups. In parallel to the national processes, conflict resolution mechanisms will be set up specifically for the ER Program, potentially through the ER Program Task Force and their specific governance arrangements.

14. Land and resource tenure

14.1 Rights to territories and land, and mitigation benefits
Please describe the land use and land tenure context of the proposed ER Program, and if and how rights to territories and land and mitigation benefits from REDD+ are reflected in traditional practices and codified in legal and/or regulatory frameworks.

In line with land use planning, improving tenure security will be an important component of the ER Program, as this is a fundamental enabling environment condition for investments in sustainable land and forest management. The land tenure system currently operating in Cameroon is classified under two categories:

a) Land tenure based on customary or traditional rules, which varies significantly and can be dynamic based on leadership changes at the local level. This system is most often not codified but based on informal local systems with basic verbal agreements;

b) Land tenure based on written rules, codified and part of the legal system of the state administration. The Ministry of State Property and Land Tenure (MINDCAF) produces land titles. These rules are being implemented by the administration of the State and are part of the State's legal system.

The current land tenure system also has its origins in colonial land policies, which were largely based on land acquisition from the natives. All land which was not effectively occupied (fallow land, hunting ground or community reserves) by the natives were considered *terra nullius* and assimilated by colonial powers. Current land legislations reinforce centralized state land ownership.

Tenure security, or land under permanent land rights, can structure incentives for sustaining responsible land use of rural dwellers while reducing deforestation. Whether tenure security results from formal or informal arrangements may be less important than the permanence of land rights. The government of Cameroon supports implementation of a more modernized system of property rights (i.e., with surveys of GPS coordinates supporting registration processes), but the implementation of this policy is slow.[31] Most smallholders lack secure rights to land and this insecurity constrains their ability to invest, produce and prosper.

[31] Decree n°2005/481 of 16 December 2005 call for the transcription of all land titles.

It is expected that the planned institutional and legal framework review within the framework of REDD+ will consider issues related to land and resources rights. The Terms of reference for this review have been elaborated and the recruitment process of the consultant is on-going. Questions regarding land tenure and land use will also be addressed by the SESA and considered within the ER-Program. Some of these questions shall include:

- The potential conflicts between farmers and livestock farmers regarding land use matters;
- The actual anthropogenic pressures related to land use on forests and natural resources;
- The role of large agricultural exploitation with regards to REDD+;
- Access and rights to land ownership for women and Indigenous people following customary rules.

Several governmental and non-governmental initiatives related to land and resources rights for local communities, women and indigenous peoples are ongoing. These initiatives are geared towards contributing to the current land tenure revision process with emphasis on the rights to land ownership and access by local communities, IPs and women.

Although it is not expected that any significant change in the national land law will be passed through this ER program, it will provide a real opportunity to assess the details of the implementation of the existing process, with respect to REDD+, to ensure that the process is robust and fair. The program will improve and strengthen the traditional ownership and management of forests through participatory land use mapping, but will also encourage the use of modern land use systems to ensure transfer of land ownership from state to communities for the implementation of the ER-Program activities such as intensive agriculture and re/afforestation by households. It must be noted that unlike the difficulties experienced by women and indigenous peoples in land ownership and access with the customary land tenure law in Cameroon, the modern land tenure system gives the opportunity for all communities including women and indigenous people to own portions of land for settlement, agriculture, livestock or other activities.

However, a practice which can be encouraged is that in which the government (who is the principal owner of land according to the Cameroon regulation) can provide a land title to any individual for the implementation of specific activities. This is a measure that will be explored in the ER-Program. The government through this program could purchase land and offer/rent out land titles or periodic ownership documents to local communities of the project area to carry out project activities within predefined time frame. Other mechanisms for tenure rights include the establishment of community (see infobox in section 5.3) or council forests.

As part of this emission reduction initiative, it will be important to analyze how policies and regulatory frameworks address land tenure and how it positively or negatively affects the involvement of local communities and REDD+ benefits for these communities. The analysis should lead to concrete proposals for action to facilitate access to and ownership of community lands by communities; this will constitute a significant advancement compared to the current practice in which communities of community forests are really just simple users to whom a lease has been granted for a fixed period.

15. Benefit Sharing

15.1 Description of envisioned benefit-sharing arrangement for the proposed ER Program.
Please describe the benefit-sharing arrangements that are envisioned to be used for this proposed ER Program.

The benefit sharing mechanism refers to the distribution of financial incentives generated from the forest amongst the respective stakeholders as per their cost involved for the sustainable management of the forest resources. Cameroon has a clear provision for the benefit sharing arrangement within the forest and all natural resource management regimes or sectors, known as the Annual Forest Fee redistribution. A number of studies carried out by CIFOR (including an on-going study specific for REDD+ benefits sharing) highlight the strengths and weaknesses of this and other benefit sharing mechanisms. Thus, the benefit sharing mechanism designing process will be built up in line with this existing experience and in accordance with the FCPF Methodological Framework criteria.

The best approach to benefit sharing mechanism would be to secure benefits to individuals who contribute to REDD+ activities, whilst recognizing the role of the wider community. An independent monitoring and auditing committee responsible for monitoring and auditing of management, disbursement and use of the funds should be established to ensure accountability and transparency.

The REDD+ TS is currently recruiting a consultancy firm to develop this mechanism for REDD+. The scope of activity will be as follow:

Step 1: Literature review and diagnosis - Review of existing benefit sharing mechanisms in Cameroon including, mining, forestry, land, etc.

- Review of ongoing discussion at the international level and related to benefit sharing within the implementation framework of REDD +

Step 2: Stakeholders consultation and analysis

- Organize consultation meetings with stakeholders in different country areas to identify the types of benefits desired by communities, potential beneficiaries, analyze the strengths and weaknesses of different existing benefits mechanisms and identify with them the options (including adequate level implementation, shape, operation and the various stages of implementation in place, the procedure etc.)
- The regulatory, legislative and institutional framework threats and opportunities analysis for transparent and fair sharing mechanisms of benefits from REDD+

Step 3: benefit sharing mechanisms Consolidation and proposed Scheme

- Suggest a fair and transparent structure of REDD+ benefit sharing mechanism that will ensure an economic and social development,
- Suggest the management structure for REDD+ benefits and other profits
- Clarify the rights and responsibilities of each stakeholder
- Present the implementation risks of different mechanisms and strengthen actions

15.2 Link between the envisioned benefit-sharing arrangement and the activities in the proposed ER Program.
Please explain how these benefit-sharing arrangements would support the activities identified in section 5.3 to address the drivers of deforestation and forest degradation. Identify, if possible at this stage, potential issues or constraints that may emerge in development of the ER Program that could need additional progress in order to effectively implement the benefit-sharing mechanisms.

The benefit sharing mechanisms are critical to the ER Program's success as this will incentivize changes in land use, forest and tree management. However, at this stage, it is too early to clearly define the benefits that are to be shared, as these will go beyond payments for ERs. With regards to potential issues or constraints, stronger recognition of land tenure claims or reforms to tree or carbon tenure will be important in enhancing security to natural resources and claims to subsequent benefits. It is also very clear that benefits will need to be shared in a manner which rewards those whose activities contribute to emission reductions. Thus, attribution and how to reward individuals, households or communities whose efforts result in ERs on communal lands may also be a matter that deserves further attention.

15.3 Progress on benefit-sharing arrangements
Describe the progress made thus far in the discussion and preparation of the benefit-sharing arrangements, and who has been participating in this process.

Cameroon has a long experience with sharing benefit from natural resource. The forest law 94 recognizes the traditional rights and customary communities and provides in terms of:

The wood resource: access to communities including wood through small titles including cutting permits and operating permits and community forests, wildlife products and other non-timber forest products.

The incidental taxes relates mainly to the contribution of forest companies to the achievement of socio-economic infrastructure and are defined in the specifications of the operator's commitment or contract.

The forest taxes/annual fees or royalties are shared as such: 10% for local population, 20% for the municipalities of the region, 20% for the equalization fund and 50% for the state area constitute the major instrument of decentralized forest taxation.

As concerns the National REDD+ process, the benefit sharing mechanism and Feedback Grievance Redress Mechanisms design Work is still underway to draft a proposed benefit sharing mechanism. Field work will begin soon and will involve all major stakeholders.

This study will provide the guidelines and principles for both benefit sharing mechanism and feedback grievance redress mechanism in the context of REDD+.

16. Non Carbon Benefits

16.1 Expected social and environmental benefits
Please describe the environmental and social benefits, other than emission reductions, that the proposed ER Program is planning to achieve; and any other ways in which the ER Program would contribute to broader sustainable development.

Non carbon benefits, which are also known as collateral benefits, are all benefits, in addition to increases in carbon stores, resulting from the implementation of REDD+ activities, such as poverty reduction, conservation of biodiversity, and improvements in forest governance. The activities to be carried out under this Emission Reductions Initiative are expected to generate a series of non-carbon benefits, these benefits achieved at the local level are core elements of a sustainable REDD+ program, and the proposed program will model this principle.

In fact, the long-term success of the program rests upon its ability to catalyze economic, ecological, and socio-political benefits on a scale equal to that of the carbon benefits.

The implementation of the ER Program will be contributing to sustainable development in broader terms. It will strongly emphasize poverty reduction, employment creation and governance and community participation in forest management and biodiversity conservation. These non-carbon benefits priorities will be discussed with and validated by the relevant stakeholders for each of the ER Program elements during its elaboration along with methodologies to monitor these benefits.

The main co-benefits as priority Non-Carbon Benefits are described as follows:

A. Enhancement of low carbon impact development

In addition to reducing emissions of greenhouse gases and increasing carbon sequestration, the ER-program position as a program of support to development incorporating sustainable management of biodiversity.

B. Improved governance, institutional setup and policies for participative natural resource management at local to national levels

One of the most fundamental and long-term benefits of the proposed program will be to increase and strengthen collaborative forest management models.

There will be extensive capacity building, including for women, IPs and economically disadvantaged groups, to improve and facilitate more equitable participation and to equitably distribute the benefits of improved management.

C. Enhancement of local livelihoods

Low-carbon forestry and agricultural and livestock production is expected to enhance the quality of natural resource management.

D. Increase in the value of biodiversity:

Conservation activities will be developed to take into account biodiversity conservation as a part of the ER Program, building on existing conservation programs.

By reducing forest loss broadly, improving forest monitoring and enforcement, and demonstrating community-level benefits associated with increasing the value of forests, the ER program will help to develop a more sustainable landscape that supports its globally unique wildlife and continues to attract ecotourism to the area.

E. Better ecosystems services to people and environment:

F. More resilient ecosystems for climate change adaptation:

Agricultural techniques are expected to become more sustainable and the nutritional value of harvests is expected to improve. Ultimately, these activities are estimated to have the long-term impacts of improved food security and resilience for communities. Research in the southern rainforest of Cameroon has shown that relating adaptation and mitigation in the forest sector as proposed by this Program can provide socio-economic benefits, biodiversity conservation, and other environmental benefits.[32]

[32] Eugene Loh Chia, Olufunso A. Somorin, Denis J. Sonwa, Youssoufa M. Bele & M.A. Tiani (2014): Forest–climate nexus: linking adaptation and mitigation in Cameroon's climate policy process, Climate and Development, DOI: 10.1080/17565529.2014.918867

G. Contributions to MEAs:

Implementing REDD+ activities and the ER program will also contribute towards meeting the objectives and targets of many international conventions and agreements such as CBD, Ramsar, CITES.

16.2 Diversity and learning value
Please describe the innovative features of the proposed ER Program and what learning value the proposed ER Program would bring to the FCPF Carbon Fund.

The proposed ER program in Cameroon will provide substantial learning value for the FCPF, donor and other countries that seek to develop ER programs in the context of REDD+.

- Cameroon's ER-Program will provide important lessons learned on how to structure, develop and implement a multi-sectoral approach to achieve significant emission reductions while also promoting and generating substantial co-benefits. The multi-institutional, programmatic REDD+ approach is well aligned with the country's agenda for sustainable development while not neglecting the primary objective of successfully reducing degradation and deforestation. As many countries have similar priorities, the emphasis on aligning development actions with appropriate and incentivized program activities will be valuable to donor and other Carbon Fund countries, as well as those still in the early readiness phase. With Cameroon's vision of REDD+ as a sustainable development tool, the ER Program explores a broad range of REDD+ emission reduction measures to tackle not just emission reductions, but more importantly to promote long-term sustainability within the agricultural, timber and even the mining and energy sectors. Cameroon's ER-Program proposes an option to reduce emissions while simultaneously enhancing community livelihoods by improving the link between state-of-the-art research (i.e. from CARN and IITA) with practice (i.e. smallholder farmer cooperatives and extensive service providers such as MINADER).

- Cameroon's ER Program provides many opportunities for partnerships between the public authorities and different private sector actors in order to deal with climate change issues in a way that promotes the growth of the country, both economically and socially. Lessons from effective partnerships are valuable, not only for FCPF countries but also for other developing and donor countries which actively promote networked forms of (informal) governance as complementary approaches to changing business-as-usual practices.

- In this context, the joint management plan for natural resources and physical space (forests, fauna, mine), which already exists in some parts of the program area, provides a collaborative management experience with all stakeholders which will be an example of concrete action to ensure multi-stakeholder involvement. The ER program area of intervention covers a protected area (with extremely rich biodiversity with endemic and flagship species including the African Elephant (*Loxodonta africana*), Gorillas (*Gorilla gorilla),* chimpanzee *(Pan troglodytes)* respectively vulnerable, critically endangered and endangered according to IUCN's red list of threatened species) of national and international status and two transboundary landscapes. The implementation of this program represents a unique opportunity to showcase emission reduction success in and around protected areas and transboundary landscapes. Handling transboundary leakages in the ER program through landscape approach would be a unique approach provided by the ER program.

- Finally, the REDD Systems provides an innovative technological framework for REDD+ program operators or jurisdictions that utilizes high spatial and temporal satellite imagery. These systems

allow for real time feedback that mitigates the risk of non-performance, enables adaptive management, and informs carbon credit supply requirements and financial decision-making. REDD Systems is a flexible platform that can be tailored to the programmatic details (e.g. forest definition) of a given national or sub-national REDD+ program. As the Cameroon National REDD+ Program progresses through Phase I of its implementation plan for the SNSCF, the updated definitions and scope can be included within the REDD Systems platform to maintain conformity with the UNFCCC and MF definitions and standards. REDD Systems offers management solutions that utilize high resolution daily imagery, including a Live Warning System and Action Tracking System. The Live Warning System predicts and maps incipient land use change from satellite imagery that is analyzed daily allowing immediate detection of deforestation and degradation events. Subscribers can then be notified by a web interface and SMS alerts to drive on-the-ground action and efficient allocation of resources. The Action Tracking System is coupled with the Live Warning System and documents interventions made to prevent deforestation and degradation. This platform transparently catalogs documented actions over time that clearly demonstrates emission reductions and adds value to transacted credits.

17. Progress on registries

17.1 National registry
Please include a short description of the relationship of the proposed ER Program to national REDD+ activity management arrangements, and if the proposed ER Program will be part of any system to track REDD+ or other emissions reduction activities (e.g., a REDD+ registry).

Registries for national carbon accounting and associated transactions constitute a crucial part of the infrastructure needed for realizing and consolidating REDD+ in Cameroon. Cameroon has not yet constructed a registry, but consultations have been made with technical experts and a workshop was set up to come out with a strategy on how the registry will be designed and how it will function. Following the consultation, the register that will be prepared in the context of the MRV will be a national registry, and will be used to:

- Enable efficient and equitable development of REDD+ projects through a transparent process;
- Develop regulations and procedures to guide the development of REDD+ projects;
- Ensure that all projects meet national standards and fit into international frameworks;
- Facilitate integrated accounting and reporting of GHG emissions and removals;
- Provide a transparent platform for the public to access information about all REDD+ projects;
- Monitor the carbon transactions in the country;
- Ensure clarity around the nature and ownership of REDD+ assets to efficiently and confidently enable the transaction of performance payments;
- Promote credibility, and ensure legality (prevent money laundering and other illegal activities);
- Promote environmental integrity (avoid double-counting, manage leakages and REL setting, etc.);
- Ensure respect for social and environmental standards and safeguards;
- Ensure a contribution to the national readiness process (information sharing and capacity building)

A “Procedural Manual for Compliance with National REDD+ Accreditation” which will effectively spell out the criteria and process for engaging in REDD+ and the associated role of the registry will be drafted by the

REDD+ Technical Secretariat. It is envisaged that the national registry will be in place prior to the beginning of the ER Program. The registry will guide the implementation of the ER Program –forms and templates will be elaborated to facilitate tracking of the ER Program compliance with national and international standards, and assess progress.

Open source technology will be used to build the registry platform. The web-based system will enable an iterative process between the body managing the registry, and all ER Program proponents: donors, investors, local communities, technical and research partners, civil society and indigenous communities. This will ensure transparency and enhance confidence among all the stakeholders of the ER Program.

List of acronyms used in the ER-PIN

Please include an explanation of any institutional or other acronyms used. Add rows as necessary.

Acronym	Meaning
AFD	Agence Française de Développement
AFEDYRES	Association des femmes dynamiques et responsables de Ngoyla
ASTER	Advanced Spaceborne Thermal Emission and Reflection Radiometer
AGLFB	Above Ground Live Forest Biomass
ALPICAM	Alpi Pietro et Fils Cameroun
ALOS	Advanced Land Observing Satellite
APIFED	Appui à l'Auto Promotion et Insertion des Femmes, des Jeunes et Désoeuvrés
ASB	Alternatives to Slash and Burn
AWF	African Wildlife Foundation
BEFs	biomass expansion factors
BM	Banque Mondiale
CAFI	Central African Forest Initiative
CAFPP	Cadre pour les actions en faveur de peuples pygmées
CAMBOIS	Societe Camerounais de Bois
CARN	Conservation Action Research Network
CARPE	Central African Regional program for the Environment
CBD	Convention of Biological Diversity
CBI	Congo Basin Institute
CBOs	Community Based Organisations
CBFP	Congo Basin Forest partnership
CBFF	Congo Basin Forest Fund
CC	Climate Change
CCNUCC	Convention Cadre des Nations Unies sur les Changement Climatiques
CED	Center for Environment and Development
CEW	Cameroon Environment Watch
CHOCOCAM	Chocolaterie Confiserie Du Cameroun
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour Le Développement
CMS	Cellule de Monitoring et du Suivi
CIFOR	Centre International de Recherche sur les Forêts [International Center for Forest Research]
Co_2	Carbon dioxide
COFA	Coopérative Forestière des Ardennes
COMIFAC	Central African Forest Commission
COTCO	Cameroon Oil Transportation Company
CLIP	Consultement libre, informe, prealable
CNES	Centre National d'Etudes Spatiales
CPND	Contribution Prévue Déterminée au Niveau Nationale
CS	Civil Society
CUF	Cameroon United Forest
DBR	Dja Biosphere Reserve
DRC	Democratic Republic of Congo
ECOFAC	Ecosystèmes Forestiers d'Afrique Centrale
ERs	Emission Reductions

ERA/WWC	Joint Venture Ecosystem Restoration Association & Wildlife Works Carbon
ERP	Emission Reduction program
ERPA	Emission Reductions Payment Agreement
ER PIN	Emission Reductions Program Idea Note
ESMF	Environmental and Social Management Framework
EU	European Union
FAO	United Nations food and Agriculture Organization
FDU	Forest Development Units
FEICOM	Fond Spécial d'Equipement et d'Intervention Intercommunale [Special Intercommunal Intervention and Equipment Fund]
FIA	Forest Inventory and Analysis
FIPCAM	Fabrique Camerounaise de parquet
FLEG	Forest Law Enforcement and Governance
FCPF	Forest Carbon Partnership Facility
FCTV	Fondation Camerounaise de la Terre Vivante
FIP	Forest Investment Plan
FMT	Facility Management Team
FPIC	Free Prior Informed Consent
FRL	Forest Reference Level
GIEC	Groupe Intergouvernemental des Experts sur l'Evolution du Climat
GIZ/PROPSFE	Deutsche Gesellschaft für Internationale Zusammenarbeit/ National Forestry and Environmental Programme
GIS	Geographical Information System
GHG	Greenhouse Gases
GRUMCAM	Societe De Grumes Du Cameroun
HIA	Health Impact Assessment
ICRAF	World Agroforestry Center
IRAD	Agricultural Research Institute for Development
IRTC	International Research and Training Center
IFN	Inventaire Forestier National
IITA	International Institute of Tropical Agriculture
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
JICA	Japan International Cooperation Agency
KfW	German Development Bank(Kreditanstalt für Wiederaufbau)
LDC	Local Development Committees
LULC	Land Use/Land Cover
MAPAPPY	Méthodologie d'Approche Participative des Populations Pygmées
MF	Methodological Framework
MINADER	Ministry of Agriculture and Rural Development
MINATD	Ministry of Territorial Administration and Decentralization
MINAS	Ministry of Social Affairs
MINEPAT	Minister of Economy, Land Planning and Land Use
MINDCAF	Ministry of State-owned property, the Land Register and Land Affairs
MINEPDED	Ministry of the Environment, the Protection of Nature and Sustainable Development
MINFOF	Ministry of Forestry and Wildlife
MINMIDT	Ministry of Industry, Mining and Technological Development
MINRESI	Ministry of Scientific Research and Innovation
MNV	Mesure Notification Verification

MRV & S	Measuring, Reporting, Verification & Monitoring
NASA	National Aeronautics and Space Administration
NFCMS	National Forest Carbon Monitoring System
NGO	Non-Governmental Organisation
NORAD	Norwegian International Agency for Development
NTPFs	Non-Timber Forest Products
PDMS	Project Data Management System
PLACAM	Placages du Cameroun
OCBB	Observatoire Culture Baka Bantu
OPFCR	Organisation pour la Protection de la Forêt Camerounaise et de ses Ressources
PIN	Project Idea Note
PNDP	Programme National de Développement Participatif
PNUD	Programme des Nations unies pour le développement
PSFE	Programme Sectoriel Forêts et Environnement
PTF	Partenaires Techniques et Financiers
RACOPY	Reseau Recherches Actions Concertées Pygmées
RAPAC	Réseau des aires protégées d'Afrique centrale
REDD+	Reduction of emissions from deforestation and forest degradation,
REFACOF	Reseau de Femmes /Forests Communataires
REL	Reference Emission Level
RELUFA	Réseau de Lutte contre la Faim
R- PIN	Readiness Project Idea Note
R-PP	Readiness Preparation Proposal
RS	Remote Sensing
SC	REDD+ Steering Committee
SCABOIS	Société Coopérative des Artisans du Bois
SCIEB (WIJMA)	Société Camerounaise d'Industrie et d'Exploitation des Bois
SCTB (FOKOU)	Societe Camerounaise de transformation de bois
SDGE	Strategy Document for Growth and Employment
SEPFCO	Société d'Exploitation des Produits Forestiers et de Commerce
SESA	Strategic Environmental and Social Assessment
SFID	Société Forestière et Industrielle de la douane
SIBM	Societe industrielle de bois MJP et frères
SIC Cacao	Société industrielle de cacao
SIM	Société Industrielle de Mbang
SN COCAM	Societe nouvelle de contreplaques du cameroon
SMF	Sustainable Management of Forests
SNSCF	suivi de la couverture forestière au Cameroun
TC	REDD+ Technical Committee
TNS	Tri-National de la Sangha [Sangha Trinational]
TRIDOM	Tri-National Dja-Odzala-Minkebe [Dja-Odzala-Minkebe Trinational]
UCLA	University of California, Los Angeles
UNOPS	United Nations Office for Project Services
UNESCO	United Nations Education, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
UN REDD	United Nation REDD
USAID	United States Agency for International Development
VCS	Verified Carbon Standards
VERs	Verified Emission Reductions

VIR	Visible and Infrared Scanner
WCS	Wildlife Conservation Society
WWC	World Water Council
WWF	World Wildlife Fund
ZSL	Zoological Society of London

Annex I: Stakeholders in the ER Program Area

Public sector	Private sector	NGOs	Committees	Technical/Development partners
FEICOM	ALPICAM (ALPI)	WWF	CAFPP Framework in Favour of Pygmy Populations	CARN/UCLA
IRAD	Barrage Memvele	Zoo de Prague	Groupement de la Filière Bois du Cameroun	CIFOR
MINADT	BOTAC	African Wildlife Fondation (AWF)	Intersectoral Committee of Programs and Projects involving Indigenous Populations	Congo Basin Institute
MINAS	CAMBOIS (ROUGIER)	APIFED	Ngomitri	Ecopartners
MINDAF	CamIron/Sundance	FTRD	Syamingo	IITA
MINEPAT	CAMTRANS (CUF)	OPFCR		Mosaic
MINFOF	CFK (WIJMA)	Planète Urgence		IUCN
PNDP	CHOCOCAM	Projet Grandes Singes		WCS
University of Dschang	COFA	Zoological Society of London (ZSL)		African Development Bank
University of Yaounde I	Cotco	Association des femmes dynamiques et responsables de Ngoyla (AFEDYRES)		C2D/AfD
	Crelicam	REFACOF (Reseau de Femmes /Forests Communataires)		COMIFAC
	CUF	CAFT		ECOFAC/UE
	CUF (WIJMA)	CED		FAO
	EFFA JBP	CEW		GIZ
	FIPCAM (FIPCAM)	Fondation Camerounaise de la Terre Vivante (FCTV)		KfW
	GIW-Minvoul (OLAM INTERNATIONAL)	GIC CODENZOP (Ngoila)		PNUD
	GRACOVIR	OCBB (Observatoire Culture Baka Bantu)		UNESCO
	Groupe Rougier (société d'exploitation forestière)	RACOPY (Reseau Recherches Actions Concertées Pygmées)		UNOPS TRIDOM
	GRUMCAM (ALPI)	Relufa		World Bank
	Hydro-mekin (société de construction du barrage hydro-énergique de Mekin)			CBFP
	IBC			RAPAC
	LA ROSIERE			ICRAF
	LFM (PASQUET)			CIRAD
	LOREMA (ROUGIER)			
	MPACKO (ROUGIER)			
	Multi-Services Plus			
	PALLISCO (PASQUET)			
	PLACAM			
	PMF WOOD			
	Porte de Kribi			
	SCABOIS			
	SCIEB (WIJMA)			

	SCTB (FOKOU)			
	SEFYD			
	SEPFCO (Boitex)			
	SF BOJONGO (WIJMA)			
	SFDB (SIM)			
	SFEES			
	SFF (ROUGIER)			
	SFID (société d'exploitation forestière)			
	SIBM			
	SIC Cacao			
	SIM (SIM)			
	SN COCAM (KHOURY)			
	SOCIB (ROUGIER)			
	SODENTRACAM (PASQUET)			
	SODETRANCAM (PASQUET)			
	SOFOHNY			
	Sud-Hévéa Cameroun (société d'exploitation hévéa)			
	TTS (TTS)			

Annex II: Financing plan summary table

Expected uses of funds	Description	Breakdown per year													
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Costs related to developing the ER Program	*Consultations for elaboration of ER PIN*	*0,02*														*0,02*
	Elaboration of the ER PIN	*0,25*														*0,25*
	Addressing institutional, legal and policy framework for ER Program		*0,1*	*0,1*												*0,2*
	Testing feasibility of strategic options		*2,0*	*2,0*												*4,0*
	Developing FRL		*0,5*	*0,5*												*1,0*
	Setting up the MRV System		*1,0*	*0,5*												*1,5*
	Establishing benefit sharing and conflict management mechanism		*0,5*	*0,5*												*1,0*
	Sensitization and Consultations		*0,2*	*0,2*												*0,4*
	ER Program elaboration		*0,25*	*0,25*												*0,5*
Operational and implementation costs	*Operationalizing institutional and legal framework*				*0,5*	*0,5*	*0,5*	*0,5*	*0,25*	*0,25*	*0,25*	*0.25*	*0,25*	*0,25*	*0,25*	*3,75*
	Adjusting the FRL				*0,02*	*0,02*	*0,02*	*0,02*	*0,02*	*0,02*						*1,0*
	Operational cost of MRV				*2,0*	*2,0*	*1,0*	*0,5*	*0,5*	*0,5*	*0,5*	*0,5*	*0,5*	*0,5*	*0,5*	*9,0*
	Implementation cost				*8,0*	*8,0*	*7,0*	*7,0*	*6,0*	*5,0*	*5,0*	*4,0*	*3,0*	*2,0*	*1,0*	*56,0*
	Management and coordination				*1,0*	*1,0*	*1,0*	*1,0*	*1,0*	*1,0*	*1,0*	*1,0*	*1,0*	*1,0*	*1,0*	*11,0*
Other costs	*(please explain)*															
	Total uses	*0,27*	*4,45*	*4,05*	*11,52*	*11,52*	*9,52*	*9,02*	*7,77*	*7,77*	*6,75*	*5,75*	*4,75*	*3,75*	*2,75*	*89,62*

Expected sources of funds	**Description**															
Grants	*FCPF grant*		*0,125*	*0,125*												*0,25*
	FIP				*6,0*	*6,0*	*5,0*	*4,0*	*4,0*							*25,0*
	CAFI				*6,0*	*3,0*	*4,0*	*3,0*	*4,0*							*20,0*
	KfW (REDD+ Early Movers)				*2,0*	*1,0*	*1,0*	*0,5*	*0,5*							*5,0*
	Government of Cameroon		*0,01*	*0,01*												*0,02*
	IUCN		*0,01*	*0,01*												*0,02*
Revenue from sale of Emission Reductions (not yet contracted)	*Initial investment FCPF*				*3,0*	*2,0*										*5,0*
	FCPF ERPA						*8,0*	*8,0*	*8,0*	*8,0*	*8,0*					*40,0*
	Voluntary market									*7,0*	*7,0*	*7,0*	*9,0*	*9,0*	*11,0*	*43,0*
	Total sources (before taxes)		*0,145*	*0,145*	*17,0*	*12,0*	*18,0*	*15,5*	*16,5*	*15,0*	*15,0*	*7,0*	*9,0*	*9,0*	*11,0*	*145,3*

Net revenue before taxes (=total sources – total uses)	*-0,27*	*-4,3*	*-3,9*	*5,48*	*0,48*	*8,48*	*6,48*	*8.73*	*7,23*	*8,25*	*1,25*	*4,25*	*5,25*	*8,25*	*55,68*