Emission Reductions Program Idea Note (ER-PIN) Republic of Congo

*Unity * Work * Progress*

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CN-REDD **Brazzaville, ~~14 March~~01 June 2014**

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Forest Carbon Partnership Facility (FCPF)
Carbon Fund

Emission Reductions Program Idea Note (ER-PIN)

Country: REPUBLIC OF CONGO

ER Program Name: Republic of Congo Emission Reduction Program

Date of Submission or Revision: ~~14 March~~01 June 2014

Disclaimer

The World Bank does not guarantee the accuracy of the data included in the Emission Reductions Program Idea Note (ER-PIN) submitted by a REDDREDD+ Country Participant and accepts no responsibility whatsoever for any consequence of their use. The boundaries, colors, denominations, and other information shown on any map in the ER-PIN do not imply on the part of the World Bank any judgment on the legal status of any territory or the endorsement or acceptance of such boundaries.

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+REDD+) to the Carbon Fund Participants.
2. A REDDREDD+ 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 REDDREDD+ 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	Republic of Congo's National REDD Coordination Team
Type and description of organization	National REDD Coordination (CN-REDD)
Main contact person	Georges Claver Boundzanga
Title	National REDD Coordinator
Address	Palais des verts, 1er étage Face Maternité Blanche Gomez B.P.: 14379 Brazzaville Republic of Congo Republic of Congo's National REDD Coordination Team
Telephone	+242 06 666 73 21
Email	bouzgege@yahoo.fr cnredd@yahoo.fr
Website	None

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
Governmental entities		
Minister of Forest Economy and Sustainable Development (MEFDD)	**Henri Djombo** Minister E.mail: henridjombo@yahoo.fr	- Government Minister who has the authority to: • Engage the Government in the implementation of R +. • Contract on behalf of the government for REDD+ activities.
National REDD+ Coordination (CN-REDD)	**Georges Claver Boudzanga** NationalCoordinator Tel: +242 06 666 73 21 E.mail: cnredd@yahoo.fr bouzgege@yahoo.fr	- Designated entity to: • Provide national coordination of the implementation of the R-PP. • Contribute to the implementation of sustainable development in the Republic of Congo. • Inform national authorities and other stakeholders on the activities and status of the implementation activity.
Directorate General of Forest Economy (DGEF)	**Joachim Kondi** CEO Tel: + 242 06 978 44 47 E.mail: joachimkondi@yahoo.fr	- Responsible for developing and enforcing national policy for the conservation and sustainable management of forest and wildlife resources. - Will be a key implementer in the ER-Program.
Directorate-General for Sustainable Development (DMDB)	**Jean Ignace Tendélet** CEO Tel: + 242 05 552 99 11 E.mail: jitendelet@yahoo.fr	- Entity responsible for developing and enforcing national policy on sustainable development. - Will be a key implementer in the ER-Program.
Directorate General	**Benjamin Dzaba-Mboungou**	- Entity responsible for developing and enforcing

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Environment (DGE)	CEO Tel: + 242 06 661 04 41 E.mail: dzabadorl@yahoo.fr	national environmental policy. - Will be a key implementer in the ER-Program.
National Inventory and Planning Center of Forest Resources and Fauna (CNIAF)	**Georges Claver Boudzanga** Director Tel: +242 06 666 73 21 E.mail: bouzgege@yahoo.fr	- Designated entity for: • Implementation of the national program for forest inventory and facilitation of forest and wildlife resources. • Organization and operationalization of the REDD+ MRV-cell. - Its role will be instrumental in the establishment of the baseline scenario and MRV system of the ER-Program.
National Afforestation and Reforestation Programme (PRONAR)	**Rosalie MATONDO** coordinator Tel: + 242 06 621 35 96 / 05 553 13 15 E.mail: rosalie_mat@yahoo.fr	- National designated body for: • Providing national coordination of activities in the context of afforestation and reforestation • Seeking technical and financial partners to support multi-stakeholder initiatives (public, private, populations) in the field of afforestation and reforestation. - Will be a key implementer in the ER-Program in regards to afforestation, reforestation and agroforestry activities.
Prefecture Sangha	**Adolphe ELEMBA** Departmental Director of Forest Economy Tel: + 242 06 661 46 85 E.mail: Elembaplacide@yahoo.fr	- Departmental entity responsible for developing and implementing policy and national strategy for sustainable development at the departmental level. - Will be a key implementer in the ER-Program.
Prefecture Likouala	**Gilbert DJOMBO BOMODZO** Point Focal REDD Tel: + 242 06 662 61 06	-Departmental entity responsible for developing and implementing policy and national strategy for sustainable development at the departmental level. - Will be a key implementer in the ER-Program.
National School of Agronomy and Forestry (SCSTA) / University Marien Ngouabi	**AKOUANGO Paricce** Point Focal REDD Tel: + 242 06 669 85 15 E.mail: fulakril@yahoo.fr	- Scientific and technical entity in the fields of forestry and agronomy. - Will be a key implementer in the ER-Program.
Civil Society		
CACO-REDD+/ Bureau National	**HANIMBA Maixent** ~~FacilitatorAboriginalPopulations~~ Facilitator of Indigenous Populations Tel: + 242 06 618 51 38 E.mail: maixentfort@yahoo.fr	- Platform of civil society responsible for coordinating the NGOs involved in the REDD+ + in the Republic of Congo. - Will be a key ~~implementor~~implementer in the ER-Program.
	MOUSSELE Guy Facitateurother NGOs Tel: + 242 06 611 38 76 E.mail: mousseledisekeguy@yahoo.fr	
CACO-REDD+/Bureau Sangha	**AMPIEH Calvin** Departmental Coordinator Tel: + 242 05 532 52 08	- Platform of civil society responsible for coordinating the NGOs involved in the REDD+ + Sangha. - Will be a key implementer in the ER-Program in

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	E.mail: ampiehcalvin@yahoo.fr	Sangha.
CACO-REDD+/Bureau Likouala	**NGOUAKA Emile** ~~DepartmentalCoordinator~~ ~~Tel: +242~~ Departmental Coordinator	- Platform of civil society responsible for coordinating the NGOs involved in REDD+ + in the Department of Likouala. - Will be a key implementer in the ER-Program in Likouala.
Wildlife Conservation Society (WCS)	**TIM Rayden** REDD+ Program Lead Tel: + 242 05 694 64 02 E.mail: trayden@wcs.org	- International NGO involved in the management of protected areas in the Republic of Congo having signed with MEFDD a Memorandum of Understanding (MoU) to support CN-REDD+ in the REDD+ process. - Will be a key implementer of the ER-Program in Sangha and Likouala.
Private Sector		
Congolese Industrielle des Bois (CIB)	**Christian Schwartz** CEO Tel: +242 06 900 12 50 E.mail: christian.schwarz@olamnet com	- Forestry company that has significant certified forest concessions and has established a REDD+ project for the generation of carbon credits in UFE North Pikounda. - Will be a key implementer in the ER-Program in Sangha and Likouala.
OLAM International Ltd (OLAM)	**Darshan Raiyani** Senior Vice President of Timber Tel: +65 6508 9602 E.mail:darshan@olamnet.co	- Owner of CIB. - Will be a key implementer in the ER-Program Sangha and Likouala.
GreenLaw International LLC (GLI)	**Ralph Strebel** Director Tel: +1 303 476 3618 E.mail: ralph.strebel@gmail.com	- Consulting firm selected by the Republic of Congo to support the CN-REDD+ in the development of ER-Program and ER-PIN of the Republic of Congo.
Company Tanry Congo (STC)	**Séraphin BIKOUMOU** HomologouscellAménagementl Tel: 05 558 51 25 / 06 854 38 31 ~~E.mail: .....~~	- Forestry company which manages ~~the largest FSC certified~~ forest concessions in ~~the Sangha and~~ Likouala~~.~~ - Will be a key implementer in the ER-Program in ~~Sangha and~~ Likouala.
Industrial Society Forest of Congo (SIFCO)	**René MABOUNDOU** Homologouscell Aménagementl Tel: + 242 06 894 20 05	- Forestry company that manages the UFA Tala Tala whose development plan in being finalized and committed to implement cogeneration. - Will be a key ~~implementor~~implementer in the ER-Program in Sangha.
Danzer Group (IFO)	**José QUARESNA** General Director Tel: + 242 00305 775 29 71 E.mail: quarensma@yahoo.fr	- Forestry company that manages the UFA INGOMBE whose is a Forest Steward Ship (FSC) certified concession committed to implement emission reductions activities. - Will be a key ~~implementor~~implementer in the ER-Program in Sangha & Likouala.
Congo Iron SA (Sundance Resource Group)	YOKA Aimé Emmanuel Country Manager / General Manager Tel: +242 22 281 0637 Email: eyoka@congoiron.net	
Likouala Timber	**BETITO Raphael** ComptrollerGeneral Tel: + 242 05 549 81 69	- Forestry company in Likouala. - Will be a key ~~implementor~~implementer in the ER-Program in Likouala.

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	E.mail: betito.raphael@likouala.com Tel: + 242 05 549 81 69 Email: betito.raphael@likouala.com	
Sponsors		
Forest Carbon Partnership Fund (FCPF)	Laurent Valiergue Task Team Leader Tel: +1 202 458 0977 Email: lvaliergue@worldbank.org	- The FCPF provides technical & financial support to the Republic of Congo in the REDD+ Readiness Preparation process.
FAO	**Saya Maba** Head ofprogram Tel: 06 659 15 53 E.mail : marius.sayamaba@fao.org	- FAO will provide technical support to CN-REDD in the implementation of strategic and technical tools for REDD+ -and will have a key role in the implementation of ER-P.
UNDP	**Jean Félix Issang** Head ofprogram Tel: 06 660 85 76 E.mail : jean-felix.issang@undp.org	- The UNDP will provide technical support to CN-REDD+ in the implementation of strategic and technical tools for REDD+ and will have a key role in the implementation of ER-P.
COMIFAC	**Martin Tadoum** Deputy Executive Secretary Tel: + 237 222 13 511 E.mail: mtadoum@comifac.org	- The Forests Commission (COMIFAC) that accompanies the Republic of Congo in the implementation of REDD+ projects, and will have a key role in the implementation of the ER-P.
Congo Basin Forest Partnership (CBFP)	**Clotilde Ngomba** Coordinator	- The CBFP who financially supports CNIAF in achieving the national forest inventory and the development of the national land use plan, will have a key role in the implementation of ER-P in Sangha and Likouala.

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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	Republic of Congo's National REDD Coordination Team
Main contact person	Georges Claver Boundzanga
Title	National REDD Coordinator
Address	Palais des verts, 1er étage, Face Maternité Blanche Gomez B.P.: 14379 Brazzaville, Republic of Congo
Telephone	+242 06 666 73 21
Email	bouzgege@yahoo.fr cnREDD+@yahoo.fr
Website	None

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 Republic of Congo (RoC) has been engaged in the REDD+ process since 2008. Evidence of this commitment is supported by:

- Participation Agreement with FCPF signed on 27 November 2008;
- Grant Agreement (USD $200,000) signed with the FCPF for the formulation of the Readiness Preparation Proposal signed on 21 July 2009;
- The adoption of the R-PP in April 2010;
- Grant Agreement (USD $3,400,000) signed with the FCPF for the implementation of the Readiness Preparation Proposal on 11 January 2012
- Convention (USD $4,000,000) with the UN-REDD Programme in October 2013
- The signing of a memorandum of understanding in May 2012 between the Government and CIB-OLAM for the development of North Pikounda REDD+ (NPR+) pilot project;
- The letter from the MEFDD, authorizing CIB-OLAM to commit funding for the development process finalizing the Emission Reduction Program Information Note (ER-PIN);
- The formulation of TOR by the CN-REDD to solicit financial support from the Forest Economic Diversification Project (PFDE) for the recruitment of a consultant to support the Republic of Congo in the development of the ER-PIN;
- The letter from CN-REDD+ and the MEFDD, authorizing CIB-OLAM to commit funds for the development process of finalizing the ER-PIN.

Since the National Conference of 1991, which formalized the multi-party democracy in the RoC, the consensus process has become the way of adopting decisions. For example, the preparation of the R-PP of the RoC was inspired by the consultation process for the preparation of the Strategic Document for Poverty Reduction (DSRP-1 in 2008 and DSRP-2 in 2012). It is also based on the achievements of AVP/FLEGT and the REDD+ process, during which many stakeholders were integrally involved.

A letter from MEFDD, Minister H. Djombo, of formal support of the ER-PIN is attached and included in Appendix 1.

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 political commitment of the Republic of Congo to the ER-Program, which is one of sustainable development that is part of the larger Congo vision of a Green Economy, finds its basis in the broad concepts of conservation, sustainable management of natural ecosystems, participatory management and the fight against poverty. This is supported by:

- The National Forestry Action Plan (PFAN 1992);
- The National Action Plan for the Environment (PNAE 1994);
- The National Scheme for Rural Development (SNDR in 1997);
- The National Planning Scheme (SNAT in 2005);
- The Strategy Document for Poverty Reduction (DSRP 1 and DSRP 2 in 2008 and in 2012);
- The National Action Plan (PAN 2008);
- Voluntary Partnership Agreement (FLEGT-VPA in 2009); and,
- REDD Preparation Proposal (R-PP) approved in 2010.
- Plan de Développement du Secteur Agricole – PDSA département SANGHA (2012)
- Plan de Développement du Secteur Agricole – PDSA département Likouala (2012)
- National Development Plan of Congo *DSCERP 2012-2016*
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This is also reflected by the implementation of sustainable forest management process, which began in late 2000 and now has led to the development of five million hectares of forest concessions, 50% ~~which~~that are certified under the Forest Steward Council (FSC), independently verified certification scheme.

Significant national efforts have also been made in terms of:

- Reforestation with 84,420 hectares of plantations and 12,450 hectares (ha) of degraded forest; and,
- Biodiversity conservation with nearly 4 million ha (12 % of the total surface area of Congo) classified as protected areas.

The commitment of the Congo to the conservation and sustainable management of natural resources is also reflected in its membership in numerous international agreements, including but not limited to the United Nations Framework Convention on Climate Change (UNFCCC) and the establishment of the Treaty on conservation and sustainable management of forest ecosystems in Central Africa and establishing the Forests Commission (COMIFAC).

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 REDD+ Readiness Process (implementation of the RPP, adopted in 2010) began with the signature of the Grant Agreement with the FCPF in 2012 and the signature of the convention of the UN-REDD Program in 2013. Actual work for the process only began in January 2013 after the establishment of

- the National REDD+ Coordination (CN-REDD) unit;
- The Civil Society platform on REDD+ (CACO-REDD) and
- twelve REDD+ Focal Points in the Ministries.

The establishment of the REDD+ National Committee (CONA-REDD) and REDD+ Departmental Committees (CODEPA-REDD) continue to be works in progress.

In the year 2013 the top priority was the alignment of both of the activities supported by the FCPF and the UN-REDD Programme. As of today there is strong alignment between the activities in relation to the REDD+ process which will ensures a rapid finalization of the Readiness Package.

In July 2013 the consultation and communication plan was validated paving the way toward a well structured consultation, communication and participatory process which covers all of the components of the REDD+ preparation proposal adopted in 2010.

Seventeen workshops (Please see Appendix 3 for a complete list and scope of the workshops) have been undertaken to raise awareness of the REDD+ process with all of the stakeholders that are most likely to be impacted by the REDD+ activities and acquire a broad range of feedback. These were undertaken throughout the country from April 2013 through March 2014. Four of the seventeen were largely dedicated to the safeguards instrument process, with a focus on presenting the working methodology to be adopted, which aimed at producing the Social and Environmental Strategic Assessment (SESA) and its related frameworks. These took place in the départements of Pointe-Noire, Sibiti, Madingou, Dolisie. Three of the seventeen were related specifically to the ER-Program in order to raise awareness and acquire feedback from the stakeholders. They took place in Brazzaville and in Impfondo in Likouala Department.

The remaining workshops of the seventeen were related to the promotion of the dissemination of the RPP in the local languages of Lingala and Kituba, and also undertook the promotion and general awareness raising of the REDD+.

The consultations for the development of the national REDD+ strategy is well advanced. The key step were undertaking by the National Forum on Sustainable Development, which brought together more than 1,000 delegates from all appropriate national components

Additional workshops were held with the Food and Agriculture Organization (FAO) in regards to the national reference level scenario, the MRV system, and the REDD+ pilot projects for further consolidation as a part of the national REDD+ strategy.

Four major studies were identified for the REDD+ Readiness process:

(i) "Spatial Drivers of Deforestation and Forest Degradation with options for the national REDD+ Strategy" This in depth study is ongoing and is being performed by the firms of "BRL Ingénierie" and "C4 Ecosolutions." More specifically in Appendix 3 & 4 provides and extract of the interim report for both of the Départements of Sangha and Likouala, dated February 2014.

(ii) "Proposed Future Investments in the Départements of Likouala and Sangha Regarding the Reduction of Emissions from Deforestation and Forest Degradation."
The contract with IDEA CONSULT INTERNATIONAL & AED CONSULT is currently under negotiation with an anticipated start date in May 2014. This study will be a major input for the ER-Program design phase.

(iii) "Options for Development of the implementation Framework of the National REDD+ framework"
The contract has been awarded to the firm AGRER and with an anticipated start date of the study in April 2014.

(iv) "Social Environment Strategic Assessment"
The contract for the study is under negotiation with the consortium of BRL Ingénierie and ONF International and the anticipated start is May 2014.

For each of the major studies the firms that have been awarded proposed technical bids clarify the working methodology to produce the expected outputs in a timely manner.

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).

Currently, the REDD+ preparation proposal (R-PP) is on-track and is not facing any recognized significant challenges. The table set forth in Appendix 1 summarizes the anticipated dates of completion of each of the components identified in the RoC R-PP.

As part of the REDD+ process, a self-assessment using the FCPF Readiness Package Assessment Framework based on the 34 indicators established by the FMT Note 2013-1 rev: R-Package Assessment Framework has been completed in February 2014 and is presented below:

i. Green: 'significant progress'	
ii. Yellow: 'progressing well, further development required'	
iii. Orange: 'further development required'	
iv. Red: 'Not yet demonstrating progress'	

Number	**Indicators**	**Score**
	1. Readiness Organization and Consultation	
1a. National REDD+ Management Arrangements		
	1) Accountability and transparency	
	2) Operating mandate and budget	
	3) Multi-sector coordination mechanisms and cross-sector collaboration	
	4) Technical supervision capacity	
	5) Funds management capacity	
	6) Feedback and grievance redress mechanism	
1b. Consultation, Participation, and Outreach		
	7) Participation and engagement of key stakeholders	
	8) Consultation processes	
	9) Information sharing and accessibility of information	
	10) Implementation and public disclosure of consultation outcomes	
	2. REDD+ Strategy Preparation	
2a. Assessment of Land Use, Land-Use Change Drivers, Forest Law, Policy and Governance		
	11) Assessment and analysis	
	12) Prioritization of direct and indirect drivers/barriers to forest enhancement	
	13) Links between drivers/barriers and REDD+ activities	
	14) Action plans to address natural resource rights, land tenure, governance	
	15) Implications for forest law and policy	

2b. REDD+ Strategy Options		
	16) Selection and prioritization of REDD+ strategy options	
	17) Feasibility assessment	
	18) Implications of strategy options on existing sectoral policies	
2c. Implementation Framework		
	19) Adoption and implementation of legislation/regulations	
	20) Guidelines for Implementation	
	21) Benefit sharing mechanism	
	22) National REDD+ registry and system monitoring REDD+ activities	
2d. Social and Environmental Impacts		
	23) Analysis of social and environmental safeguard issues	
	24) REDD+ strategy design with respect to impacts	
	25) Environmental and Social Management Framework	
3. Reference Emissions Level/Reference Levels		
	26) Demonstration of methodology	
	27) Use of historical data, and adjusted for national circumstances	
	28) Technical feasibility of the methodological approach, and consistency with UNFCCC/IPCC	
	guidance and guidelines	
4. Monitoring Systems for Forests and Safeguards		
4a. National Forest Monitoring System		
	29) Documentation of monitoring approach	
	30) Demonstration of early system implementation	
	31) Institutional arrangements and capacities - Forests	
4b. Information System for Multiple Benefits, Other Impacts, Governance, and Safeguards		
	32) Identification of relevant non-carbon aspects, and social and environmental issues	
	33) Monitoring, reporting and information sharing	
	34) Institutional arrangements and capacities – Multiple Benefits and Safeguards	

The self-assessment on the progress indicates that there remains substantial work to finalise the Readiness Package for submission to the FCPF Participants Committee. Nevertheless, the year 2013 was dedicated to the alignment among programs (FCPF & UN REDD Programme) and the preparation of the key building blocks for the acceleration of the REDD+ Readiness process in 2014. Based on this strong foundation, the Republic of Congo is in a situation where it is able to within a relatively short timeframe finalize the Readiness Package by December 2015. This is because the consulting firms have been selected and are preparing to begin work on the key aspects of the REDD+ Readiness activities (drivers of deforestation and forest degradation, REDD+ national strategy, National REDD+ Implementation Framework and SESA). At the same time, it must be noted that FAO is closely cooperating with the Republic of Congo to speed up the development of Component 4 (Monitoring & Safeguards).

The Republic of Congo is convinced that the development of a relevant national REDD+ strategy is only possible through the concurrent development of the SESA process. For this reason the observed delays of both of these studies will nonetheless be able to mutually inform each other as they are conducted in parallel. In fact, the Republic of Congo will be able to learn from the lessons that can be observed in the Democratic Republic of Congo to further speed its own process.

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.*

As stipulated in the above section 3.1, a major study on the "Spatial Drivers of Deforestation and Forest Degradation with options for the national REDD+ Strategy" is ongoing and the interim report that was completed in February 2014 has confirmed that options that were first adopted in the RoC R-PP in 2010 remain relevant and will be the basis of the national REDD+ strategy expected to be validated in Q1 2015 concurrently with the safeguard instruments. The table below is a summary of the strategic options that were presented at the national level.

	RoC R-PP Strategic Options	Sub Options	Sub Option Activity	Related ER-Program Activities (see section 5.3 below)
Strategic Option 1:	**Strengthen security of land tenure**	SO1.1	• Establish a National Land Allocation Plan (PNAT)	No direct link
		SO1.2	• Strengthening the network of protected areas	- Conservation set-aside areas~~-~~.
Strategic Option 2:	**Sustainable management of forest resources**	SO 2.1	• Fight against illegal logging	- Strengthening of governance by enhanced Sustainable forest management activities.
		SO 2.2	• Strengthening the sustainable management of production forests	- Promotion of additional Reduced impact logging activities.
		SO 2.3	• Involvement of local communities and indigenous peoples in forest management	- Communities and indigenous peoples will be the key actors in the cocoa activities especially in concession's agricultural development zones.
		SO 2.4	• Promotion of forest certification	- Strengthening of governance by enhanced Sustainable forest management activities
		SO 2.5	• Improving techniques for exploitation and wood processing	- Promotion of the Increased use Reduced impact logging and of the domestic use of secondary species
Strategic Option 3:	**Improve agricultural production systems**	SO 3.1	• Promote smallholder access to micro-credit ;	- Agriculture related carbon components (Cocoa & Biochar) will enhance financial livelihoods

		SO 3.2	• Support the organization of the agricultural profession;	No direct link
		SO 3.3	• Strengthen agricultural research and extension;	- The Biochar component will allow a novel agriculture technique to be piloted
		SO 3.4	• Promote agroforestry systems	- Community Agroforestry and cocoa plantations will support enhancement of carbon stocks
Strategic Option 4:	**Streamlining the production and use of wood energy**	SO 4.1	• Improve the supply by structuring fuelwood and charcoal industries	- High Efficiency Pyrolysis will reduce the amount of wood needed to produce the same amount of fuelwood
		SO 4.2	• Promote afforestation and reforestation, through PRONAR	- Community Agroforestry will support enhancement of carbon stocks
		SO 4.3	• Improving the efficiency of the use of wood energy	- High Efficiency Cook Stoves and high efficiency pyrolysis will improve the efficiency of both production and use of wood energy.

The ER-Program activities support all of the Strategic Options that have been identified, and almost all (except two) of the sub-options.

The National REDD+ strategy is an evolving document that has to take into account lessons learned from pilot REDD+ activities and programs. As a result the variety of activities of the ER-Program relating to all of the strategic options will be an opportunity to amend and confirm the national REDD+ strategy during the course of the program implementation. The developing REDD+ strategy will be able to rely on the ER-Program activities to both support existing policies and assist with the ongoing development of the underlying management framework.

All of the activities of the in the proposed ER Program (see Section 5.3), are consistent with national laws and development priorities of the Republic of Congo. They are also consistent with the current sectoral policies that have been taken into account in the Strategy Document for Poverty Reduction (DSRP I & II), and in the 2012-2016 National Development Programme (PND).

In relation to the forestry components of the ER-Program, the following forest related legislation will not only be adhered to, but the activities themselves are very much in the spirit of sustainable forest management and the protection of forest biodiversity:

- Law No. 16-2000 of 20 November 2000 on the Forest Code;
- Law No. 003-91 of 23 April 1991 on the protection of the environment;
- Law No. 37-2008 of 28 November 2008 on wildlife and protected areas;
- Enforcement Decree No. 2002-437 of 31 December 2002 laying down the conditions for the management and use of forests;
- Order No. 5053/MEF/CAB of 19 June 2007 laying down national guidelines for sustainable management of natural forests in the Congo;
- Order No. 103 of 30 January 1984 laying down provisions for the export of wildlife products and wild flora;
- Act No. 114 of 24 June 1991 prohibiting the slaughter of elephants in the Republic of Congo;
- Order No. 3772 of 12 August 1972 fixing the opening and closing of the hunting periods;
- Order No. 3863/MEF/SGEF/DCPP of 18 May 1984 laying down fully and partially protected animals protected under Law 48/83 of 21.04.1983 conservation and exploitation of wildlife; and,
- Order No. 3282 of 18 November 1991 on the absolute protection of the elephant over the whole of the Republic of Congo.

In relation to the validated development priorities of the Republic of Congo, the proposed project activities are in line with the sustainable development proposals that are set forth not only in the National Development Plan, but also the Agricultural Sector Development Plan of Sangha and Likouala départements. These studies have identified the following recommendations:

1. Increased contribution of the forest and environmental sectors to GDP through Sustainable Forest Management, increased processing and transformation of wood, and an increase in the valuation of environmental goods and services (carbon sequestration, non-timber forest products, ecotourism, etc.);
2. Improved protection, conservation and management of forest, wildlife ecosystems, marine, coastal and inland waters and protected areas;
3. Involvement of rural and indigenous populations in resource management; and,
4. Development of ecologically viable agriculture, promotion of sedentary agriculture, agroforestry and community forestry.

The ER-Program activities, both individually and collectively, strongly support the above-identified recommendations.

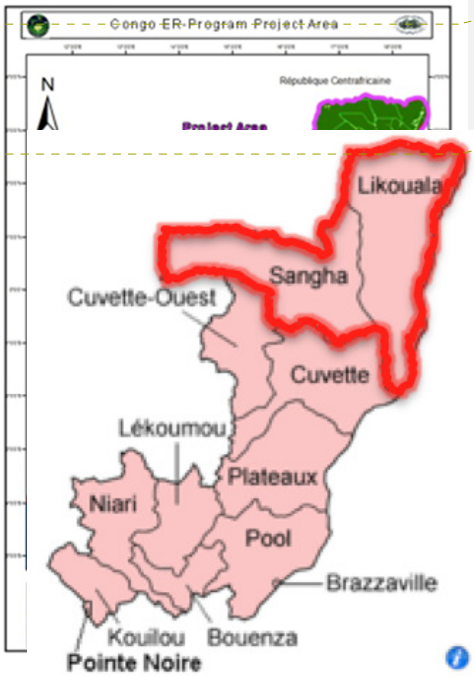
4. ER Program Location and Lifetime

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).

Description of the Project Area - Départements of Sangha and Likouala

The ER-Program boundary is composed of two administrative jurisdictions made up of the départements of ~~-~~Sangha and Likouala. (See map below)



The Sangha covers an area of 5.78 million hectares, or 57,800 km^2, has an estimated total population in 2014 of about 109,000 persons (RGPH, 2007), mainly concentrated around the Département capital city of Ouesso. Forest covers 5,723,744 hectares or 99% (FACET, 2013) of the total area and is made up of:

- 6 forestry concessions (already granted to concessionaires); and
- Three protected areas: National Parks Nouabalé-Ndoki, Ntokou-Pikounda and Odzala- Kokoua.

The Department of Likouala which covers an area of about 6.57 million hectares to either 65.700 km^2, has a total estimated population in 2014 of about 196,000 inhabitants (RGPH, 2007)[i], mainly concentrated around the city of Impfondo, the capitol of the department.

The forest area that covers 6,271,966 hectares or ~~99~~95% (FACET, 2013) of the total area of the Department of Likouala is divided between:

- The 9 Forest Management Units (FMU) for industrial logging;

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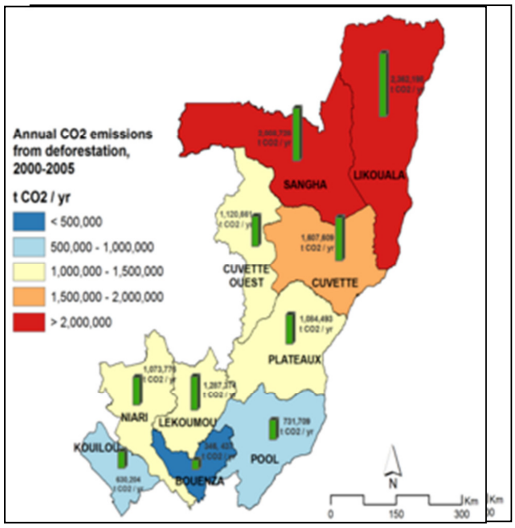
- The two protected areas namely: the Lac Télé Community Reserve and Nouabalé- Ndoki National Park, part of which is in the Sangha.

Thus, the program area covers an area of 12.35 million hectares or 123,500 km^2 (FACET, 2013).

The project area is very rich in biodiversity and over 60 animal species continuing to thrive, including 13 protected large mammals that are known to be in the North of Congo (Poulsen and Clark, 2005), as set forth in Appendix 2.

The climate in the Departments of Sangha and Likouala is equatorial characterized by:

- A rainfall of 1,500 with only 1 or 2 months of rainfall less than 50 mm (February and December);
- A monthly average temperature varies between 25° C and 38° C; and
- An average humidity of between 70% and 90%.



The first rough estimates indicate that the two départements involved in the program, have higher than average carbon emissions in the area of forestry in the country. It is known that the exploitation of timber production is approximately:

- 4,801,000 m^3 of timber from 2000 -2010 in the Sangha; and,
- 3,291,000 m^3 of timber between 2000 and 2010 in Likouala

~~REDD+~~

The ER-Program will take place in the départements of Sangha and Likouala.

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 program is planned to begin in early 2015, the design phase of the project, which was to last 6 to 12 months and the process of generating credits could begin in late 2015.

Thus, the first carbon credits could be available in 2016. These credits will be established on an annual basis from 2016 to the end of 2020, which is for 6 years or 72 months.

The end of ER- Program of the World Bank's Carbon Fund is set for 2020, unless extended by mutual agreement of the RoC and the Carbon Fund.

For the Republic of Congo, the overall program to reduce emissions~~,~~ will last until 2050. Which establishes the duration of program for an additional 30 years or 432 additional months.

It is recognized that the ER-Program of the World Bank may not be funded by the FCPF Carbon Fund beyond 2020. However in the interest of pursuing this initiative and contributing to the fight against climate change, economic growth and poverty reduction, the Republic of Congo would seek to continue this program until 2050. For this purpose, it is necessary to consider methodologies and standards that would promote the smooth operation of the program. The Program therefore could seek to follow VCS Jurisdictional National REDD+ guidelines and certification under that program in anticipation of a future transition to a regulated UNFCCC system in a post 2020 environment.

In any case, the ER-Program will as a priority follow the Methodological Framework currently prescribed by the Carbon Fund, and taking into consideration any alterations or changes that may be agreed to in the future. Upon the success of the Program and post 2020, the program would through diplomatic measures and technical success seek inclusion of its offsets in another regulated GHG program (i.e. China or other regional GHG programs with a forestry component) so that the RoC could continue to have a ready market for its carbon credits in the future.

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 detailed analysis of the causes and drivers of deforestation and forest degradation as set forth in the Spatial Drivers of Deforestation and Forest Degradation with options for the national REDD+ Strategy" study in the Département of Sangha and Likouala, which has been produced for the REDD+ Readiness Package.

Likouala

The main direct causes of deforestation and forest degradation in Likouala for the period of 1990-2010, in descending order of magnitude, are:

- Logging exploitation
- Agriculture; and
- Infrastructure (including urban development).

Please refer to Appendix 3 & 4 for the summary analysis (in French Language) of the drivers and underlying causes, as well as the trends within the boundary of Likouala & Sangha.

Sangha

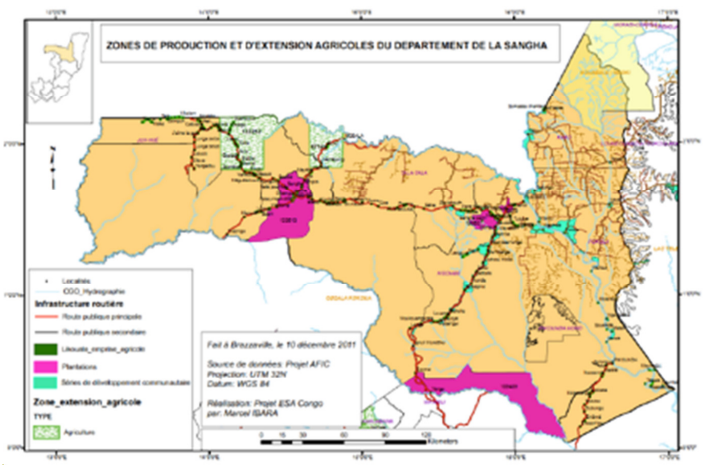
the main direct causes of deforestation and forest degradation in Sangha for the period of 1990-2010, in descending order of magnitude, are:

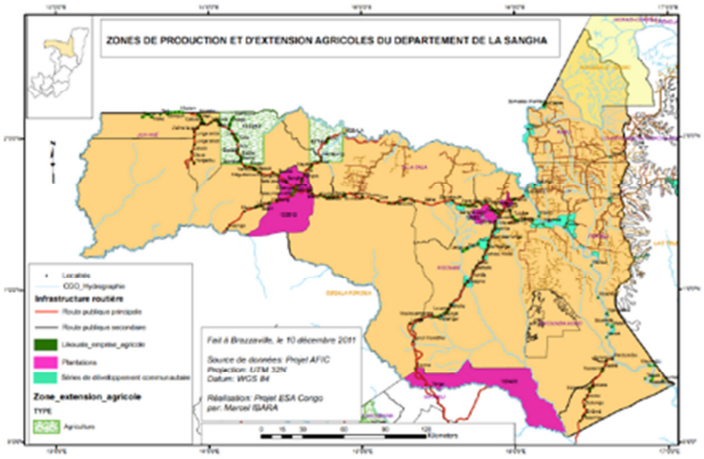
- Logging exploitation;
- Infrastructure (including urban development);
- Agriculture; and,
- Agro industries.

In relation to future trends, the Agriculture Sector Development Plan (PDSA) of Sangha sets forth clear strategy, which was laid down in 2012 to advance the agriculture sector in the Sangha Département, particularly in respect to soya, cassava and oil palm. ~~In addition to the~~The ATAMA ~~plantation~~and Sangha Palm plantations, which ~~is~~are currently in place in place and operational, have both began the process of land clearing. At the Sangha Palm Plantation, 27,000 ha of secondary forests will be cleared and the ATAMA plantation, almost 114,000 ha of primary forest will be

Land Clearing at ATAMA Plantation for oil palm (April 2013)

converted to oil palm plantation. Further, there is a planned ~~a~~ 133,513 ha oil palm plantation in the Sembe district, but it is not operationalized at this time and no land clearing has occurred. An additional 200,398 ha of large scale agricultural areas for food crops have been delineated north of Sembe on the Cameroonian border. The PDSA indicates that these areas will be in production by 2035, which will make agriculture and agro industries the primary driver of deforestation in the near future.





Macro Agriculture and Palm Oil zones as set forth in PDSA, 2012)

Additionally, the Congo Iron Nabeba project in the western part of Sangha is well advanced, and although no ground has been broken and extensive EIA has been undertaken and it is likely that the final permits required for large-scale operations could be received and the project operationalized prior to 2020. The Congo Iron Nabeba project will consist of a USD $2 billion investment and is expected to produce 20 million tonnes of ore per year. It is expected that 3,000 ha, will be deforested for the Nabeba mine by Congo Iron. Mining will therefore in the future become an additional major driver.

Please refer to Appendix 4 for the summary analysis (in French Language) of the drivers and underlying causes, as well as the trends within the boundary of Sangha.

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External conflict in neighboring counties, resulting in the flow of refugees to Likouala could become a significant driver in the future affecting land use, land cover and carbon stocks as these persons put additional pressure on native forests. In December 2013, according to the Comité National d'Assistance aux Réfugiés (CENAR) data, the Bétu forestry concession counted 7,258 refugees coming from the Central African Republic, in addition to the 2,516 families normally residing there. These new CAR refugees are supplementing previous refugees that have arrived from DRC.

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.

The main obstacles that currently prevent the identified drivers to be addressed, and / or prevent the conservation and enhancement of carbon stocks are:

Barriers Linked to Logging Exploitation

Weak enforcement of laws and regulations;
Lack of adherence to reduced impact logging requirements;

Barriers to Agriculture

The standard of living or rural poverty: The poverty of most rural populations prevents them from investing in more sustainable ways and hinders risks taking related to changes in agricultural practices.
Population growth: With 2.8% (RGPH, 2007) per year, the Congo is characterized by a rapid population growth. This increase in population has resulted in an increased demand for food products, which results in increased the slash and burn agriculture (increased need for land and acreage) and / or the reduction of fallow period;

Barriers Linked to Infrastructure

Population growth: requiring new roads, town sites, etc;
Logging exploitation: requirements for roads, log landings, skid trails, camps, etc.

Barriers Linked to Agro-Industries

Opportunity Costs: sustainable natural resource management does not generate sufficient income to match money flows from oil palm and the efficiencies of large scale agro-industries.

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 ER-Program in Sangha and Likouala has been designed to have the activities to relate to the in-progress National REDD+ strategy. The activities have been designed also to address the identified barriers of deforestation and

Forestry Sector

- Increasing the amount of protected areas;
- Reduced Impact Logging (RIL) programs :
  - optimization of the road network ;
  - increasing logging diameters ;
  - extending the rotation periods; and,
  - Development of 2nd and 3rd transformations (wooden homes, furniture, etc.); and,
- Enhancing carbon stocks through sylviculture techniques and reforestation and agro-forestry activity.

Agriculture and Agro-industry:

- Revival of the cocoa culture;
- Development of afforestation and reforestation program through the National Afforestation and Reforestation Programme (PRONAR), which intends to establish a ten-year program for the establishment of one million hectares of forest and agroforestry plantations throughout the national territory;
- Community agro-forestry plantations;

Urban Development:

- High efficiency pyrolysis for charcoal production;
- Cogeneration from bio-waste (operating forestry and agricultural waste, household waste and other);and
- High efficiency cook stoves.

The specific identified Primary and Secondary Project Activities

Primary and Secondary Project Activities	Activity Code
Primary Project Activities (PPA)	
1. Cocoa production avoiding unplanned deforestation with sustainable agriculture	**PPA-1**
2. Improved charcoal production efficiency and utilization of biochar for enhanced soil fertility and carbon storage	**PPA-2**
3. Sustainable Forest Management: Reduced Impact Logging	**PPA-3**
4. Sustainable Forest Management: Conversion of logged forests to protected forests	**PPA-4**
5. Afforestation/Reforestation (including community Agroforestry)	**PPA-5**
Secondary Project Activities (SPA)	
1. High Efficiency Cook Stoves	**SPA-1**
2. Cogeneration (outside of the ER-Program)	**SPA-2**
3. Green Mining (protected areas, reduced impact mining with RIL standards, replanting)	**SPA-3**

5.3.1- Primary Project Activities (PPA)

Primary Project Activity 1 (PPA-1): Cocoa Production

Reestablishment of the Cocoa sector in the north of Congo, Sangha and Likouala will avoid unplanned mosaic deforestation and degradation by providing an alternative livelihood of Cocoa production or other agro-forestry and agriculture crops, i.e. coffee, citrus fruit, etc. These ER Program activities will reduce the need to conduct subsistence slash and burn agriculture in Sangha and Likouala. It will have substantial social impact because individual subsistence farmers will have direct access to the international cocoa market and potentially coffee, citrus, etc. As a result of the increase in financial gain, populations will be able to move away from reliance on subsistence shifting agriculture.

The Carbon Production Project Activity began in 2013 when CIB-OLAM partnered with the Ministry of Agriculture and the MEFDD to rehabilitate the cocoa market in Congo by harnessing OLAM's strategic market position in the global Cocoa Sector. The mitigation activity focuses on the following:

- Capacity building;
- Avoiding unplanned deforestation and degradation from shifting slash and burn agriculture;
- Introduction of high value cash crop as an alternative livelihood.

Socialization and capacity enhancement has already begun where the local population has been informed of the cocoa opportunity and training sessions for growing cocoa have begun. Capacity enhancement and providing up-front financing for improved hybrid seedlings will provide farmers with the best chance of success of growing and

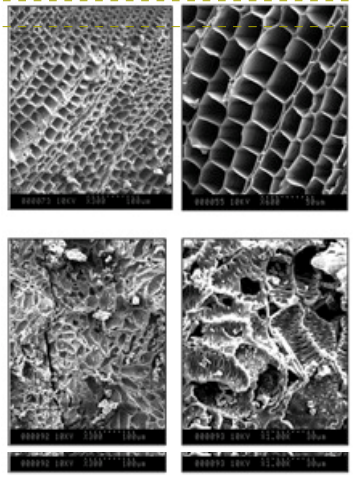
producing quality cocoa that can be sold on the international market. Currently 350,000 seedlings have been prepared for distribution.

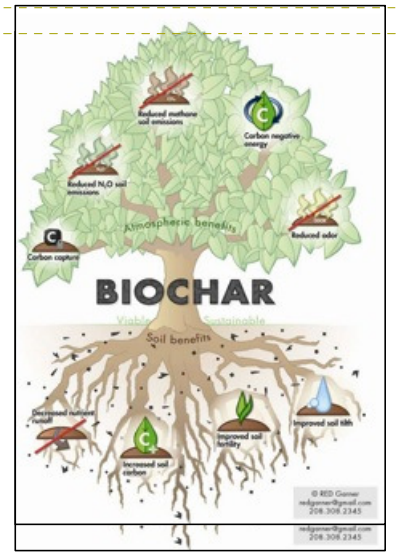
The project will see thousands of families have direct access to a market economy product that is already culturally familiar. The RoC has provided CIB-OLAM with ex-regime cocoa facilities in 6 separate districts in Sangha province to initiate the project. These facilities will be used as distribution, testing and monitoring hubs for the Cocoa & Carbon project. Appropriate facilities in Likouala will be accessed as well. The Project also anticipates being able to map the location of plantation activity within the various concession agro forestry areas, to be able to use that data as the basis of land use allocation activity to create recognizable property rights of the Projects participants. Additionally CIB-OLAM has secured grant funding from the French Development Agency (USD $20-40 million) to assist with the rehabilitation of the cocoa sector in Sangha and Likouala.

Non-carbon benefits in the form of a viable alternative livelihood in the cocoa sector for individuals (cocoa pays about USD $1.4 per kg to a local farmer), but with the hybrid varieties that are being introduced, a farmer could earn between USD $980-$1,120 per hectare per harvest

Primary Project Activity 2 (PPA-2): Improved charcoal production efficiency and utilization of biochar for enhanced soil fertility and carbon storage

The Project Activity involves both the method of production of charcoal and its use as a soil additive as well as a carbon storage mechanism.





The first component is the introduction of high efficiency pyrolysis techniques to Sangha and Likouala that will decrease the amount of feedstock (i.e. wood) that would otherwise be needed to convert the wood to charcoal. It is estimated that pyrolysis efficiency rates could double from 10-15% to 25-30% so that only half the wood would be needed for charcoal production compared to the baseline. Feedstock would be sourced from waste wood and slash that would otherwise enter the atmosphere while decompose.

The second component of PPA-2 is the use of charcoal (i.e. biochar) as a soil additive for subsistence farmers in order to increase yields, but also in order to be used as a carbon storage mechanism.

Introduction of biochar to the soil, when made from feedstock that is considered waste from the logging industry, will result substantially enhance yields providing a real incentive for subsistence farmers, indigenous peoples and local communities to shift to sedentary agriculture.

From the agricultural perspective, the most important feature of biochar is its extremely high surface area that results from complex networks of pores of different diameter. One gram of biochar has approximately 850m2 (9,000 ft2) of surface area. The surface has a slight electrical charge, which draws other particles to itself). In turn these pores provide a wide range of secondary beneficial properties such as high water retention-, ion exchange- and absorption of nutrients. Tests around the world, including in Africa have shown that introduction of biochar at the

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rate of 5 to 20 tonnes per hectare increased crop weight by up to 50% which is comparative to adding organic and inorganic fertilizer to the soil.

Higher efficiency in pyrolysis is easily achieved at low costs, as current charcoal production techniques in the Sangha and Likouala are rudimentary and highly inefficient.

Sustainable Forest Management will be able to address logging exploitation as a driver in Sangha and Likouala. The project activities will be able to be conducted by any forest concession that is able to demonstrate the introduction of the Project Activity.

Primary Project Activity 3: Sustainable Forest Management: Reduced Impact Logging (PPA-3)
Reduced impact logging will be able to be undertaken by any concessionaire that is able to show through the introduction of Reduced Impact Logging activities that the concessions has decreased its emissions as a result of the changed practices. Changed practices would include reduced stand damage through mores sustainable harvesting techniques.

The mitigation activity focuses on the following:
- Capacity building
- Improved Forest Management – Reduced Impact Logging techniques
- Strengthening forest governance and monitoring capability

Primary Project Activity 4 (PPA-4): Sustainable Forest Management: Conversion of logged forests to protected forests
The main goal of Primary Project Activity 4 is to preserve forest that would otherwise be harvested. The Project Activity is available to any concession in Sangha or Likouala that is willing to set aside some or all of a concession for emission reduction purposes. Instead of mechanized selective harvesting that would have occurred in a business as usual scenario, cessation of harvesting activities would take place.

Stop logging activities are the simplest Emission Reductions Activity to apply, as a concession would set aside an area of a concession that it is able to harvest, a baseline of anticipated harvesting can be constructed from the forest management plan (FMP) in order to determine the carbon saving achieved and then monitoring would occur that would also be based on the establishment of permanent sample plots and the use of remotely sensed data.

The mitigation activity focuses on the following:
- Capacity building
- Improved Forest Management – Logged to Protected Forest
- Strengthening forest governance and monitoring capability

Primary Project Activity 5 (PPA-5): Afforestation/Reforestation (including community Agroforestry)
The key goal of Afforestation/Reforestation and community agroforestry is to ensure the long-term access to sustainable wood for energy, charcoal production, and agriculture products.

Additionally, as every concession has not just a community agriculture area, but also a community agro-forestry area, replanting activity, especially on degraded lands could be conducted by local communities and indigenous peoples.

The main carbon benefits are increased carbon stocks in the forest where the activity is implemented. Non-carbon benefits include sustainable access to fuelwood.

Secondary Project Activity 1 (SPA-1): High-Efficiency Cook Stoves
The REDD+ER-Program will introduce to the population of Sangha and Likouala one or more high efficiency cook stoves, that will be able to be manufactured locally, distributed through local community organizations and which will use at a minimum 50% less wood or charcoal fuel then what would be used in conventional open fire cooking, the dominant cooking practice in RoC. The Project Activity would aim to reduce the deforestation and degradation pressure on local forest stock by decreasing the amount of fuelwood needed by the average domestic family.

In addition to the carbon emission reduction benefits of each cook Stove, the non-carbon benefits would include lower long term household running costs and decreased exposure to wood smoke which corresponds to decreased risk of health conditions caused by constant exposure to cooking smoke.

Secondary Project Activity 2: Cogeneration (SPA-2)
"Secondary Project Activity 2" is cogeneration activity Emission reductions for this activity will be originated under a separate process (i.e. VCS or CDM). This would be a fuel substitution project where available wood bio-waste from logging concession (or other biomass waste) would be substituted for electrical generation purposes. The cogeneration facilities would provide combined heat and power through the burning of biomass.

Several of the forestry concession operators are interested in this type of activity and the RoC is keen to be able to support this as a carbon Emission Reductions Activity for the ER-Program.

The concept of cogeneration is part of the broader Green Vision of the republic of Congo and it is thought that by increasing the availability of electricity to local populations where currently there is limited grid power could also reduce the need for wood energy in the local communities as they switch to electric power. Emission reductions from this activity are not anticipated to be part of the ER-Program.

Secondary Project Activity 3 - Green Mining (SPA-3)
Industrial mining activity will be conducted within the Sangha and Likouala, but actual extraction activity has not yet commenced. There are known deposits of Iron, diamonds, gold, titanium, etc. The Green Mining activity is in effect Reduced Impact Mining and comparable to the use of sustainable forest management type activity, but for the mining sector. Specific activity that has been identified with Congo Iron, is an interest to offset their planned deforestation of 3,000 ha with the purchase of a nearby timber concession that could be set aside for conservation and carbon mitigation reasons. Further activity could include careful planning of any forest conversion; minimize the impact of road building, tailings, and other mining infrastructure. Additionally, where feasible replanting of forests that would be conducted in order to recover carbon stocks in the mining process.

Non-carbon benefits of Green Mining would include a more sustainable mining industry with decreased impact on the natural landscape, a dedicated set aside area that would support the maintenance of existing biodiversity.

ER-Program Reliance on *in-situ* Systems & Technologies
Because of the nature of the size and scale of concessions, the ER-P will look to build REDD+ capacity and infrastructure upon existing and in-place systems when at all possible. REDD+ has substantial operational overlap with the commercial logging industry, in respects to inventory technique, mapping, monitoring, etc. This is especially the case of concessions that have or are currently seeking FSC certification. The North of the country was used for the initial application of the RoC Forestry Law 2002 (SFM) where overall there has been a more uniform application of the SFM laws and the development of Forest Management Plans; in the South of the Country management plans area not as common. In other words forestry governance levels in the two Northern *départements* are already quite high and the sector has already a capable framework of workers who understand forest inventory & monitoring techniques (i.e. sampling, GIS, remote sensing, land-use mapping, etc.) and with some additional carbon training, the ER-Program will facilitate the rapid deployment of large numbers of carbon inventory technicians and specialist

Project Activities may be conducted through the social and environmental infrastructure that is established by each Forestry or Mining concession, or within a national park or protected area. Project activity may also be undertaken by a District or municipality within the Project Area but. All project will observe strict adherence to Standard Operating Procedures regarding double counting.

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.

Selecting and Prioritizing Actions and Interventions Provided

The selection and prioritization of actions and interventions to promote within the ER-Program in the Departments of the Sangha and Likouala find their foundation and justification in the National Development Plan (PND) 2012-2016 of the Republic of Congo as well as the Agricultural Sector Development Plan (PDSA) of Sangha and Likouala for 2012-2035.

It should be recalled that the PND 2012-2016 takes into account sectoral strategies and policies of the Republic of Congo, in order to achieve the vision of the President of the Republic, contained in his program called "The Way of the Future". This program focuses on the modernization of Congolese society and industrialization of the national economy.

The National Development Plan (PND) and PSDA clearly state that in the non-oil sector, the economy is expected to incur:

- Strong growth through the implementation of development strategies of sylviculture, logging, wood processing, agro-industry;
- Dynamism in agriculture (as a result of rural policies and agricultural development), mining, construction and services (tourism and hospitality, financial services).

While in the agriculture sector the programs are oriented toward:

- Development of subsistence culture (cassava, maize, soy, potatoes, banana, yam, beans, rice, etc.)
- The revitalization of existing cultures for annuities and the development of new crops (cocoa, coffee, palm oil, cotton, sugar cane, tobacco, etc.);
- Suppling farmers with improved seeds, the development of macro-agro sites, training, and technical support; and
- Strengthening of a fund to support rural activity to enable small producers to overcome the difficulties in accessing bank financing;

The Government, which intends to make every effort to exploit the vast agricultural and fisheries potential that is currently attracting large private investors to foreign capital, will promote the development of the agro-industrial complex and create the conditions for a rapid expansion of agricultural sector.

The ER-Program is an ambitious program that integrates the fundamental concerns of the Government of the PND and PSDA, and allows the possibility to achieve medium-term targets under the PND & PSDA and Management Plans series of Community Development (SDC), namely the fight against income poverty and improving the living conditions of indigenous and local communities.

Each of the project activities has risks and benefits:

Project Activity	Risks	Benefits
1. Cocoa production avoiding unplanned deforestation with sustainable agriculture	- Deforestation could increase if to Cocoa becomes to popular - Food security risk as food production decrease because of the draw to a cash crop	- High value crop (USD $1.4/kg) - Cocoa does not require constant tending and can be harvested twice a year - Population is familiar with cocoa
2. Improved charcoal production efficiency and utilization of biochar for enhanced soil fertility and carbon storage.	- Untested as an emission reduction activity - if demand is too high could cause additional deforestation	- Requires only minimal technology and capacity enhancement - promotes sustainable and sedentary agriculture
3. Sustainable Forest Management: Reduced Impact Logging	- Requires complex training and skills - Harvesting may shift to other locations	- Promotes certification of operations - improves sustainability of harvesting
4. Sustainable Forest Management: Conversion of logged forests to protected forests	- Unauthorised access leading to wildlife poaching	- Increased amount of protected areas

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5.Afforestation/Reforestation (including community Agroforestry)	- Expensive - can be adopted at large scale	- Can be used with intercropping - Reduces reliance on natural forests
1. High Efficiency Cook Stoves	- requires initial investment by householders	- local production can promote local jobs
2. Cogeneration	- High investment costs	- Sustainable energy, especially on a timber concession
3. Green Mining (protected areas)	- Lack of capacity and staff	- address the mining sectors role as a driver

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.

After the meetings of the FCPF Carbon Fund in April 2013 at Washington, national authorities instructed CN-REDD to organize a series of consultations with stakeholders. Stakeholder consultations began in April 2013 and have continued through March 2014, and a table setting forth the details of these meetings can be found in Appendix 5. Although all of the workshops since April were referring to the possibility of entering into an Emission reductions payment agreement, three specific ones were focused entirely on the design of the ER-Program.

Technical meetings, focus groups and workshops were held in Brazzaville and Ouesso. These meetings were characterized by strong participation of departmental authorities (representatives of the Prefecture, County Council, the Municipal Council, the Departmental Directorates), civil society, local communities and indigenous peoples.

The ER-Program and REDD+ concepts were recently presented at the 3rd edition of the International Forum of Indigenous Peoples of Central Africa (FIPAC) (March 3 to 7, 2014), but in fact REDD+ was a major focus of the meetings. FIPAC, which took place in the départemental capital of Likouala. They provided the CN-REDD team the opportunity to conduct "Open Days", "focus group", "cultural activities", "workshops and technical meetings"

Many concerns were raised by delegates. These concerns include: (i) the level of implementation of the Action Plan on REDD+ + in the Republic of Congo, (ii) the link between the REDD+ process and the FLEGT-VPA process, (iii) the place of agriculture in the national REDD+, (iv) the problem of shifting cultivation, (v) the issue of training and sensitization of stakeholders, (vi) the contribution of forests to local development strategy (vii) the question of ownership of forest carbon, (viii) interest for forest economic operators, mining, agro-forestry and others to join the REDD+ + process and promote forest carbon in general and get involved in ER-Program in particular, (ix) risks which may cause the ER-Program in relation to the difficulties of developing countries in the implementation of Structural Adjustment Program (SAPs) with the World Bank in the 80s.

One specific issue raised by communities and indigenous peoples about the ER-Program and its project activities was that cacao or other plantation activity would mean that cocoa production would overtake food based agriculture, and that food security would become an even more serious issue. It should be noted that, the purpose of the proposed biochar component is specifically designed to increase subsistence agricultural output through enhanced yields. Additional concerns were raised about the benefit sharing mechanism, specifically in regards to the perception that it would be based upon cash payments as opposed to benefits that relate to actual community and indigenous peoples concerns, i.e. health care, education, capacity enhancement related to agriculture, etc. It was explained that the benefit sharing mechanism would be based on a consultative, transparent and participatory manner with communities, indigenous peoples and stakeholders. The result would be that the ER-Program would be able to address the requirements of monetary and non-monetary benefits identified by communities and indigenous peoples while at the same time complying with national requirements or other binding obligations.

The above explanations were found to be satisfactory to the consulted communities~~,~~ and indigenous peoples.

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.

Once the ER-Program is selected in the pipeline of the FCPF Carbon Fund, the communication and consultation plan adopted in July 2013 will be upgraded to take into consideration the specific needs related to the design of the ER-Program. These consultations will continue to bring together representatives of all stakeholders, including local communities, indigenous peoples, local government, but most importantly this will include the potential project actors who will be able to reduce emissions in the Sangha and Likouala. Up until now, the private sector and other potential project actors did not positively respond to their invitations to participate, as the potential monetary benefits were uncertain. The success of the ER-Program will depend on the ability of the RoC to be able to attract the necessary investment to undertake the project activities successfully.

Consultations need to be near where project activity will be undertaken. It will consist of an initial meeting, at least two design phase meetings, and a final project activity validation meeting. Additional meetings may be needed in local languages (i.e. Lingula) if enough non-francophone community members or indigenous peoples are participating. The goal of the consultations will be to encourage local participation in the design phase so that project activities can be tailored to local circumstances. Additional consultations will be conducted during implementation phase through the ER-Program Management Facility to seek ways to involve local communities and indigenous peoples as deeply into the project activities as possible.

The consultations conducted will be able to answer important questions in the context of the development of ER-Program to ensure that the interests of all stakeholders will be taken into account in regards to the ongoing design and implementation. The issues discussed in future consultation, will ensure that the consulted parties will first be informed so that they can be reassured that their interests are guaranteed before committing or refusing participation in the proposed concepts. Furthermore, there will be continued involvement of other organizations (governmental, civil society and private sector) so that a broad perspective will be reached in regards to the ER-Program. In order to ensure transparency, minutes and written records will be maintained.

Continued special attention will be paid to indigenous peoples and local communities. Further, all available tools and appropriate information and communication techniques, including the use of local languages, will be used, i.e. CD-ROMs, T-shirts, banners, newsletter, etc.).

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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).

Governance - ER-P Follows in the Footsteps of the R-PP
The implementation of the REDD+ Preparation Proposal (R-PP) is under the joint authority of the President of the RoC and the Ministry of Forest Economy and Sustainable Development (MEFDD).

The legal framework for REDD+ will be enhanced by supplementing the law No. 003/91 of 23 April 1991 on the protection of the environment. These improvements will be made through amendments of the current framework of the environment and the introduction of the principles related to REDD+, to organize all aspects of the

implementation of REDD+ activities in the country. In this context, an implementing decree issued by the Council of Ministers established, functions, composition and organization of implementing organs of REDD+ in the Republic of Congo namely: National REDD+ Committee REDD+(CONA-REDD), 12 REDD+ Departmental committees (REDD+ CODEPA) representing the 12 departments of the country and the National REDD+ Coordination team.

The functions of these bodies and their relationships between them are as follows:

National REDD+ + Committee (CONA-REDD):

- Determine the vision and strategic options of REDD++;+;
- Support the national REDD+ debate between platforms of public authorities, civil society and the private sector (see Component 1b);
- Arbitrate any potential conflicts between stakeholders in the REDD++process; and,
- Approve the program of work and budget of CN-REDD.

Decisions within the REDD+ + National Committee shall be taken by consensus.

Departmental REDD+ Committees (REDD+ CODEPA)

- Facilitate the implementation of decisions of the National REDD+ Committee and the REDD+ process at the Départemental level;
- Support the REDD++ debate between départemental platforms of public authorities, civil society and the private sector (see Component 1b);
- Arbitrate any potential conflicts between stakeholders in regards to REDD+ at the départemental level;
- Formulate proposals for the REDD+ National Committee.

National REDD+ Coordination (CN-REDD)

- Execute (directly or indirectly through subcontracting) actions of RCONA-REDD+;
- Maintain contact with the various national and départemental platforms through consultations, (see part 1b); and,
- Prepare sessions for CONA-REDD+.

The above bodies will be responsible for the maintenance of the national REDD+ infrastructure, i.e. MRV, information systems on safeguards, registry, the feedback grievance redress mechanism, etc. which is necessary for any emission reductions payment agreement. The following additional national institutions will play a critical role in MRV activities.

Institution or Body	Functions
CNIAF	MRV
CERGEC	MRV support
CNSEE	MRV support

The daily management of the ER-Program will be undertaken by the Emission Reductions Program Management Facility, which will be made up of the public private partnership led by CIB-OLAM and the Republic of Congo. This would include management and support:

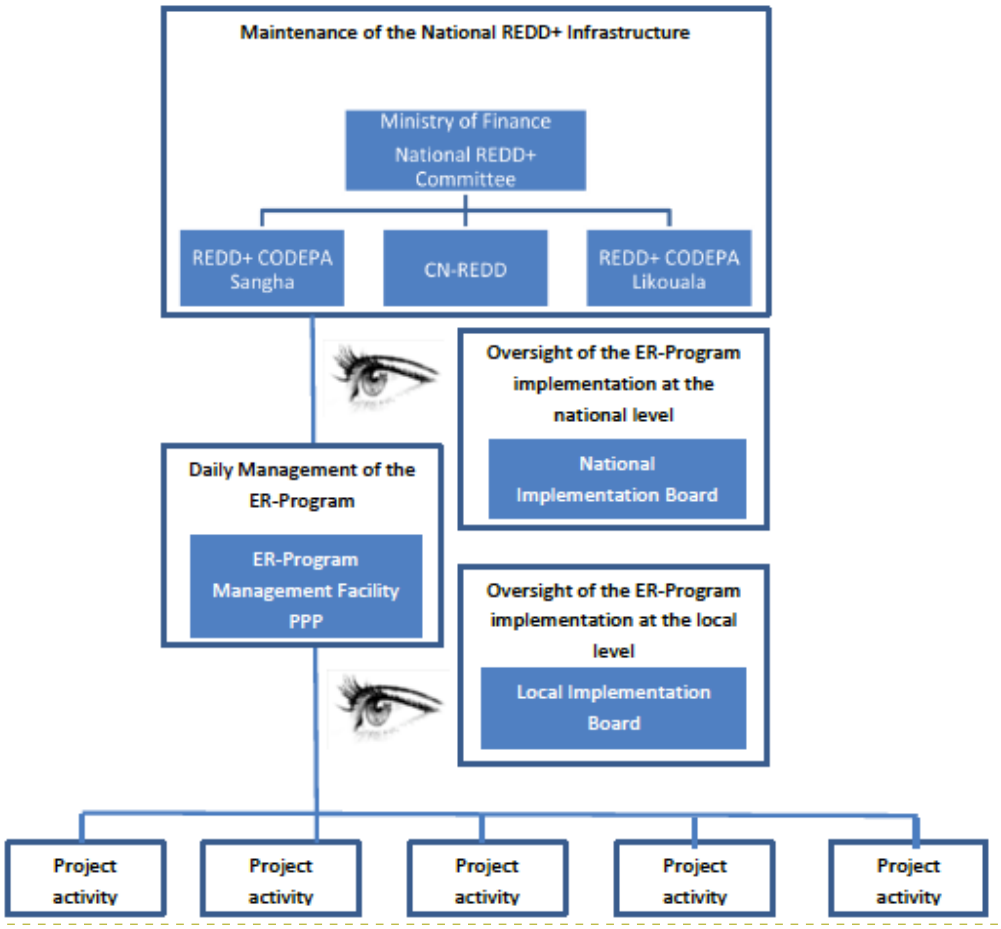
- Assist project implementers (communities, small holders, indigenous peoples, concessionaires, etc.) with project design;
- Compliance with safeguard (SESA) instruments;
- Implementation of the benefit sharing plan;
- Ensure adequacy of MRV requirements;
- Monitoring and evaluation of project activities;
- Management of financial flows;
- Etc.

In order to ensure appropriate accountability, transparency and efficiency of the Emission Reductions Program Management Facility, a National REDD+ implementation board, as well as a Départemental REDD+ Implementation Board for both Sangha and Likouala will be established. It will be composed of members of civil society (i.e. CACO-

REDD+, community groups, indigenous peoples, women's groups, etc.), government officials and all other relevant stakeholders. The role of the boards will be to provide general oversight over the ER-Program and the implementation of its activities.

Management practices and decision-making structures will be conducted in a transparent and inclusive process to ensure adequate due diligence procedures and the implementation of a comprehensive policy regarding conflict of interest.

It is of critical importance that the structure of the governance systems ensures that the Management Facility can be transparently observed by the two oversight bodies, one at the national and the other at the local level. Furthermore, the oversight organs must be independent of both the Management Facility and of the larger National REDD+ infrastructure.



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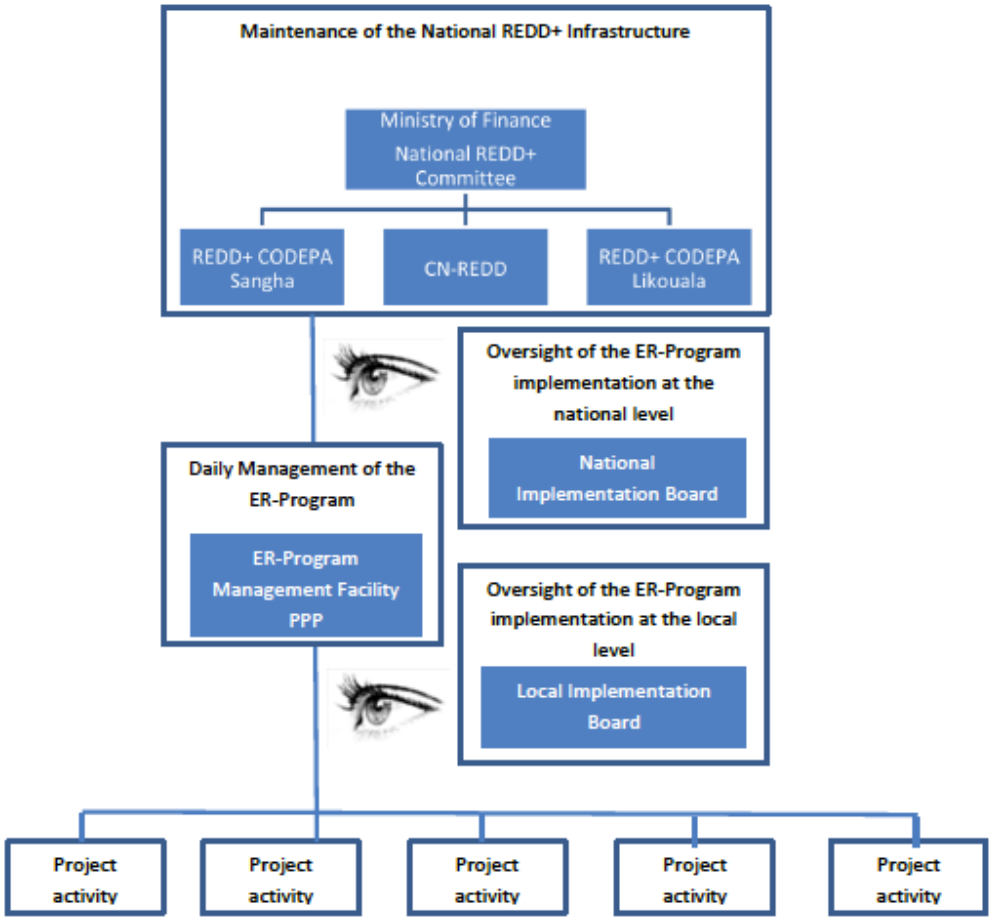

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7.2 Linking Institutional Arrangements to National REDD+ Implementation Framework
Please describe how the institutional arrangements for the proposed ER Program fit within the national REDD+ implementation framework.

With the addition of the ER-Program Management Facility, the Republic of Congo will now have the required organs to manage and implement actual on the ground project activities. The describe management facility will be able to ensure the operationalization of REDD+ activities, via the ER-P mechanism, such that the benefits of emission reductions activities can be equitably realized in Sangha and Likouala, by all of the concerned stakeholders. The management facility is designed to provide the on the ground support while at the same time being overseen by the existing institutional structures, as well as those that were initially (as part of R-PP) envisioned in the Readiness process.

The spirit of the ER-Program Management Facility is to leverage the skills and competencies of the private sector partner CIB-OLAM, who have substantial management experience not only in the forestry sector as a leading FSC concessionaire in the region, but also as an original REDD+ implementer in the RoC.

It should be further acknowledged that design of the REDD+ implementation framework is a work in progress, and that 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 even though not all of the national REDD+ national implementation framework building blocks are fully developed.

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

Stakeholder	Technical Capacity	Financial Capacity
Government Entities		
Minister of Forest Economy and Sustainable Development (MEFDD)	- National Forestry management	National Budget
National REDD+ Coordination (CN-REDD)	- REDD+ activities Management	Dependent upon donor community
Directorate General of Forest Economy (DGEF)	- Oversight of forestry operations on a national level but with special emphasis in northern Congo	National Budget
Directorate-General for Sustainable Development (DMDB)	- Oversight of development issues on a national level but with special emphasis in northern Congo	National Budget
National Inventory and Planning Center of Forest Resources and Fauna (CNIAF)	- Forest and natural resource inventory and monitoring capacity	National Budget
National Afforestation and Reforestation Programme (PRONAR)	- Agroforestry and community forestry (nurseries, agronomists, project development and maintenance	Dependent upon donor community & National Budget
National School of Agronomy and Forestry (SCSTA) / University Marien Ngouabi	Agronomy and Forestry	National Budget
Civil Society		
CACO-REDD+/ Bureau National	Strong links to a broad range of national stakeholders and ability to disseminate critical information	Dependent upon donor community
CACO-REDD+/Bureau Sangha & Likoual	Strong links to a broad range of départemental stakeholders and ability to disseminate critical information	Dependent upon donor community
WCS	Biodiversity monitoring and conservation planning and enforcement management	Dependent upon donor community
Private Sector		
Congolaise Industrielle des Bois (CIB)	- All aspects of FSC certified sustainable forest management - Deep knowledge & experience of forestry management	Private sector with reliance on market conditions
OLAM International Ltd	- Extensive Global Management	Private sector with reliance on

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(OLAM)	expertise Deep knowledge & experience in cocoa sector - Expansive knowledge & experience in small holder agriculture systems	market conditions
GreenLaw International LLC (GLI)	- Deep knowledge & experience of REDD+ project design and implementation including within RoC - Strategic REDD+ project design	Private sector with reliance on market conditions
Company Thanry Congo (STC)	- Forestry management, GIS, cartography, etc.	Private sector with reliance on market conditions
Industrial Society Forest of Congo (SIFCO)	- Forestry management, GIS, cartography, etc.	Private sector with reliance on market conditions
Wood and veneers Lopola (BPL)	- Forestry management, GIS, cartography, etc.	Private sector with reliance on market conditions
Congo Iron SA	Natural resource management,	Private sector with reliance on market conditions
Likouala Timber	- Forestry management, GIS, cartography, etc	Private sector with reliance on market conditions
Other Potential Project Investors	Once the ER-Program has been selected by the FCPF Carbon Fund, new investors will be interested in joining the Congo ER-Program as they will be able to place a specific value on any emission reductions that would be originated under their investments.	

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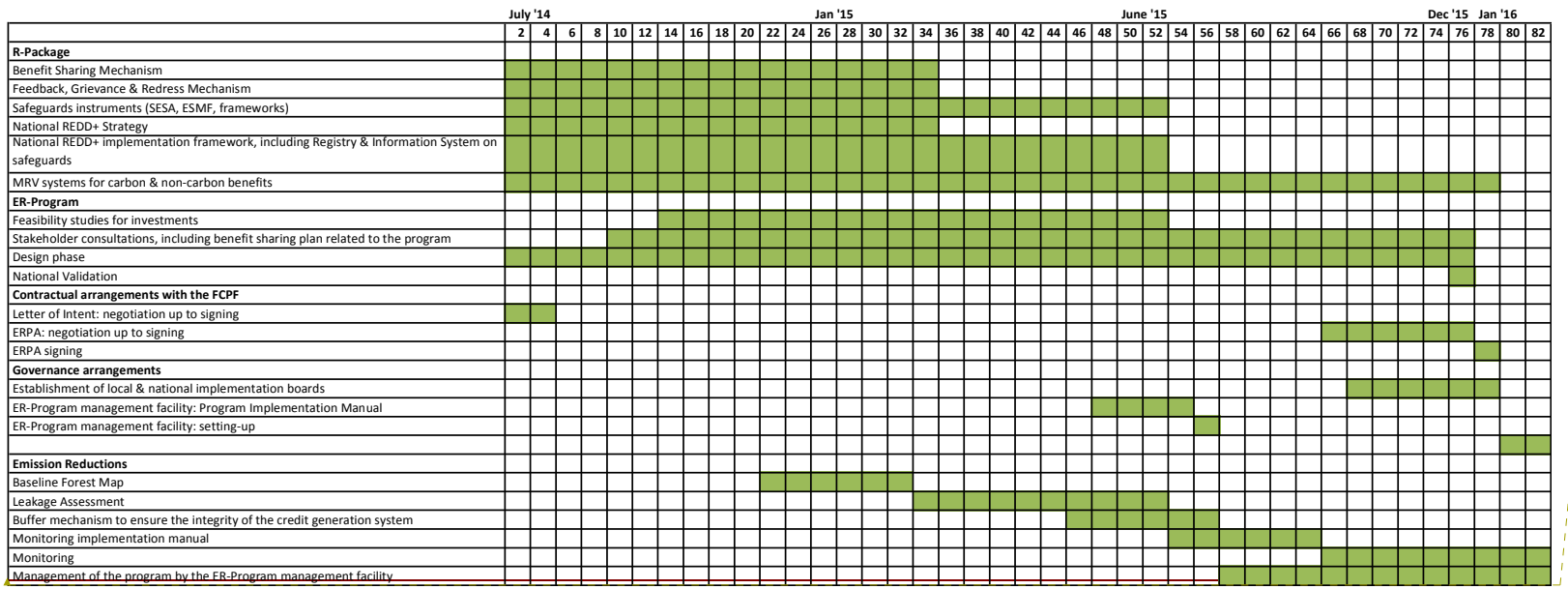
7.4 Next steps to finalize the proposed ER Program implementation design (REL/FRL, ER Program monitoring system, financing, governance, etc.). Provide a rough timeline for these steps.



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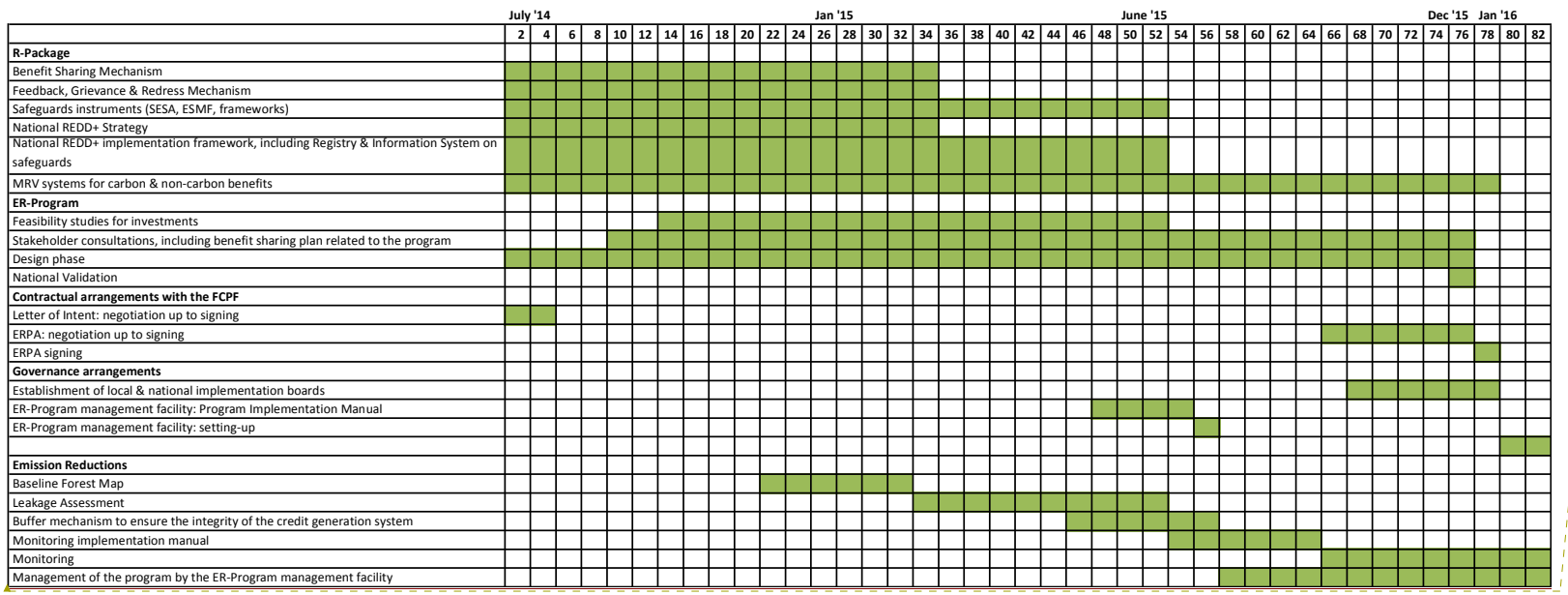

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7.5 Financing plan (in US$ million)

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 I to provide a summary of the preliminary financial plan

Expected Uses of Funds	Descriptions	Breakdown Per Year										
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Sub-Total
Program Development Costs	Support to private sector to be part of the programme (feasibility studies for investments)	0.10	0.20									0.30
	Stakeholder Consultations	0.10	0.20									0.30
	Program design	0.30	0.70									1.00
	Sub-Total	**0.50**	**1.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.60**
Operational & Implementation Costs	National REDD+ Implementation Framework Maintenance Costs (MRV, registry, information system on safeguards , feedback grievance and redress mechanism, etc.)		0.3	0.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	5.7
	Daily management of the ER-Program (support to project implementers, compliance with safeguards instruments, implementation of the benefit sharing plan, etc.)		0.3	0.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	5.7
	Oversight of the program by the national and local implementation boards			0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	1.4
	Sub-Total (fixed costs)	0.0	0.6	1.1	1.5	1.6	1.6	1.6	1.6	1.6	1.6	12.8
	Investment and performance based payments as derived from the benefit sharing plan			15.0	14.0	13.0	12.0	11.0	10.0	9.0	8.0	92.0
	Sub-Total (variable costs)	0.0	0.0	15.0	14.0	13.0	12.0	11.0	10.0	9.0	8.0	92.0
	Sub-Total	**0.0**	**0.6**	**16.1**	**15.5**	**14.6**	**13.6**	**12.6**	**11.6**	**10.6**	**9.6**	**104.8**
Financing Costs	interests on loans		0.3	0.24	0.18	0.12	0.06					0.9
	Loan reimbursement			0.4	0.4	0.4	0.4	0.4				2.0
Other Costs	Marketing (credit sales)			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8
Total Costs		**0.5**	**2.0**	**16.4**	**15.8**	**14.8**	**13.8**	**12.7**	**11.7**	**10.7**	**9.7**	**108.1**

Expected Sources of Funds	Description	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Sub-Total
Grants	Donor community (to be confirmed)			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
	AFD for the development of smallholder cocoa production (to be confirmed)			3.0	3.0	3.0	3.0	3.0				15.0
Sub-total grants		0.0	0.0	4.0	4.0	4.0	4.0	4.0	1.0	1.0	1.0	23.0
Loans	Republic of Congo		2.0									2.0
Revenues from REDD+ Activities (Verified Emission Reductions) $7.00	FCPF (payments upon delivery)			14.8	14.8	14.8	14.8	14.8				74.0
	FCPF (upfront payment: 10% of the nominal ERPA value paid in 3 instalments)			2.7	2.7	2.7						8.2
	Other markets								16.5	16.5	16.5	49.4
Sub-total Carbon revenues		0.0	0.0	17.6	17.6	17.6	14.8	14.8	16.5	16.5	16.5	131.6
Total expected sources of funds		**0.0**	**2.0**	**21.6**	**21.6**	**21.6**	**18.8**	**18.8**	**17.5**	**17.5**	**17.5**	**156.6**
Net revenues		**-0.5**	**0.0**	**5.1**	**5.8**	**6.7**	**5.0**	**6.1**	**5.8**	**6.8**	**7.8**	**48.5**

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Expected Uses of Funds	Descriptions	Breakdown Per Year										
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Sub-Total
Program Development Costs	Support to private sector to be part of the programme (feasibility studies for investments)	0.10	0.20									0.30
	Stakeholder Consultations	0.10	0.20									0.30
	Program design	0.30	0.70									1.00
	Sub-Total	**0.50**	**1.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.60**
Operational & Implementation Costs	National REDD+ Implementation Framework Maintenance Costs (MRV, registry, information system on safeguards , feedback grievance and redress mechanism, etc.)		0.3	0.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	5.7
	Daily management of the ER-Program (support to project implementers, compliance with safeguards instruments, implementation of the benefit sharing plan, etc.)		0.3	0.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	5.7
	Oversight of the program by the national and local implementation boards			0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	1.4
	Sub-Total (fixed costs)	0.0	0.6	1.1	1.5	1.6	1.6	1.6	1.6	1.6	1.6	12.8
	Investment and performance based payments as derived from the benefit sharing plan			15.0	14.0	13.0	12.0	11.0	10.0	9.0	8.0	92.0
	Sub-Total (variable costs)	0.0	0.0	15.0	14.0	13.0	12.0	11.0	10.0	9.0	8.0	92.0
	Sub-Total	**0.0**	**0.6**	**16.1**	**15.5**	**14.6**	**13.6**	**12.6**	**11.6**	**10.6**	**9.6**	**104.8**
Financing Costs	interests on loans		0.3	0.24	0.18	0.12	0.06					0.9
	Loan reimbursement			0.4	0.4	0.4	0.4	0.4				2.0
Other Costs	Marketing (credit sales)			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8
Total Costs		**0.5**	**2.0**	**16.4**	**15.8**	**14.8**	**13.8**	**12.7**	**11.7**	**10.7**	**9.7**	**108.1**

Expected Sources of Funds	Description	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Sub-Total
Grants	Donor community (to be confirmed)			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
	AFD for the development of smallholder cocoa production (to be confirmed)			3.0	3.0	3.0	3.0	3.0				15.0
Sub-total grants		0.0	0.0	4.0	4.0	4.0	4.0	4.0	1.0	1.0	1.0	23.0
Loans	Republic of Congo		2.0									2.0
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	FCPF (upfront payment: 10% of the nominal ERPA value paid in 3 instalments)			2.7	2.7	2.7						8.2
	Other markets								16.5	16.5	16.5	49.4
Sub-total Carbon revenues		0.0	0.0	17.6	17.6	17.6	14.8	14.8	16.5	16.5	16.5	131.6
Total expected sources of funds		**0.0**	**2.0**	**21.6**	**21.6**	**21.6**	**18.8**	**18.8**	**17.5**	**17.5**	**17.5**	**156.6**
Net revenues		**-0.5**	**0.0**	**5.1**	**5.8**	**6.7**	**5.0**	**6.1**	**5.8**	**6.8**	**7.8**	**48.5**

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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).

The Reference Emission Level (REL) for the Republic of Congo (RoC) is preliminary, as no formal REL has been adopted. The RoC has not yet undertaken a specific study to determine its specific REL for the purpose of the ER-Program (ER-P). This has necessitated that the preliminary REL for the ER-PIN has sourced data from a number of studies conducted for the purpose of measuring forest cover change in the RoC. Corresponding carbon stock analyses have also not yet been conducted using field measurements. The preliminary carbon stock measurements for the ER-PIN REL have been sourced from remote sensing studies conducted of RoC forests as well as in situ REDD+ project activity in the Sangha landscape.

The RoC REL will follow a number of general design principles for the ER-P REL:

- The REL ~~will be~~are based on historical analysis and supplemented with a perspective adjustment;
- The REL shall be designed to function seamlessly in the context of the RoC national MRV system
- Each administrative jurisdiction (i.e. départements) that are part of the ER-P will use a consistent approach that is established at the national level
- Methodological Framework approved by the FCPF ~~will be~~is being adhered to
- International GHG accounting norms and UNFCCC guiding principles ~~will be~~is being adhered to, including:
    - Accuracy;
    - Consistency;
    - Completeness;
    - Environmental integrity;
    - Empirical basis;
    - Objectivity; and
    - Transparency.

As a High Forest cover, Low Deforestation country, RoC will seek to adjusts its REL upwards to more accurately reflect what is believed to be consistent with its unique national circumstances. This is In accordance with the UNFCCC decision at COP 13 in Bali, Annex 2/CP.13, which states that reference levels *"…should be based on historical emissions, taking into account national circumstances*." (UNFCCC Document FCCC/CP/2007/6/Add.1). These circumstances are set forth in the National Development Plan as well as the Agriculture Sector Development Plan of Sangha and Likouala.

The RoC envisions that as it develops its formal REL during the ER-P design phase, that it will be able to integrate national inventory data to achieve Tier 3 level emissions factors for its GHG accounting. RoC will also include spatially explicit tracking of land use conversion to achieve Approach 3 level activity data.

8.1.1- Establishment of Historical Emissions

Reference Period (2000-2013)
The RoC ER-Program will calculate historical average emissions based on deforestation rates within the Départements of Sangha and Likouala between the years of 2000 and ~~2010~~2013. Compared to the version dated March 14, 2014, the Reference Period was adjusted by adding three additional years. This was done in order to capture the massive deforestation that only began in 2012 in Sangha as a result of clear felling for oil palm plantations as well as a national road works program that is being undertaken by the Chinese. Without

incorporation of this recent activity, a 2000-2010 Reference Period would not accurately depict what is actually happening in Sangha and Likouala.

Forest Definition

As aThe RoC formal definition of a forest has not yet been formalized, the forest definition set forthwas agreed to in the RoC R-PP will beMarch 2014, and is being used for the purpose of the ER-PIN. This was subsequent to a FAO and UN-REDD supported effort to assist Congo with defining forests and associated allometric equations for the purpose of REDD readiness. The work was further supported by the French Development Agency, Forêts d'Afrique Centrale Evaluées par Télédétection (FACET) and Observatoire Satellital des Forêts d'Afrique Centrale (OSFAC).

Forest Definition of the RoC	
Item	**Value**
Minimum Crown Cover (%)	1030%
Minimum Land Area (ha)	0.5
Minimum Tree Height (m)	53

As and when the Forest Definition will be formalized, updates will be provided

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Classification of Forests

The preliminary REL will stratify the forest classes for the purpose of the ER-PIN in the following land cover types:

Land Cover Types:
Primary Forest
Secondary Forests
Wetland/ Swamp Forests
Non-Forest

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As the ER-P design phase proceeds, and more detailed REL work is undertaken and additional data becomes available, the classification of forest will be expanded. A formal classification for forests is expected by the end of 2014. The preliminary REL will also divide the landscape into four different types of Land use change activities that will be able to be over-laid over forest types and assist with a more detailed stratification of the ER-P landscape in Sangha and Likouala.

The land use change activities are:and their sources of data for the 2000-2013 historical reference emission level are:

1. Unplanned Deforestation
2. Planned Deforestation
3. Unplanned Degradation
4. Planned Degradation

Land Use Change Activity	Source of Data
Unplanned Deforestation (REL_{UNDEF})	2000-2010 FACET remote sensing data complemented with extrapolated data for 2011-2013.
Planned Deforestation (REL_{PLDEF})	Palm oil activities launched since 2011 as confirmed by the Ministry of Agriculture
Unplanned Degradation (REL_{UNDEG})	*Not included at this time*
Planned Degradation (REL_{PLDEG})	2002-2011 harvesting data submitted to the MEFDD for tax and compliance purposes and extrapolated data for 2000-2002 & 2011 – 2013; the later will be updated during the ER-P design phase.

This stratification system for the preliminary REL will allow the RoC to provide sufficient detail to be able to understand what a realistic REL will look like while also being able to target locations for potential mitigation activity.

Activity Data & Emission Factors

To determine the historical GHG emissions that have resulted from, for example, the deforestation activity 'Land Cover Type being converted to non-forested area', activity data and emission factors needs to be developed and used.

FCPF Carbon Fund Methodological Framework ~~-~~ – Definitions Annex 2	
Activity Data	Data on the magnitude of human activity (e.g., land use and land use changes related to forests) resulting in emissions or removals taking place during a given period of time
Emission Factors	A coefficient that quantifies the emissions or removals of a gas per unit activity.

The RoC, as part of the Congo Forest Basin, has sufficient research activities and studies conducted in regards to its forest ecosystems to be able to draw from a number of sources in order to identify potential activity data and emission factors. It should be noted, that there is variability in these data sources as most studies have generally taken slightly different methodological approaches to their individual research. This has resulted in some variability of data. For example, although a number of studies have been conducted as part of the REDD+ Readiness activity to determine forest carbon stock or land use cover change in the forests of the RoC and the Congo Basin area, because of the different approaches and lack of agreement on fundamental factors such as forest definition, how many land cover types were identified, etc., the results can only be understood within a range. However, as the ER-PIN process moves forward in the RoC, it is expected that this variability will be reduced as forest definitions, allometric models, national inventories with permanent sample plots (PSPs), and forest classification are formalized and validated by the Ministry of Forest Economy and Sustainable Development (MEFDD). Furthermore it is anticipated that future REL studies, conducted during the ER-P design and implementation phase will provide increased precision in relation to activity data and emission factors.

The following Emission Factors for forest carbon biomass have been identifies from the scientific literature and available appropriate forest data within the RoC:

Forest Cover Classification	Source	Emission Factor (tC/ha)
Primary Forest		
	North Pikounda REDD+ (NPR+) VCS Program Document Inventory (AGB only)	149.05
	Saatchi *et al* 2011 (AGB+BGB)	162.00
	Zapfak *et al* 2013 (AGB only)	123.76
Secondary Forest		
	Zapfak *et al* 2013 (AGB only)	118.60
Wetland/Swamp Forest		
	Zapfak *et al* 2013 (AGB only)	88.49

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The RoC ER-Programme, in its REL accounting, has chosen to only use above ground biomass (AGB) values. Below ground biomass (BGB) as a carbon pool was excluded not only because it is considered conservative to do so, but also because many current ~~many~~ available AFOLU methodologies, only include ~~ABG.~~AGB (this will not impact the biochar activity as it is accounted for through the "deadwood pool" and not the "soil pool").

In regards to the choices for emission factors that were chosen for primary forest cover, secondary forest cover and wetland/swamp forest, values were chosen that can best represent the forests of the North of the Republic of Congo while also being conservative.

Primary Forest Cover values provided in the literature, that is Saatchi *et al* 2011, was not chosen for the following reasons:

1. provides per hectare carbon values that included both AGB and BGB;
2. provides per hectare carbon values fundamentally based on remote sensing studies with limited to no inventory plots being used to substantiate the given values;
3. provides per hectare carbon stock values that are representative of the entire country of RoC which means that the forest structure of the south of the country (where the forests are not as dense) were included in the overall value. This produces a mean value for the entire country and is less representative of the départements of Sangha and Likouala.

The values for above ground carbon stock in Zapfack *et al* 2013 were considered to be a viable option because they were values that were derived from actual *in situ* measurements. The forest structure of the Zapfack plots are the same geographical zones as the Sangha & Likouala landscape, that is:

1. the same rainfall zone as Sangha & Likouala (1,500 mm per year),
2. the same phytogeographic plan as the Sangha & Likouala department; it is a transitional forest between the evergreen forest of *Dja* and semi deciduous forest of *Malvaceae* and *Ulmaceae* (Letouzey, 1985);
3. is located in the Northwest of the Congolese basin slope, and is a part of the Congo basin; and
4. is not separated from the Sangha and Likouala landscape by any geographical barriers that would inhibit the ecological continuum.

However, for the sake of transparency, it must be noted that Zapfack's Libongo project site, where each of the thirteen 2.5 km transects were established for sampling purposes, were across the border in Cameroon; however, none by more than 5km. It is therefore maintained that the AGB data acquired by Zapfack are scientifically representative of the Sangha and Likouala landscape.

The ER-PIN has also chosen to use AGB values from the VCS validated and verified North Pikounda REDD+ (NPR+) project as being representative of the Sangha and Likouala landscape. The North Pikounda forest can be considered to be representative of primary forests in the landscape as it is a *terra firma* mixed forest. The vegetation is arranged as a heterogeneous patchwork within the lowland semi-deciduous forests, (and) is widely extended in the Northern Republic of Congo (Gillet 2013). The NPR+ project undertook detailed carbon stock inventory activities validated not only by the RoC, but also passing third party scrutiny of the VCS independent verification process. The NPR+ forest is also understood to not be the densest of the Primary Forests of the CIB concessions in the Sangha and Likouala landscape, and therefore can be considered a conservative approximation of primary forests in the project landscape.

The ER-PIN therefore will use a mixture of NPR+ and Zapfack values for its emission factors to represent the landscape of the northern Congo in the preliminary REL for the ER-PIN.

Forest Cover Classification	Source	Emission Factor (tC/ha)
Primary Forest		
	North Pikounda REDD+ (NPR+) Inventory (AGB only)	149.05
Secondary Forest		
	Zapfak *et al* 2013 (AGB only)	118.60
Wetland/Swamp Forest		
	Zapfak *et al* 2013 (AGB only)	88.49

The preliminary ER-PIN REL has chosen to use data from the Forêts d'Afrique Centrale Evaluées par Télédétection (FACET) project (Patapov, Turubanova, Hansen et al, 2012). The FACET project was led by Observatoire Satellital des Forêts d'Afrique Centrale (OSFAC) in collaboration with South Dakota State University and the University of Maryland, and supported by USAID CARPE with additional support provided by World Resources Institute. The FACET project was established for determining land-use change between 2000 and 2010. Although, it may not be considered the optimal data set to use, in part because of its broad of a definition of secondary forest, which means that deforestation could be underestimated, and also because of its use of composite data sets. However, its use will lead to conservative estimations, which is desirable. The ER-Program may use a different data set in the establishment of the formal REL in the future.

The ER-Program location in the Sangha and Likouala, as part of the FACET work was determined to have the following land area and forest cover:

	Total Land Area (ha)	Percentage of Forest Cover (2010)
Likouala	6,575,414	95%
Sangha	5,787,675	99%
Likouala & Sangha	12,363,089	97%

Historical Unplanned Deforestation

The historical data regarding unplanned deforestation stems from the FACET data set which is limited to no later than 2010 remotely sensed data. As oil palm deforestation (i.e. clear felling) and active road building by the Chinese only began in 2012 and 2011 respectively, the impacts of planned deforestation from 2011-2013 fail to be captured. As there is no 2011-2013 unplanned deforestation data available, the preliminary REL will extrapolate the average emissions over 10 years to be applied for the period 2011-2013. The planned deforestation from oil palm and roading for 2011-2013 will be accounted for below under Historical Planned Deforestation.

Forest Cover Loss Rate (2000-2010) from FACET for the preliminary REL:

	Total Loss 2000-2010 (ha)	Loss Rate 2000-2010 (%)	Average Annual Loss 2000-2010 (ha)	Emission Factor (tC/ha)	Annual Emissions (tC)	Annual Emissions (tCO2e)
Likouala	**30,697**	**0.49**	**3,070**		**391,969**	**1,438,524**
Primary Forest	17,276		1,728	149.05	257,499	945,021
Secondary Forest	5,294		529	118.16	62,554	229,573
Wetland/Swamp Forest	8,127		813	88.49	71,916	263,931
Sangha	**13,753**	**0.24**	**1,375**		**180,252**	**661,527**
Primary Forest	7,575		758	149.05	112,905	414,363
Secondary Forest	4,273		427	118.16	50,490	185,297
Wetland/Swamp Forest	1,905		191	88.49	16,857	61,866
Totals	**44,450**		**4,445**		**572,221**	**2,100,051**

It is worth noting that there is a visible trend in the increase of forest cover loss in the measured periods between 2000-2005 and 2005 and 2010 for both départements, such that the increase in forest loss is not linear but instead rises sharply during the two time periods within the reference period.

	Total Loss 2000-2005 (ha)	Loss Rate 2000-2005 (%)	Average Annual Loss 2000-2005 (ha)	Total Loss 2005-20010 (ha)	Loss Rate 2005-2010 (%)	Average Annual Loss 2005-2010 (ha)
Likouala	**9,667**	**0.15**	**1,933.40**	**21,030.00**	**0.33**	**4,206.00**
Sangha	**5,595**	**0.10**	**1,119.00**	**8,158.00**	**0.14**	**1,631.60**

As no remotely sensed data is available at this time for the period of 2011 – 2013, data for the 2011 – 2013 period are extrapolated on a conservative basis and set as 2,100,051 tCO2 per annum. It is anticipated that the RoC would acquire 2011-2013 remotely sensed data prior to and during the design phase (this data would also support the substantiation of historical planned deforestation activity as well)

Reference Level Calculations

The basic steps involved in calculating a REL are as follows, and shall be followed for the RoC ER Program. The Sangha and Likouala départements have been calculated separately as has deforestation and degradation, which is consistent with accepted GHG accounting practices as well as the FCPF Methodological Framework. They ~~will be~~are added together to yield a total adjusted REL for the entire ER-Program area.

The calculating of the Congo historical REL in regards to unplanned deforestation (REL_{UPLDEF}) ~~will be~~is conducted in the following manner.

1. Application of the appropriate historical reference period (2000-2013) as per the FCPF Methodological Framework;
2. Stratification of the ER-P area according to appropriate land-use and land-cover types;
3. Calculate historical emissions for each land-cover type with data acquired from remote sensing-based land-use/land-cover change detection systems (during design and implementation ground truthing will take place with the establishment of PSPs);
4. Application of the chosen emission factors to each land cover type and calculate for CO_2e per stratum
5. Aggregate CO_2e emissions to achieve a single estimate for CO_2e emissions throughout the historical reference period;
6. Calculate the average yearly CO_2e emission by dividing the aggregate emissions by the number of years reference;
7. Calculate the adjustment to REL based on the guidance in the Methodological Framework.
8. Add the average yearly CO_2e emissions to the adjustment of the REL to yield an adjusted REL for the ER-Program.

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Historical Planned Deforestation and Degradation

The calculation for the historical degradation portion of the ER-Program will be conducted in a similar manner as above but will also include stratification of the active forest concession areas, and will be modeled using official RoC timber harvesting data, including transformation rates, ~~lumber recover factors, proportion of~~ logs exported ~~or transformed~~ and the appropriate emission factors. RoC specific data will be used where possible, and IPCC default values only when necessary. All carbon values are for AGB only.

Historical Planned Deforestation and Degradation is deforestation or degradation on forest-lands that are legally authorized and documented to be converted to non-forest land, and have already occurred.

Historical Planned Degradation: This is selective logging activity that has happened in the past where a legally authorized Forest Management Plan (FMP) has been followed. This activity can be monitored through a number of means including documentation of exported logs and transformed sawnwood.

Historical Planned Deforestation: This is activity that has been legally authorized (infrastructure development, oil palm plantations, macro-agriculture area, etc) and results in the clear felling of forest area to allow the planned activity to be undertaken. This activity can be monitored both by remote sensing and through other documented means.

The following historical activity data and emission factors were used in calculating the preliminary REL for historical planned degradation (REL_{PLDEG}) in the ER-PIN. ~~If~~As more appropriate data becomes available in the future, the ER-Program would utilize such data in its REL analysis during the design phase.

Concessions of Sangha	Owner	Size (ha)	Total Harvest Volumes 2000-~~2010~~2013 (m3)
Pokola	CIB	377,550	-1,~~196,061~~ 399,033.69
Pikounda Nord	CIB	92,530	~~0~~ -
Kabo~~Ngombe~~	~~IFO~~CIB	~~1,351,600~~267,048	~~2,179,971~~ 1,172,401
Ngombe~~Kabo~~	~~CIB~~IFO	~~267,048~~1,351,600	~~1,034,230~~ 2,757,497
Tala-Tala	SIFCO	~~448,000~~621,120	~~199,916~~ 330,822
Jua-Ikie	SEFYD	671,336	~~191,180~~ 271,371
	Total	**3,~~208,064~~381,184**	**~~4,801,358~~ 5,931,124.82**

Concessions of ~~Likouala~~Sangha	Owner	Size (ha)	Total Harvest Volumes 2000-~~2010~~2013 (m3)
~~Betou~~Ngombe	~~Likouala Timber~~IFO	~~525,000~~1,351,600	~~685,401~~ 2,757,497
~~Missa~~Tala-Tala	~~Likouala Timber~~SIFCO	621,120	330,822
Mokabi-Dzanga	~~Mokabi~~MOKABI SA	370,500	~~872,154~~1,146,411
Missa & Betou	Likouala-Timber	525,000	886,649
Mimbeli	-ITBL	322,000	~~364,578~~430,390
Loubonga	Cristal	213,000	310,960
Lopola	BPL	199,900	~~456,365~~563,241
~~Ipendja~~	~~Thanry Congo~~	~~461,296~~	~~328,937~~
~~Enyelle Ibenga~~	~~Not Active~~	~~Not Active~~	~~Not Active~~
Loundoungou-Toukoulaka*	CIB	552,676	1,~~085,253~~233,838
~~Mobola Mbondo~~	~~Bois Kassa~~	~~105,000~~	~~19,969~~
	Total	**2,~~536~~749,372**	**~~3,812,657~~5,013,307**

Further details concerning the accounting for Total Harvest Volumes can be found in Appendix 6.

Variable	Value	Unit
Volume of extracted timber during the baseline period	**~~8,041,199~~10,944,432**	**m³**
Wood density value	**0.6**	**wood specific gravity - dimensionless**
BEF	**1**	**-**
Default carbon fraction value	**0.49**	**t/C**
Stand damage factor	**0.7**	**tC / m³ extracted**

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Total Area of timber concessions	**~~5,744,436~~6,130,556**	**ha**
Carbon to CO_2e factor	**3.67**	**~~Dimensionless~~**
~~Adjustment for Harvested Wood Products based on National Circumstances~~		
~~Exported Logs~~	**~~40%~~**	**~~Percentage of round Logs~~**
~~Transformed Logs~~	**~~60%~~**	**~~Percentage of Sawn wood~~**
-		
~~Lumber Recovery factor~~	**~~40%~~**	**~~Percentage of volume from round Logs post-transformation~~**
-		
~~Baseline emissions~~ Historical Planned Degradation (logging ~~(~~) 2000-~~2010)~~2013	**~~4,069,114~~11,808,823**	**tCO_2e**
~~Baseline emissions~~ Historical Planned Degradation (Stand Damage, log landings, logging roads, infrastructure, etc) (2000-~~2010~~2013)	**~~20,657,840~~28,116,245**	**tCO_2e**
Total Historical Baseline emissions 2000-~~2010~~2013	**~~24,726,954~~39,925,068**	**tCO_2e**
Annual Historical Baseline emissions (REL_{PLDEG})	**2,~~472,695~~851,791**	**tCO_2e**

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*This value is used to extrapolate planned degradation for 2011-2013 until the most recent harvesting data becomes available from the MEFDD for the years in question.

Details of the calculations are provided in Appendix ~~4~~6.

Unplanned Degradation

The RoC did not conduct any calculations for the preliminary REL for unplanned degradation, as there is a lack of reliable data. In doing so, the overall REL will further remain conservative. Unplanned degradation ~~will~~could be included, if ~~possible for~~technically feasible, during the ~~formal~~ ER-Program ~~REL~~design phase.

Historical Planned Deforestation

The REL for historical planned deforestation looked at the two major components of planned deforestation in the Sangha and Likouala Départements, infrastructure development, which is primarily road construction and large-scale deforestation from the re-establishment of the oil palm sector. ~~Planned~~Historical planned deforestation for the ER-P can be supported by formal evidence of planned deforestation, such as management plans, the National Development Plans, the Agriculture Sector Development Plans, ~~etc.~~and actual on the ground verification (e.g. see section 5.1, p 17 for photographic evidence of land clearing for oil palm).

The RoC preliminary ER-Program REL estimates of historical planned ~~future~~ deforestation (REL_{PLDEF}) are calculated as follows:

1. Application of the appropriate historical reference period as per the FCPF Methodological Framework
2. Estimate the land area for each infrastructure type to be deforested;
3. Calculate the planned area of deforestation by the appropriate emission factor;
4. Aggregate estimated emissions from the various sectors to provide total emissions from planned deforestation; and

5. Calculate the total emissions for the area to be deforested by the time period required for completion of the planned deforestation;

Oil Palm (ha)		
Sangha Palm	58,000	Secondary Forest
~~ATTAMA~~ATAMA	189,489	Primary Forest
Roads (km)		
Sangha	300	Primary Forest
Likouala	200	Primary Forest

The Government has contracted with the Malaysian company ATAMA Plantations, with a view to the large-scale production of palm oil. An area of 480 000 hectares has been granted to ATAMA, of which 189,489 are located in Sangha. Deforestation of both Sangha Palm and ATAMA has commenced and is expected to be complete prior to the end of 2020.

It has been estimated that yearly emissions from the oil palm land clearing is currently releasing 8.22 million tonnes of emissions annually, with another .15 million emissions stemming from the national road projects that cut wide swathes through the forested north. However, the combined 8.37 million tonnes of emission is only partially captured in the REL as the large scale deforestation only began in 2012 at the end of the Reference Period. The result is that, because the REL uses a historical average, only 1.21 million tonnes of emissions reductions for two years is accounted for in the REL (see page 45 for the table related to Historical Deforestation).

The calculations supporting historic planned deforestation are set forth in Appendix ~~5~~7.

Uncertainty Calculations

An uncertainty analysis, in accordance with Methodological Framework and accepted best practices will also be undertaken for all of the appropriate aspects of the REL accounting.

REL Aggregation

The preliminary REL components will be aggregated to achieve a single historical REL for the Sangha and Likouala Départements using the following formula:

$$\text{Preliminary ER-Program Historic REL} = REL_{UNDEF} + REL_{PLDEF} + REL_{PLDEG}$$

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Adjustment of the REL – Future Deforestation and Degradation

It is a well understood concept that there should be an adjustment of the reference emission level based on consideration of national circumstances as agreed to at COP 14 in Poznan where it was decided in Decision 4/CP.15:

"Recognizes that developing country Parties in establishing forest reference emission levels and forest reference levels should do so transparently taking into account historic data, and adjust for national circumstances…"
UNFCCC Document FCCC/CP/2009/11/Add.1

For the below reasons, which cannot be captured in the historical forest based REL, the RoC requires that its REL for the ER-Program be adjusted upwards to capture the increased pressures that will be placed on the forests of Sangha and Likouala as a result of economic growth, population growth and expansion of the mining and agriculture sectors.

The RoC proposes an adjustment of the REL ~~should by~~of 0.1% of the 2010 forest carbon stock~~ of 2010~~, which equals 5.11 million tonnes of CO_2e per annum. As demonstrated below, this is in fact below what is actually anticipated to occur as set forth in the National Development Plan and the Agriculture Sector Development Plan (PDSA) for Sangha and Likouala.

Strong Economic Growth

With the end of Civil War and the ensuing peace, stability has come to the RoC as well as economic growth. In economic terms, achievements can be characterized by sustained growth of the order of 7.0 percent, while inflation is being kept within a reasonable standard (~3 percent). Economic expansion leapt to over 10% in 2013, as the country is racing economically forward. These achievements enabled the Republic of Congo to reach the HIPC Initiative completion point in January 2010, which led to the cancellation of approximately CFAF 3,000 billion of Congo's debt, or close to one-third of its GDP, which will further assist the rapid development of the country.

Urban and Population Growth

The Population of the Republic of Congo is growing rapidly and is estimated to be expanding at ~~3.5% (PND~~2.8% for Sangha and 5.1% for Likouala (RGPH-2007).

Year	Likouala	Sangha
2007	154,115	85,738
2010	~~170,870~~178,917	~~94,235~~93,144
2015	~~202,940~~229,254	~~110,309~~106,935
2020	~~241,029~~294,225	~~129,125~~122,768
2025	~~286,266~~377,306	~~151,150~~140,945
2035	~~403,807~~620.470	~~207,112~~185,722

This type of rapid population growth will have a substantial impact on the forests, as the population grows and the need to increase subsistence agriculture expands in parallel. Considering the current agriculture methods of slash and burn, and the near absolute lack of agriculture inputs, combined with the fact that in Sangha and Likouala, forests make up respectively 99% and 95% of the landscape, more and more forests can be expected to be converted to agriculture. This is further verified by the Agriculture Sector Development Plan (PDSA) of Sangha and Likouala that indicates that there will be need to substantially increase the areas dedicated to the subsistence cultivation of maize and cassava (the two major staple subsistence agriculture crops) to accommodate what is expected to be a doubling of the population in the ~~early~~mid 2020's.

Expected Development of Mining

Congo Iron project in the western part of Sangha is well advanced, and although no ground has been broken and extensive EIA has been undertaken and it is likely that the final permits required for large-scale operations could be received and the project operationalized prior to 2020. The Nabeba project in Sangha will consist of a USD $2 billion investment and is expected to produce 20 million tonnes of ore per year. It is expected that 3,000 ha~~,~~ will be deforested for the Nabeba mine by Congo Iron

Additional extensive mineral resources have been identified throughout Sangha and Likouala province as set forth below.

Resources	Location
Iron	Sangha
Gold	Sangha & Likouala
Diamonds	Sangha & Likouala
Titanium	

In order to further boost the mining sector The Government has, by decree, established two new institutions that will be key actors in the management of the sector and that will make it possible to develop the Congo's geological and mining potential. The first is the *Centre de Recherché Géologique et Minière (CRGM)* (Geological and Mining Research Centre). It is tasked with conducting research to collect more data to improve knowledge of the subsoil and to develop maps in accordance with international standards. The CRGM will put in place the geological and metallogenic cartography of the Congo by

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using airborne geophysical and satellite techniques and will contribute to the development of the exploration results in view of the promotion and development of the mining sector. The Government has also established a *Bureau d'Expertise, d'Evaluation et de Certification des Substances Minérales Précieuses* (Office for the Expertise, Assessment and Certification of Precious Minerals). Its mission is to catalogue the mineral wealth of the country and to organize the certification process to develop and market this wealth (National Development Plan of Congo *DSCERP 2012-2016)*

As a result of the above known mining area, it is anticipated that this will result in an additional .991 million tonnes of CO^2e being released between 2015-2020, as three thousand hectares are cleared for the iron mining activities over a three year period.

Expansion of the Agriculture Sector Including the Oil Palm Sector

The government of the RoC have a clear strategy which was set forth in 2012 by the Agriculture Sector Development Plan (PDSA) to advance the agriculture sector in the Sangha Département, particularly in respect to soya, cassava and oil palm as is evidenced by the Agriculture Sector Development Plan (PDSA) of Sangha~~.~~ (see section 5.1 above). In addition to the current ATAMA ~~plantation~~and Sangha Palm plantations, a 133,513 ha plantation is planned in the Sembe district. While an additional 200,398 ha of macro-agriculture zones have been delineated north of Sembe on the Cameroonian border. The PDSA indicates that these areas will be in production by 2035. However, as a new two lane high speed modern roadway has just been completed to link this area with the départemental and national capitols, this cold happen much sooner and possibly by 2020.

As a result of the above oil palm and macro-agriculture areas, it is anticipated that this will result in an additional 5.5 million tonnes of CO2e being released annually between 2015-2035.

The calculations supporting the Adjustment of the REL from deforestation in the agriculture and mining sector are set forth below in ~~Appendix 6~~Section 8.2.

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.

The Republic of Congo, as a high forest cover, low deforestation rate country, meaning that its long-term historical deforestation has been minimal across the entirety of the country and that at the same time high forest cover has been maintained. In the Sangha and Likouala départements, this is 99% and 95% respectively. However, as set forth in ~~section~~sections 5.1 & 8.1, national circumstances are changing rapidly and the actual rate of deforestation, if one were to use only the historical reference period, would not be accurate~~.~~ as it would not reflect the actual increasing pressure upon the forests. As the reference period is limited to the period of 2000~~-2010, as more recent data and deforestation studies do not exist for the past several years~~2013, numerous realities are excluded~~.~~ :

- Expansion of subsistence cassava, soya and maize fields to accommodate population growth;

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- The planned expansion of macro agriculture and oil palm plantations;
- The doubling of the population by ~~2035~~2032 from 2010; ~~and,~~
- The expansion of the timber market as a result of increased demand in a post-2008 economy; and,
- The planned expansion of the mining sector.

The Republic of Congo is entitled, according to the methodological framework of the FCPF, to adjust its annual historical emissions during the reference period by up to 0.1% of carbon stocks. ~~In fact, looking~~

Justification of High Forest Cover, Low Deforestation (HFLD) Status

A developing country with more than 50% forest cover and a deforestation rate below 0.22% per year is considered to fall into the High forest cover, low deforestation category as defined by Gustavo *et al.* (2007).

The Republic of the Congo is one of the most heavily forested nations on the African continent as dense forest covers over 21 million hectares or about 65 percent of the nation's land mass. Deforestation rates when measured historically are low. FAO statistics from the Global Forest Resource Assessment 2010 state that Congo had a deforestation rate of 0.07% between 2000 and2005 and a deforestation rate of 0.08% between 2005 and2010.

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Planned Deforestation – Mining, Macro-Agriculture, Sembe Palm

Looking at Sangha alone, and including just the expansion of the oil palm industry in the Sembe area, the macro agriculture zones in Sembe and the Congo Iron deforestation activity in Souanké, the adjustment would be 5.56 million tonnes per annum~~.~~ based on the same emission factors used for the historical reference period.

Forest Cover Type & Related Emission Factors		
Likouala	**Percentage of Forest Cover**	**Emission Factor (tC/ha)**
Primary Forest	39%	149.05
Secondary Forest	1%	118.16
Wetland/Swamp Forest	61%	88.49
Sangha		
Primary Forest	59%	149.05
Secondary Forest	2%	118.16
Wetland/Swamp Forest	39%	88.49

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Forest Cover Type & Related Emission Factors		
Likouala	**Percentage of Forest Cover**	**Emission Factor (tC/ha)**
Primary Forest	39%	149.05
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Secondary Forest	2%	118.16
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Anticipated Emissions from future planned deforestation

Sangha							
Mining	**Planned Forest Cover Loss**	**Primary Forest**	**Secondary Forest**	**Swamp Forest**	**Total C**	**Total CO2e until from 2015-2020**	**Annual CO2e Emissions 2015-2035**
Congo Iron (max 3 years of Deforestation, and all prior to 2020)	3,000	1,764	51	1,185	270,270	991,890	165,315
						-	-
Agriculture		-				-	
Macro Agro Zone 1	133,253	78,370	2,261	52,622	12,000,913	44,043,351	2,202,167.56
Macro Agro Zone 2	67,144	39,489	1,139	26,515	6,047,107	22,192,883	1,109,644.15
						-	-
Oil Palm Sembe	133,513	78,523	2,266	52,725	12,024,329	44,129,287	2,206,464.35
TOTALS	**336,910**					**111,357,411**	**5,567,870.57**

In addition to the above noted planned deforestation, further planned deforestation from the ATAMA, Sangha Palm plantations and roading will continue to occur. As only 1.21 million tCO2e was included in the Historical REL, the remainder 7.16 million tCO2e can be applied to future planned deforestation, bearing in mind that this is not double counting, as these emissions have not been accounted for in the historical REL. They are included in the below aggregation of future deforestation for the purpose of calculating the upward adjustment of the REL.

The départemental percentages of forest cover were used as a guide to determine the type and classification of forest cover in a corresponding ratio in order to determine the rationalization of the adjustment to the REL. ~~It should be noted that Congo Iron is expected~~I Deforestation was assumed to ~~deforest during~~ be completed by 2020 for the ~~early years of the ER Program~~mining component and ~~that the planned~~ by 2035 for oil palm and macro-agriculture ~~deforestation will happen over a longer time frame but before 2035. See Appendix 5 for further details about the anticipated agriculture expansion.~~.

Sangha							
Mining	**Forest Cover Loss**	**Primary Forest**	**Secondary Forest**	**Swamp Forest**	**Total C**	**Total CO2e until 2015-2020**	**Annual CO2e Emissions 2015-2035**
Congo Iron * (max 3 years of Deforestation, and all prior to 2020)	3,000	1,764	51	1,185	270,270	991,890	165,315
						-	-
Agriculture		-				-	
Macro Agro Zone 1	133,253	78,370	2,261	52,622	12,000,913	44,043,351	2,202,167.56
Macro Agro Zone 2	67,144	39,489	1,139	26,515	6,047,107	22,192,883	1,109,644.15
						-	-
Oil Palm Sembe	133,513	78,523	2,266	52,725	12,024,329	44,129,287	2,206,464.35
TOTALS	**336,910**					**111,357,411**	**5,567,870.57**

~~However, the maximum adjustment of the REL, of 0.1% of the forest carbon stock of 2010, equals 5.11 million tonnes of CO_2e per annum. It must be remembered that this is without including any adjusted development rates for the Likouala département, which means the value provided is conservative.~~

Unplanned Deforestation - Expansion of subsistence agriculture Maize & Cassava

The adjustment is further calculated by estimating the population expansion between 2014 and 2020 in order to account for deforestation caused by expansion of subsistence slash and burn agriculture. The following assumptions are used to model the impact of increasing populations on deforestation trends:

- 177,140 additional persons, or an annual average of 29,523 persons between 2014-2020.
- Agriculture employs 40% of the workforce
- Families average 7 person and each family deforests 3 ha every 3 years

The result is that every year an additional 1,687 ha are deforested, and that this cumulatively amounts to 6.46 million tCO_2e emission between from 2014-2020, or 0.92 million tCO_2e per year.

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See Appendix 7 for further details about the anticipated agriculture expansion.

The annual averages of unplanned and planned deforestation are then combined to yield an annual upward adjustment of the REL by 13.65 million tCO_2e per year. As this amount exceeds the 5.11 million tCO_2e allowed when calculating 0.1% of carbon stock, the final upward adjustment stood at 5,112,412 tCO_2e per year.

The Republic of Congo therefore will ~~adjusts~~adjust its baseline by 5.11 million tonnes of CO2e per year in addition to the historical (2000-2013) baseline of ~~4,57~~6.16 million tCO_2e ~~historical rate and~~per year. The aggregated REL with the ~~planned deforestation rate of 12.94~~upwards adjustment is 11.38 million tCO_2e per year.

~~REL Component~~	~~Annual REL (tCO2e)~~
~~Unplanned Deforestation (REL_{UPLDEF})~~	~~2,100,051~~
~~Planned Degradation (REL_{PLDEG})~~	~~2,472,695~~
~~Planned Deforestation (REL_{PLDEF})~~	~~8,367,937~~
-	
~~Aggregated Sangha & Likouala REL~~	~~12,940,683~~
-	
~~Adjustment to REL (0.1% of 2010 carbon Stock)~~	~~5,112,412~~
-	
~~**Total Aggregated Sangha & Likouala REL including HFLD Adjustment**~~	~~**18,053,095**~~

Historical Emissions from 2000-2013 and the annual average used for the REL

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average Annual Historical Emissions
Unplanned Deforestation (REL_{UPLDEF})	2,100,051	2,100,051	2,100,051	2,100,051	2,100,051	2,100,051	2,100,051	2,100,051	2,100,051	2,100,051	2,100,051	2,100,051	2,100,051	2,100,051	2,100,051
Planned Degradation (REL_{PLDEG})	2,851,791	2,851,791	2,851,791	2,851,791	2,851,791	2,851,791	2,851,791	2,851,791	2,851,791	2,851,791	2,851,791	2,851,791	2,851,791	2,851,791	2,851,791
Planned Deforestation (REL_{PLDEF}) *Oil Palm*	0	0	0	0	0	0	0	0	0	0	0		8,215,989	8,215,989	1,173,713
Planned Deforestation (REL_{PLDEF}) *Roads*	0	0	0	0	0	0	0	0	0	0	0	151,948	151,948	151,948	32,560
														Total	**6,158,115**

Planned Deforestation includes both land clearing from oil palm and the roads, however, the road works began a year before the oil palm activity and as such it is shown separately. The combined values equals 1,206,273 tonnes of emissions per year.

Historical REL 2000-2013	**Average Annual REL (tCO2e)**
Historic Unplanned Deforestation (REL_{UPLDEF})	2,100,051
Historic Planned Degradation (REL_{PLDEG})	2,851,791
Historic Planned Deforestation (REL_{PLDEF})	1,206,273
Total Aggregated Sangha & Likouala Historical REL	**6,158,115**
Adjustment to REL (0.1% of 2010 carbon Stock)	**5,112,412**
Total Aggregated Sangha & Likouala REL, including HFLD Upward Adjustment	**11,270,527**

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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.

The MRV system ER-Program in the Sangha and Likouala will be developed in accordance with Decision 4/CP.15 Copenhagen on methodological recommendations for activities relating to reducing emissions from deforestation and forest degradation, the role of conservation, sustainable management of forests and increasing forest carbon stocks. The REDD+ National Coordination of the Republic of Congo will also follow:

- The Good Practice Guidelines established by the IPCC in 2003;
- 2006 IPCC Guidelines for National Greenhouse Gas Inventories;
- Technical recommendations made in 2009 by the Executive Secretariat of the UNFCCC;
- The guidelines set forth in the FCPF Carbon Fund Methodological Framework.

The MRV system will meet the 5 key principles of the IPCC: consistency, accuracy, transparency, comparability and completeness.

The MRV system will consist of three key components:

1. to collect on activity data from satellite land monitoring system;
2. to gather information for obtaining emission factors, through the national forest inventory; and
3. to provide emissions and removals estimates for the national GHG inventory.

A definitive system for monitoring of forest cover, assignment of the forest cover changes and monitoring changes in carbon stocks in the various different forest carbon pools will be chosen in the design phase. The results will reflect and be determined by the continuing national process of formalization of the definition of forest classes, allometric equations, and other activity data and emissions factors.

The Republic of Congo is part of the regional MRV program supported by the Congo Basin Forestry Fund (CBFF) and the World Bank, which aims at developing the national MRV system. FAO is supervising the overall implementation of the program. The National Institute for Space Research (INPE) of Brazil is a partner of this initiative and has already established a strong relationship with the Republic of Congo. As a result of the program the Republic of Congo is in a situation to have an operational MRV system by the time the ER-Program begins. The Republic of Congo is considering developing its own MRV system in close cooperation with INPE, which would be very similar to TerraCongo, developed in DRC.

In case of delays of the operationalization of the MRV system, a fall back option would be to rely upon the capability of Observatoire Satellital des Forêts d'Afrique Centrale (OSFAC) during a transition period.

Within the CN-REDD an expert is dedicated to the MRV component of the REDD+ process. This expert is in regular contact with the CBFF regional MRV program and is currently assessing the modalities of cooperation with the following organisations:

- Laboratory Geomatics of CNIAF;
- The Technical Unit of CNIAF;
- Decentralized CN-REDD in three departments whose Sangha and Likouala cells;
- The Centre for Geographical Research and Cartography Production (CERGEC) under the Ministry in charge of Scientific Research;

- The Forest Trust Planning Cells of forestry companies;
- The Marien NGOUABI University where experts work in calculating biomass;
- The departmental authorities;
- Civil society (local and indigenous communities, national and international NGOs).

A critical aspect of the MRV system would be the strict adherence to a standard set of monitoring procedures that would be implemented across the entire REDD+ landscape. This would necessarily include well-defined standard operating procedures (SOPs) for not only the techniques of data collection in order to ensure consistency, but would also require rigorous quality assurance and quality control systems. The national system will combines remote sensing, and field verification with dedicated permanent sample plots (PSPs) in order to ensure Tier 3 accounting for national inventories. An ongoing World Bank program is supporting the development of allometric equations, which will be used for forest inventory purposes.

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

The ER-Program will rely on the national MRV system with specific requirements if needed especially for the implementation of the benefit-sharing plan. ~~–~~It is expected that a stratified baseline and/or higher resolution imagery may be required in order to properly allocate monetary and non-monetary benefits.

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.

As stipulated above, the ER-Program MRV system, which is in fact the national MRV system, will be designed during the design phase of the ER-Program and the Republic of Congo will ensure that the system will be consistent with the available guidelines of the UNFCCC and the Methodological Framework of the FCPF Carbon Fund.

On the other hand, the Republic of Congo is considering conforming to~~ conform with~~ the VCS Jurisdictional and Nested REDD+ standard, which is in full compliance with UNFCCC and IPCC guidelines.

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

Monitoring efforts by the communities, especially the indigenous communities can provide a valuable source of information for the ER-Program's ongoing monitoring activity. With the introduction of mobile communication technology coupled with GPS systems, it is envisioned that the forest dwelling indigenous population can make a valuable contribution to the ER-P monitoring systems, including the biodiversity monitoring activity that would be integrated into the Program.

Small-holder farmers, and indigenous communities could be trained in the use of mobile transmission devices that would allow them to report hotspot areas of deforestation, and degradation. Today, even a basic smartphone can geo reference photos and log locations. With existing mobile networks, information can be transmitted in near real time to the central MRV systems for the ER-Program. (See Appendix ~~9~~8)

Indigenous groups and local communities could also play a role in the Program monitoring activities through more traditional means such as assisting with monitoring of PSP and project activity. This could include supporting forest inventory activity, biochar & pyrolysis monitoring activity and of course the use of high efficiency cook stoves and the subsequent required monitoring that would be required.

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.

To the extent possible, the monitoring system would include the monitoring of non-carbon benefits and impacts of REDD+ activities.

In regards to social and environmental issues, the RoC MRV system will seek to be informed by the ongoing SESA process.

The ER-Program benefit-sharing plan, which will be the result of complex negotiations, may require specific requirements in the matter.

Biodiversity monitoring, particularly in dedicated project areas sites would also be conducted, most likely by key conservation partners WCS who have long been involved in this activity and are expanding their monitoring activity particularly in respect to the ongoing REDD+ process in the RoC.

10. Displacement

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.

Initial Displacement Assessment
With any forest based carbon project, displacement is a risk, however one must always bear in mind that displacement is possible both negatively and positively. The approach of the ER-Program is to minimize negative risks and maximize the amount of positive leakage that could occur. As such, the ER-Program's project design sought out synergies between the drivers, the actors and the available markets to ensure that ER-Program's risks mitigation strategies, such as relate to leakage or displacement, were as much as possible built into the core of the ER-Program and designed to accommodate the landscape of the North of the Republic of Congo.

Minimal Displacement Through Thoughtful Design
ER-Program will ensure minimal reversals from displacement through sound project design and most critically by the Project Activities addressing the top three drivers of deforestation and degradation in Sangha and Likouala. Further, as very little of the Program's Project Activity will induce physical displacement of farmers or artisanal workers, activity shifting displacement should remain low. Those activities that could induce activity shifting displacement such as agroforestry plantations, will only be able conduct their activity on already degraded land, and when possible the use of a shade crop such as cocoa will be encouraged as well. The Project Activity of using Biochar as a carbon sink in agriculture systems, with its non-carbon benefit of substantial yield improvements will also assist with the risk of leakage as farmers will have not only the ability to, but also with an economic basis to transition to sedentary agriculture.

The ER-Program will set up a leakage monitoring for each of the Project Activities, leakage zones outside of the Project Area can be established.

Risks of Displacement from Project Activity
Sustainable Forest Management (SFM) Project Activities will, so long as the logging Forest Management Plan is followed (and its approval followed RoC SFM norms), market based displacement will be minimal and continue to decline. This will occur as the MEFDD deepens its commitments to the FLEGT-VPA, and makes progress to enhance its ability to monitor and enforce the RoC's SFM Forestry Code. As there is no risk of physical displacement of

persons in the SFM Project Activities, no activity shifting leakage is anticipated. Furthermore, enhancement of land use rights of local farmer will further encourage sedentary agriculture that is part of a larger participatory land use planning process.

Risk for displacement in Cocoa activity is low as there is a low population density and each concession has allocated ample space for agriculture and agro-forestry. Off the concession, low population density also means that there is ample land for farmers. Additionally there is relatively low mobility within the farming population and the risk of any type of activity shifting leakage is quite low. Mitigation activities that focus on land tenure and traceability of goods (this will also help achieve a "fair-trade" mark) will be incorporated as well. There is nonetheless a risk of the Cocoa sector seeing explosive growth at the risk of deforestation and degradation. This will be minimized by encouraging good practice (using already degraded land) and the need to maintain 30% forest cover.

Leakage for Fuelwood and Biochar perhaps pose the greatest risk of market-based displacement. The ability to produce the same amount of charcoal with substantially greater efficiency (with half the amount of wood that was used in the past) will potentially create a great interest in producing cheaper charcoal and large quantities of biochar. Mitigation strategies include the promotion of agroforestry for creation of fuelwood and local timber needs coupled with reliance on native fast growing secondary species.

The ER-Program's initial Displacement Assessment is set forth in Appendix ~~10~~9

11. Reversals

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.

A major component of any REDD+ project, because of the non-permanence of forests, is the requirement to undertake an appropriate risk analysis for each project activity in order to assess for future reversals. The ER-Program will implement a pooled buffer account system for all projects across jurisdictions. Each Project will undergo a non-permanence risk analysis in order determine how many credits would have to be set aside. Risk analysis would be conducted again at every origination event.

Each of the Project Activities has been assessed in regards to anthropogenic and non-anthropogenic risks. Non-anthropogenic risks have been divided into three categories: Internal risks, external risks and natural risks. The following risks have been identified:

	Non-Anthropogenic Risks
	Internal Risk
1	Project Management (includes governance)
2	Financial Viability
3	Project Longevity
	External Risk
1	Commodity Price Fluctuation

2	Land Tenure
3	Political Risk
4	Community Engagement
	Natural Risks
1	Fire
2	Disease or Pestilence
3	Extreme Weather
4	Geological Risk
5	other
	Anthropogenic Risks
1	Degradation of forests by cocoa growers
2	Increased degradation and deforestation if charcoal production becomes to large
3	Increased forest degradation as harvesting for secondary species intensifies
4	Increased Poaching in undisturbed areas
5	Introduction of non-native species
6	Increased forest degradation as harvesting for secondary species intensifies

Each Project Activity has been assessed against both anthropogenic and non-anthropogenic risks.

Top Three Risks

The initial risk assessment (See Appendix ~~11~~10) shows that the greatest risk is in regards to Project Management, which includes governance~~, a~~ as well. The ER-Program will seek to minimize such risk be the project management assistance that will be provided by CIB-OLAM as part of the PPP to operationalize the Program. Governance issues will be addressed by implementing further partnership with the FLEGT process, enhanced quality assurance systems as well as ensuring that World Bank Safeguards are adhered to. The second most prevalent non-anthropogenic risk was Political Risk. Building strong coalitions between the government stakeholders, such as the various ministries, départements, district-level authorities, as well as civil society and private business will mitigate this risk. The third most significant risk was of community engagement not been conducted in an appropriate way. An ongoing community consultation process will address this issue, even after the operationalization of the Program. Furthermore a grievance structure will be implemented into each Project Activity undertaken.

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 below origination amounts are based on the assumption of the inclusion of three forestry concessions and one mining concession that will purchase and set aside an additional forest concession. As other concession or non-concession based project actors are identified, it is anticipated that mitigation activities would increase. ~~-~~It should be noted that although the activities will take place in concessions, the activities will be largely undertaken by communities through the planting through 2020 of at least:

- 6,400 hectares of community based cocoa; and
- 10,000 hectares of community based agroforestry.

Introduction of biochar into the soil is estimated to be undertaken on at least 8,800 hectares of community agriculture land up until 2020.

The volumes regarding all of the activities are divided between "average," "high "and "low." The low values represent a 30% reduction in credits in the events that there is limited success of the origination activities. The high amount represents a 30% increase in credits due to larger uptake of the activity.

Cocoa production - Avoiding unplanned deforestation
The average amount of reductions is assumed to be ~~5~~8% against the baseline. What is actually expected to be originated based on the amount of hectares of slash and burn agriculture that is avoided multiplied by the amount of carbon stock in the forest that is saved. Success will depend on providing the necessary incentives to communities to avoid shifting agriculture and its corresponding deforestation.

Biochar for enhanced soil fertility and carbon storage
The average amount of reductions is assumed to be ~~2~~3% against the baseline. Carbon origination amounts will be derived by the amount of the reduction in the deadwood pool that is effectively converted into stable carbon for storage. Additionally, during the project design phase, the ER-Program will analyse how many hectares of deforestation ~~that~~ is avoided by the ~~increased livelihoods~~ increase of sedentary agriculture as a result of the biochar activity (due to enhanced fertility~~.~~ after the introduction of biochar to the soils).

Improved charcoal production efficiency
The average amount of reductions is assumed to be 1.5% as compared to the baseline. Carbon origination amounts will be derived based on the reduction of wood biomass that would otherwise be needed to produce the same amount of charcoal. The technology being proposed is estimated to halve the amount of wood feedstock that would otherwise be needed thus decreasing the amount of deforestation by a corresponding amount.

Sustainable Forest Management: Reduced Impact Logging
This activity is not expected to produce significant origination amounts at this time. It is understood that RIL reduces total stand damage in the Congo basin between 3%-7%; if there is sufficient uptake of RIL by concessionaires, then it will be included in the ER-P.

Sustainable Forest Management: Conversion of logged forests to protected forests
The average amount of reductions is assumed to be ~~3~~2.5% as compared to the baseline. The success of the avoiding planned degradation results largely in the ability of the ER-Program to convince the current range of logging companies to set-aside a portion of their normal harvesting activities for conservation and carbon origination. A low value therefore represents less surface area then anticipated to be included in the project area as well as reduced uptake of additional sustainable forest management practices. Alternatively, the high value represents the success of increasing the amount of dedicated set-asides.

Green Mining (protected areas)
The average amount of reductions is assumed to be ~~3~~5.5% as compared to the baseline. The amount of carbon emission reductions originated from this activity will depend on the size of the concession that Congo Iron will purchase from the RoC to set aside for conservation purposes.

Afforestation/Reforestation (including community Agroforestry)
The average amount of reductions is assumed to be insignificant and is thus excluded. Afforestation/reforestation and agroforestry activity generally produced only small amounts of carbon origination in the early years of the activity.

High Efficiency Cook Stoves
~~The~~At this time the average amount of reductions from this activity is assumed to be insignificant and is thus excluded.

		All values in tonnes of CO2e						
Mitigation Activity	**Estimated Annual Emission Reductions (tCO2e)**			**Estimated Emissions as a percentage of the annual REL**		**Estimated Emission Reductions until 2020**	**First 10 Years**	**Estimated Emission Reductions until 2050**
	Average	Low	High	Low	High			
Avoiding Unplanned Deforestation & Degradation								
Cocoa production avoiding unplanned deforestation	902,655	593,311	1,101,862	3.286%	6.103%	10,171,038	19,139,050	68,736,531
Biochar	361,062	243,915	452,985	1.351%	2.509%	1,576,652	3,301,652	14,514,152
Improved charcoal production efficiency	180,531	56,172	104,319	0.311%	0.578%	481,470	882,695	2,969,065
High Efficiency Cook Stoves	3,611	Not Expected to be significant						
Avoiding Planned Degradation	-							
SFM- Reduced Impact Logging	-	Not Expected to be significant						
SFM - Conversion of logged forests to protected forests	270,796	188,720	350,480	1.045%	1.941%	1,695,600	2,966,000	9,185,600
Green Mining (protected areas)	631,858	436,100	809,900	2.416%	4.486%	3,738,000	6,230,000	22,428,000
Sinks								
Afforestation/Reforestation (including community Agroforestry)		Not Expected to be significant						
Totals	**2,350,513**	**1,518,217**	**2,819,546**	**8.410%**	**15.618%**	**17,662,760**	**32,519,397**	**117,833,348**

Mitigation Activity	Estimated Annual Emission Reductions (tCO2e)			Estimated Emissions as a percentage of the annual REL	Estimated Emission Reductions until 2020
-	Average	Low	High	Average	-

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Avoiding Unplanned Deforestation & Degradation	-	-	-	-	-
Cocoa production avoiding unplanned deforestation	902,655	593,311	1,101,862	7.924%	4,513,273.75
Biochar	361,062	243,915	452,985	3.170%	1,805,309.50
Improved charcoal production efficiency	180,531	56,172	104,319	1.585%	902,654.75
High Efficiency Cook Stoves	-	Not Expected to be significant	-	-	-
Avoiding Planned Degradation	-	-	-	-	-
SFM- Reduced Impact Logging	-	Not Expected to be significant		-	-
SFM - Conversion of logged forests to protected forests	270,796	188,720	350,480	2.377%	1,353,982.13
Green Mining (protected areas)	631,858	436,100	809,900	5.547%	3,159,291.63
Sinks	-	-	-	-	-
Afforestation/Reforestation (including community Agroforestry)	-	Not Expected to be significant		-	-
-	-	-	-	-	-
Totals	**2,346,902**	**1,518,217**	**2,819,546**	-	**11,734,512**

All values are subject to change as the ER-Program develops and additional project proponents are included.

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.

The Republic of Congo anticipates that as that all of the originated emission reductions could be sold to the FCPF Carbon Fund through 2020. The RoC expects upfront payment form the FCPF Carbon Fund amounting to 10% of the nominal value of the ERPA to be paid in three installments over a three-year period.

Currently no other buyers of the credits have been identified, however this is as a result that no marketing efforts to date have been conducted as the ER-PIN project has been only under formal development for less than one year. As noted in the ER-PIN, the RoC would seek to create international linkages with other regional GHG programs in order to allow RoC carbon credits access to overseas-regulated markets. Additionally, as the ER-P will seek validation and verification under the VCS JNR program, additional voluntary buyers will be sought.

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)[1]

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.

The CN-REDD has hired a social development expert in July of 2013 responsible for the SESA process. His mission will be to coordinate all of the activities related to risk assessment and mitigation measures for REDD+ activities with an interest in producing the SESA, the ESMF and the five associated frameworks by June 2015. This expert will benefit from the support of an international firm whose contract is currently under negotiation. BRL Ingénierie and ONF International would normally be able to begin the initial mission in May 2014. The working methodology as proposed by the consultant firm combines analytical works, consultation and participation processes in the field. For each of the major milestones in the process, a separate validation will be conducted through participatory and inclusive workshops.

On the other hand, the work will build on the experiences observed in the DRC. Since his recruitment, the social development expert for CN-REDD regularly is meeting with his colleagues from the DRC.

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?

[1] 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.

All of the safeguard instruments that will be derived from the SESA process will apply to all of the REDD+ activities under the ER-Program. The compliance with these instruments will be an eligibility criterion to be part of the benefit-sharing plan of the ER-Program.

The Republic of Congo during the REDD+ readiness preparation phase will develop an information system on safeguards, which will be linked to the national registry. Indeed the Republic of Congo seeks to make all of the information related to REDD+ activities public. This includes the compliance of those activities to the national social and environmental standards to be developed under the SESA process.

It is expected that all proposed activities within the ER-Program will be covered by the safeguard instruments to be produced under the SESA Process.

No gaps or issues are foreseen regarding the compliance of the proposed ER Program activities with applicable safeguard standards, including the UNFCCC safeguards. This is because that none of the activities undertaken will have a significant impact on environmental and social aspects (reduced impact logging, protection of logged areas, community driven projects for agroforestry and the cocoa components, etc.)

It is of critical importance to recall that the SESA process will be conducted in parallel with the finalization of the National REDD+ strategy. These processes will be able to feed each other. Each retained strategic option will have been screened by the safeguard filter.

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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 mechanism (FGRM) will be developed during the design of the ER-Program and will be funded by the existing REDD+ readiness preparation grants and conventions. It will build on the existing mechanisms, such as those that are found in the certified concessions in Sangha and Likouala Département.

More then one mechanisms will be developed at the national level, but also at the local level in order to ensure that the more remote populations (especially the indigenous peoples) will be able to have a platform to voice concerns and feedback on any issues related to the ER-Program and its activities.

The FGRMs will have to be developed no later then February 2015 in order to be operational during the design phase of the ER-Program and the negotiation of the benefit-sharing plan, expected to be concluded by December 2015. The FRGMs will have to allow peoples to be able to reach the decision makers. During the design phase this will be CN-REDD and upon the implementation of the ER-Program, it will be within the Emission Reductions Program Management Facility overseen by the local and national implementation boards.

Grievance mechanisms will include specific procedures for receiving, documenting, following up, investigating and reporting each matter. In order to ensure compliance with safeguard instruments to be developed under the SESA process, a programme of enhancements of the concession based FGRMs will need to be undertaken to ensure a transparent process that will include:

- Predictable time periods for processing claims,
- A fully independent body
- Dedicated, resourced and trained staff
- Acting at a départemental level
- Consistency with national and international standards

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.

The Congolese forestry domain consists of the state forest estate and the private forest estate (Forestry Code, Art. 3). The State forest estate is divided between the non-permanent forest estate and the permanent forest estate. The permanent forest estate includes land allocated for forests and wildlife habitat (Article 5, Forestry Code) and also includes private state forest estates, municipal, local community or territorial forest estates and forest estates owned by legal persons(Article 6, Forestry Code).

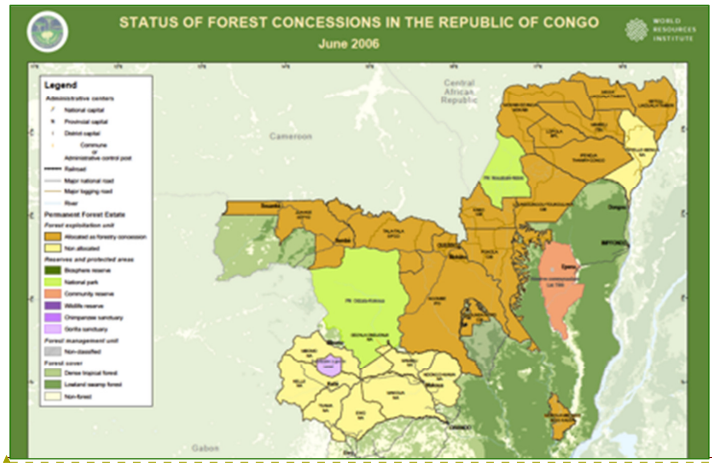
Forests in the private domain of the State include gazetted forests for protection, natural forest conservation, recreational forests, experimental forests and production forests (Article 8, Forestry Code).

The state permanent forest estate in RoC includes 30 Forest Management Units (FMU or UFA), which constitute the basic units for the execution of the tasks of planning, management, conservation, recovery and production. Some FMUs are sub-divided into Forest Logging Units (FLU or UFE)). Some FMUs are listed as production forests and others as conservations areas. Under the Forestry Code, development plans must be prepared for FMUs. The assignees sign a convention with the MEDFF, which sets out the obligations of the contractor as well as the general specifications, including a development plan, industrial facilities, vocational training and social and logging infrastructure.

Authorization for exploitation of natural forests in the permanent estate is obtained through the signing of an industrial processing convention (CTI or *Convention de Transformation industrielle*) or a management and processing convention (CAT or *Convention d'Amenagement et de Transformation*) (Article 65, Forestry Code). Both types of agreements include an obligation to prepare a management plan for the licensed area.

Mining concessions are similar, but they must also prepare a comprehensive Environmental Impact Statement (EIS) prior to undertaking operations.

Forest Concessions Dominate the North of Congo.
The vast majority of the administrative départements of Sangha and Likouala have been divided up into large-scale forestry concessions, typically concession are hundreds of thousands of hectares. The Map below shows the extent of how as of 2014 there are currently [number] of concessions in the two départements. They comprise 5.42 million ha.



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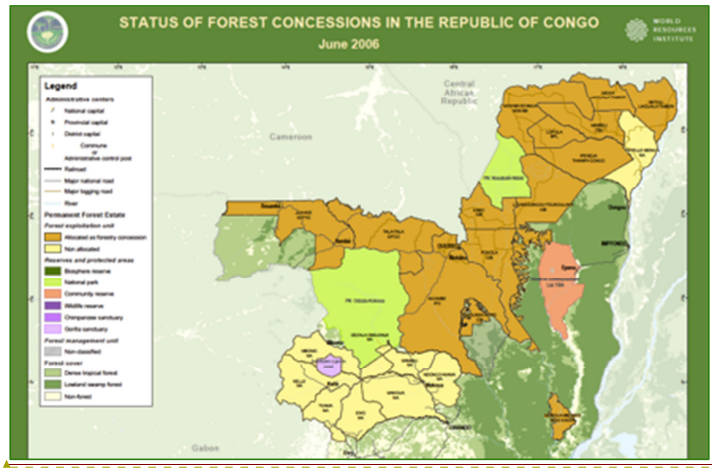

The Forest Concessions of Northern Congo (WRI 2006)

The cartographic view of Sangha and Likouala both dominated by legal logging concessions and as a result the land use context in the North of the Republic of Congo is vastly dominated by the timber industries.

Small Holder / Community Context
After the forestry industry in the North, the economic landscape is the dominated by subsistence agriculture. But as a result of the fact that most of the northern forests are under control of a concession, almost all small holders are living on a concession and practice agriculture in designated agriculture zones.

Most small holders have small plots in size and shift their production to a new cleared area about every 3 years. Small holders do not generally hold legal title to the land they cultivate. Nor is there a cadastral system in place. The result is that formal title to land outside of the cities in Congo is uncommon. As citizens of the Republic of Congo, each have a legal right available to them to acquire a formal title to their land, but it is beyond the means of almost all small holders.

Customary Rights
Customary rights uses are recognized under Congolese law and the current above mentioned forestry laws.

REDD+ Law
In the RoC there currently is no formal REDD+ law, the R-PP specifies the development and adoption of a REDD+ law consistent with other existing policies, including the above-mentioned Forestry Codeii, and in accordance with the National REDD+ Strategy.

The RoC will continue to make progress on a REDD+ law, and it will comply with all necessary components to ensure the ongoing legality of an ERPA such that the underlying carbon rights in any emission reductions are legally credible.

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.

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The Benefit sharing arrangements will be developed in accordance with the FCPF Methodological Framework criteria 29–33 and will build upon successful similar mechanisms within the Republic of Congo (i.e. CIB, Congo Iron, etc.)

General principles will be designed under the REDD+ preparation process with an expected completion date of in March 2015. The specific benefit sharing plan that will be designed for the ER-Program will build upon the general principles from the preparation process and will be completed prior to the signing of an ERPA, but no later then December 2015.

Potential beneficiaries are all of the stakeholders having a role in the implementation of the ER-Program and its related activities. This would include:

- Governmental bodies in charge of the maintenance of the national REDD+ implementation framework, National and Local implementation boards responsible for the oversight of the ER-Program
- ER-Program Management Facility in charge of the daily management and operations of the program;
- Project Implementers, including communities as well as the concessionaires.

Upon delivery of the verified emission reductions, a share of the proceeds will be retained by the government to cover the fixed costs related to the maintenance of the national REDD+ implementation framework, the oversight of the program and its ongoing daily management.

In order to determine the further division of the monetary and non-monetary benefits from the sale of the carbon credits to the FCPF Carbon Fund, there will be an initial level of negotiations (the negotiations will be between all of the potential beneficiaries, i.e. project actors and the government) to determine the level of net revenues allocated to the government and the remainder for actors in the field. In section 7 above, the Republic of Congo clearly has fixed the starting point of the anticipated negotiations by claiming net revenues over an 8 year period (2016-2023) amounting to roughly USD $50 million or USD $6.25 million per annum.

The remainder (estimated at USD $92 million over 8 years) will then be discussed between relevant beneficiaries undertaking and engaging in project activities. Discussions will be undertaken in a transparent and participatory manner appropriate to context of Sangha and Likouala.

Proceeds among the on the ground beneficiaries, i.e. indigenous peoples, local communities, women's groups, etc, will be either non-monetary or monetary benefits. In the case of non-monetary benefits it is expected to rely on the ER-Program Management Facility to implement the services (i.e. education, health, agriculture inputs, training, etc) that will result from the negotiations.

Usually monetary and non-monetary benefits will normally be delivered upon actual performance related to the observed decrease in emissions as measured against the Reference Level. However it is also necessary to consider investment incentives for the poorest of the beneficiaries to be able to enter into the cycle of monetary flows with pre-financing.

When it comes to observed performance, different modalities of measurement and monitoring could be considered. For large project implementers, this could be through carbon measurements against stratified baselines and site-specific inventories. But for smaller project activities and actors proxies may be used, i.e. number of cocoa seedlings planted.

Ongoing compliance with the safeguards instruments will be an eligibility ~~criteria~~criterion among others.

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 envisioned benefit sharing mechanism is initially focused on being able to support the communities in regards to sustainable agriculture. This includes enhanced extension services that support sedentary agriculture, micro-financing to be made available to small holders in order for them to be able to improve their access to agriculture implements and inputs. It could also include technical and financial support for the high-efficiency pyrolysis techniques and biochar programs, as well as the high-efficiency cook stove program. Additionally the benefit-sharing program could help educate the communities to alternatives to slash and burn, the dangers of deforestation and degradation.

As the community consultations are an ongoing process, and can thus support the will of the communities to ensure that their voice and needs are heard, it is anticipated that the communities themselves will make proposals specific to their particular circumstances and needs.

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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.

Within CN-REDD there is a rural development specialist who has been hired since November 2013. His mission is to develop and produce the general guiding principles for any future benefit-sharing plan within the context of REDD+. The working methodology is under design. An international expert, financed by the UN-REDD Programme, will assist with the development of such guidelines to be produced by March 2015. -It is expected that these two experts will have to closely collaborate with the CN-REDD expert responsible for the SESA process. The budget for this activity has been secured.

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.

The REDD+ Congo Emission Reduction Program will provide in addition to emission reductions, substantial non-carbon benefits designed to promote and assist with sustainable development issues.

Non Carbon Benefits	Beneficiaries		
	Local Communities (including indigenous peoples)	**Government**	**Private Sector**
Biodiversity Conservation	- Wildlife Protection - Access to Non Timber Forest Product - Access to Forest Medicinal Products	- Enhanced Wildlife Monitoring	- Improved International Reputation
Governance & Rights	- Enhanced Direct Community Participation - Strengthening of land tenure - Democratization of forest resources - Feedback, grievance redress mechanisms	- ~~strengthening~~Strengthening of forest governance - Increased Forest monitoring capabilities	- Enhanced relations with local communities - Integration with national land use planning efforts

Economic Benefits	- Enhanced agricultural yields - Access to international markets for cocoa, coffee and other tradable commodities - Increased jobs & income - Enhancement of skill sets - increased access to education & health care	- Reestablishment of cocoa sector - Opportunity to rehabilitate Coffee sector - Opportunity to enhance national agricultural output - Diversification of agricultural economy - Diversification of Forest Economy	- Access to new business opportunities - Alternative income streams from existing business operations - Improved international reputation
Climate Change Adaptation	- Climate Change resistant agricultural techniques - Greater knowledge of adaptation needs - increased food security	- Increased access to climate change adaptation funding	- Climate Change resistant business strategies
Community Benefits	- Increased equity in communities - Enhanced benefit sharing structures	- Enhanced relations with communities	- Strengthening of community relations and partnerships

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 Congo's ER-Program is not only a pilot jurisdictional REDD+ project, but it is a major component of the country's vision of a Green Economy which in turn is the basis for long-term sustainable development in the forestry and agricultural sectors.

Partnerships with Private Sector
The Congo's ER-Program's most innovative feature is the partnership between the public and private sector in order to deal with climate change issues in a way that promotes the growth of the country, both in economic and social terms. By engaging with the private sector in REDD+, the Congo will be able to leverage existing mechanisms and capacity that are more prevalent in the private sector. This is especially true of the concessions in Sangha and Likouala where the private sector and the government will work together to seek solutions to climate change adaptation, mitigation and improvement of the livelihoods of both non-indigenous and indigenous communities through the ER-Program's activities. The FCPF will be able to learn from the outcomes of this close cooperation between the private and public sector in regards to enhanced sustainable forest management, sustainable agriculture and the reestablishment of cocoa and other agricultural commodities, as well as the introduction of new business sectors, i.e. NTFP, increased use of wood species for domestic consumption, etc.

First large scale effort will demonstrate effectiveness of Biochar for carbon storage and agriculture yield enhancement
The development of a biochar systems for the smallholders in Sangha and Likouala will be perhaps the first large-scale biochar effort to address the challenges associated with food insecurity and climate change. Because of the large amounts of wood waste that is normally associated with timber concessions (slash, stand damage, commercially unsuitable round logs, sawmill waste, etc.), and the fact that every concession in the Congo has dedicated agricultural zones, the biochar that the program produces will not only reduce the emissions associated with the deadwood pool but will be a valuable and easily accessible agricultural input. Furthermore, the program will be able to fund the biochar activities with the carbon revenues associated with the long-term storage capabilities of stable carbon in the soil. This will in turn provide smallholder agriculturists with the technology to

limit or even eliminate the need for shifting agriculture practices. The learning value of this portion of the program will provide the international community valuable experience in the large-scale deployment of this technology.

REDD+ as a sustainable development tool

The Congo ER-Program is planning to use 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 sector. Agricultural yield enhancements through biochar, reduction of the amount of wood needed for charcoal, rehabilitation of the cocoa sector, more efficient cook stoves, the further expansion of SFM as the norm for the countries timber sector will all be part of the Green Economy. However, what is most important is that these efforts, while initially being funded with carbon financing, must be able to sustainably continue in the future with the possibility of limited to no additional carbon funding.

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~~**Harvested Wood Products**~~

~~Promotion of domestic secondary timber species in Congo to replace concrete, steel and aluminum for domestic housing and furniture will require a shift in cultural attitudes towards the use of timber building materials. It will also require a re-education of architects, engineers and the building sector in order to successfully expand the use of timber. The lessons learnt from this activity however, could be used in other countries where timber is able to be used as a sustainable building material and can significantly lower the carbon foot-print of domestic structures.~~

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).

A National REDD+ Registry will be established in order to

1. Allow the state to identify national REDD+ activities;
2. Ensure that REDD+ funding does not overlap or, conversely;
3. Maintain consistency with the national REDD+ Strategy; and,
4. Ensure that the REDD+ + Registry would be either compatible or linked to the national MRV system.

The current vision of the Republic of Congo is to have the National REDD+ Registry be a government managed database management system for all ER-Program projects in the country. The National REDD+ Registry will also ensure environmental integrity, accountability, transparency and efficiency. The key goal of the registry will be to prevent the double counting of ER-Program projects while at the same time ensuring transparency and coherency. The registry will be subject to third party auditing as needed.

Key components of the National REDD+ Database will include:

1. Project approval process;
2. Up to date Project Activity Area maps;
3. Reference Levels;
4. MRV components;
5. Monitoring Reports; and,
6. Benefit Sharing Plans and Reports.

It is considered to link the registry with the national information system on safeguards and the feedback, grievance redress mechanism(s).

The National REDD+ Registry will be integrated with the National MRV system. This will be especially important in regards to Reference level and Project Activity monitoring requirements. In the event that an international REDD+ mechanism develops through the UNFCCC, the National REDD+ registry will also have to be able to be integrated

into the larger international system as it is developed. Thus any registry that is developed needs to be scalable in the future and be able to interact in the future with other registries.

Currently, there is a lack of technical capacity and practical experience to have the National REDD+ Registry be a transactional registry as well. As the RoC is intending to build a longer term REDD+ system that would be able to be part of a VCS or other standardized programme, there is not an immediate need to rely on a dedicated national transaction registry. Instead, and at least to begin with, the RoC will rely on a third party transactional registry to serialize and issue emission reduction credits. The third party transactional registry would also be able to account for non-permanence risk management (risk buffer credits) issues and deal with the management of positions and settlements for credit transactions

18. 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
AGB	Above Ground Biomass
ARR	Afforestation / Reforestation
ASD	Activity Shifting Displacement
AUD	Avoiding Unplanned deforestation and degradation
BGB	Below Ground Biomass
BPL	Wood and Veneers Lopola
CACO-REDD+	Civil Society platform on REDD+
CAT	Convention d'Amenagement et de Transformation
CBFP	Congo Basin Forest Partnership
CERGEC	Centre for Geographical Research and Cartography Production
CIB	Congolaise Industrielle des Bois
CNIAFF	Centre for Surveys and Forest and Fauna Resources Management
CN-REDD	National REDD+ Coordination Team
CNSEE	National Centre for statistics and economic studies
CODEPA-REDD+	REDD+ Departmental Committees
COMIFAC	Central Africa and establishing the Forest Commission
CONA-REDD	National REDD+ Committee
CRGM	Geological and Mining Research Center
CTI	Convention de Transformation Industrielle
DGE	Directorate General Environment
DGEF	Directorate General of Forest Economy
DMDB	Directorate General for Sustainable Development
DSRP	Strategic Document for Poverty Reduction
EIA	Environmental Impact Statement
EMAS	Emissions and Removals Related to REDD+
ERPA	Emission Reductions Payment Agreement
ER-PIN	Emission Reductions Program Idea Note
ERs	Emission Reductions
ESMF	Environmental and Social Management Framework
ESMF	Environmental and Social Management Framework
FCPF	Forest Carbon Partnership Facility
FGRM	The feedback and grievance redress mechanism
FIPAC	Forum of Indigenous Peoples of Central Africa
FLEGT	Voluntary Partnership Agreement
FLU or UFE	Forest Logging Units
FMP	Forest Management Plan
FMT	Facility Management Team
FMU or UFA	Forest Management Units

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FRA	Forest Resource Assessment
FRA	Forest Resource Assessment
FRL	Forest Reference Level
FSC	Forest Stewardship Certified
GEF	Global Environmental Facility
GLI	GreenLaw International
HIPC	Heavily Indebted Poor Countries
HWP	Hard Wood Products
ID	International Displacement
IFO	Danzer Group
INPE	Brazilian Space Agency
JNR	Jurisdictional and Nested REDD+
LIL	Low Impact Logging
LtHP	Low Productive to High Productive forests
MD	Market Displacement
MEFDD	Ministry of Forest Economy and Sustainable Department
MoU	Memorandum of Understanding
NPR+	North Pikounda REDD+
OLAM	OLAM International Ltd
PAN	The National Action Plan
PDSA	Agricultural Sector Development Plan
PFAN	The National Forestry Action Plan
PFDE	Forest Economic Diversification Project
PNAE	The National Action Plan for the Environment
PNAT	National Land Allocation Plan
PND	National Development Programme
PPA	Primary Project Activities
PPP	Public Private Partnership
PRODES	Particular Expertise in the Monitoring of Forest Cover Monitoring
PRONAR	National Afforestation of Reforestation Programme
PRSPs	Document Reduction Strategy Papers
PSP	Permanent Sample Plots
REDD+ CODEPA	Départemental REDD+ Committee
REL	Reference Emission Level
RIL	Reduced Impact Logging
R-Package	Readiness Package
R-PP	Readiness Preparation Proposal
SCSTA	National School of Agronomy and Forestry
SDC	Series of Community Development
SESA	Strategic Environmental and Social Assessment
SFM	Sustainable Forest Management
SIFCO	Industrial Society Forest of Congo
SNAT	The National Planning Team
SNDR	The National Scheme for Rural Development
SOPs	Standard Operating Procedures
SPA	Secondary Project Activities
SREA	Notification Reporting of Emissions Removals Related to REDD+
STC	Societé Thanry Congo
SVEA	System of Verification of Emissions and Removals Related to REDD+
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standards
WCS	Wildlife Conservation Society

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Appendix 1 – Letter from the Ministery of Forest Economy and Sustainable Development

MINISTERE DE L'ECONOMIE FORESTIERE
ET DU DEVELOPPEMENT DURABLE
-.-.-.-.-.-.-.-
CABINET
-.-.-.-.-.-.-.-

REPUBLIQIUE DU CONGO
Unité – Travail - Progrès
-.-.-.-.-

000317

N°_____/MEFDD/CAB-CN-REDD

Brazzaville, le 08 MARS 2014

Le Ministre

A

Monsieur Le Secrétaire Exécutif du Fonds de Partenariat pour le Carbone Forestier

Washington

Objet : Lettre de transmission du pour le développement du Document ER-PIN de la République du Congo

Monsieur le Secrétaire Exécutif,

Dans le cadre de la mise en œuvre du processus REDD+ en République du Congo, je viens par la présente vous transmettre les notes d'idées du programme de réduction des émissions dans la zone pilote de la Sangha et la Likouala (programme dit « ER-PIN »).

Vous en souhaitant bonne réception, je vous prie d'agréer, Monsieur le Secrétaire Exécutif, l'expression de ma considération distinguée.

Henri DJOMBO
Ministre

MINISTERE DE L'ECONOMIE FORESTIERE
ET DU DEVELOPPEMENT DURABLE

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Henri DJOMBO
Ministre

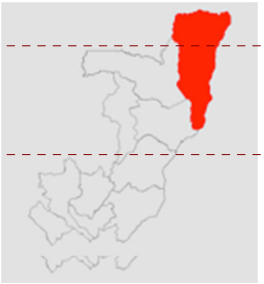
Appendix 2 - Protected Large Mammals Present in the North of Congo (Poulsen and Clark, 2005)

Common Name	Local name (Lingala)	Scientific Name	CITES Status	IUCN Status[2]
Bongo	*Mbongo*	*Tragelaphus euryceros*	Not Listed in Congo	NT
Water Chevrotain	*Mbenguéné*	*Hyenoschus aquaticus*	Not Listed	LC
Hippopotamus	*Ngoubou*	*Hippopotamus amphibius*	Appendix II	VU
Leopard	*Koyi*	*Panthera pardus*	Appendix I	NT
Honey Badger	*Kwokwoto*	*Mellivora capensis*	Not Listed in Congo	LC
Giant Pangolin	*Kélépa*	*Manis gigantea*	Appendix II	NT
Agile Mangabey	*Tamba*	*Cercocebus galeritus agilis*	Appendix I	LC
Robust Chimpanzee	*Soumbou*	*Pan troglodytes*	Appendix I	EN
Guereza	*Kalou*	*Colobus guereza*	Appendix II	LC
Uhehe Red Colobus	*Niaou*	*Colobus badius*	Not Listed	EN
Lowland Gorilla	*Ebobo*	*Gorilla gorilla gorilla*	Appendix I	CR
African Forest Elephant	*Njokou*	*Loxodonta cyclotis*	Not listed but may be coverd under Appendix II	VU
Aardvark	*Kpigna*	*Orycteropus afer*	Not Listed	LC

Protected Large Mammals Present in the North of Congo (Poulsen and Clark, 2005)

[2] IUCN Red List of Threatened Species, Version 2011.1.

Appendix 3 – Drivers of Deforestation in Département Likouala



Département de la Likouala

Superficie : 65 841 km²

Chef lieu : Impfondo

Districts : Impfondo, Dongou, Epéna, Enyellé, Bétou, Bouanela et Liranga

Population : 170 000 hab. Densité : 2,5 hab./km². Taille moyenne des ménages ruraux : 6,3 pers.

En décembre 2013, selon les données de CENAR (Comité National d'Assistance aux Réfugiés), dans l'UFA Bétou, on compte actuellement 2516 familles et 7258 réfugiés de la République Centrafricaine, les réfugiés de la R.D.C sont en phase de rapatriement et les données exactes ne sont pas disponibles. Mais on estime à plus de 10 000 les réfugiés dans l'UFA Bétou (Matoko, présente mission).

Les évènements de janvier 2014 en RCA, ont dû apporter un flot supplémentaire de réfugiés venant de Centrafrique.

Accroissement annuel de la population

5,1 % (RGPH, 2007)

Consommation énergétique

Non connue

Production agricole

L'agriculture est pratiquée dans tout le département, notamment dans les districts d'Impfondo, de Dongou et d'Epéna. La mécanisation est inconnue. L'agriculture d'autoconsommation est prédominante. L'activité productive s'effectue essentiellement en zone forestière.

Les principales spéculations agricoles cultivées sont : le manioc, la banane plantain, le taro, l'ananas, le cacao et le café. Le manioc est surtout utilisé pour l'autoconsommation.

Des tentatives d'introduction de cultures d'arachide, de pomme de terre, de maïs et de soja ont déjà été réalisées avec succès à Impfondo.

La très grande majorité des ménages vit près de ses champs : 65% d'entre eux sont à moins d'un km. Cette proximité témoigne d'une abondance de terres que l'on ne retrouve pas dans les autres départements. 90% champs se trouvent à moins de 1 km de la route principale, ce qui facilite l'accès aux champs et l'évacuation des produits agricoles pour la vente (ESA, 2013).

Les agriculteurs utilisent très rarement des intrants, si ce n'est des semences.

L'absence de structures de vente d'intrants agricoles freine la valorisation des immenses potentialités agricoles du département.

13 % des exploitants agricoles affirment avoir bénéficié de l'assistance technique des services et institutions habilités (ESA, 2013).

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L'activité agricole animée par les réfugiés de la R.D.C - population très active par rapport à d'autres populations présentes - est très présente. Des plantations ont été observées à plus de 30 km de toute agglomération, en bord de route (Matoko, présente mission).

Des sciages artisanaux ont été observés le long de la rive droite de l'Oubangui au niveau des camps des refugiés de la R.D.C. qui se sont installés sur l'axe fluvial Boyélé – Dongou, notamment les campements Talangaï et Goma.

En dehors des plantations des particuliers sur le long des routes et pour la majorité autour de Bétou, le Ministère de l'Agriculture et de l'Elevage en partenariat avec la F.A.O, encadrent des projets agricoles, notamment le projet PRODER3, le projet PADI à Bétou et ses environs.

En dehors, du ministère de l'agriculture, l'ONG AARREC qui travaille en partenariat avec UNHCR pour l'assistance des réfugiés et leur intégration locale, vise à mettre sur pied un projet agricole pour les réfugiés.

Ce projet vise la formation de cent groupements agricoles pour les cultures vivrières et quarante groupements pour les cultures maraîchères.

Chaque groupement sera composé de dix personnes et à chaque groupement une superficie de 1 ha sera affectée soit **140 ha** pour 140 groupements (Matoko, présente mission).

L'agriculture itinérante qui se fait souvent le long des routes publiques, les routes forestières d'exploitation est la cause principale de la dégradation et de la déforestation dans la zone dite d'étude.

Couverture de forêt

95,06 % en 1990 et 94,66% en 2010. Cela correspondrait à 6 258 800 ha de forêt en 1990 et 6 232 500 ha en 2000, avec un seuil de 10 % de couvert.

Types de peuplements

62 % du département sont couverts de forêts, 32,8 % de forêt inondable et 4,2 % par de la prairie aquatique.

Concessions forestières

Sociétés forestières	UFA concédées	Superficie UFA concédées (ha)
Likouala-Timber	Bétou	300.000
	Missa	243.376
Mokabi S.A	Mokabi-Dzanga	586.330
SCTB	Mimbeli-Ibenga	669.589
BPL	Lopola	195.510
Thanry-Congo	Ipendja	451.245
CIB	Loundoungou-Toukoulaka	571.100
Bois Kassa	Mobola-Mbondo	105.000
		3.122.150

Les UFA Enyéllé-Ibenga et Oubangui-Tanga ne sont pas encore en exploitation.

Par ailleurs en novembre 2010 a été créé l'UFE Doumanga, située dans l'UFA Oubangui-Tanga, en précisant les modalités de sa gestion et de son exploitation :

- l'Unité Forestière d'Exploitation Moungouma, d'une superficie totale d'environ 30 600 hectares ;
- l'Unité Forestière d'Exploitation Bonvouki, d'une superficie totale d'environ 106 472 hectares ;

- une zone de protection et de conservation est mise en place, sa superficie totale est d'environ 1 222 720 hectares. (ESA, 2013)

Aires protégées

On compte la Réserve communautaire du Lac Télé et le Parc national de Nouabalé-Ndoki.

Projets agro-industriels

Le cacao a été introduit vers 1935, dans le Sud du pays tout d'abord, avant d'être planté dans les départements du Nord : Sangha, Likouala, Kouilou et Cuvette. A la fin des années 80, il occupait environ 1 800 ha dans la Likouala.

Intrants, boutures et semences

Tentatives d'augmentation de rendement par l'introduction de nouvelles boutures de manioc (variété Eroukou-Oyemba) par le projet Congo Sécurité alimentaire et nutritionnelle (Congo-SAN) et boutures saines (PRODER 3).

L'ONG Agence d'assistance des rapatriés et des réfugiés au Congo (AARREC) appuie et assiste tous les maraîchers dominés par des étrangers, en particulier des rwandais ,constitués en groupement d'Impfondo et Bétou par la distribution de semences, produits phytosanitaires et en matériel aratoire.

Dans le district de Dongou, le maraîchage commence à se développer avec l'aide du PNUD/ FAO qui a permis de créer un groupement de maraîchers afin, entre autres, de diversifier l'alimentation des populations (ESA, 2013).

Café et cacao

Les cultures de café et cacao qui, à l'époque, faisaient la fierté des planteurs du département, en accroissant de manière substantielle leurs revenus ont été délaissées suite à l'arrêt de la commercialisation par l'Etat. Une seule société étrangère, Diamond International, est aujourd'hui active dans ces filières.

L'irrégularité de la commercialisation du cacao a contraint les paysans du district d'Epéna à transformer 154 ha de cacaoyers en champs de manioc et de bananes. Les cacaoyers abandonnés sont à l'origine de la prolifération de la pourriture brune dans toutes les zones de production. A ce jour, rien n'est entrepris au niveau des pouvoirs publics pour relancer cette culture. Certaines initiatives récentes et privées peuvent toutefois être interprétées comme les signes annonciateurs d'une certaine reprise de la culture du cacao (ESA 2013).

Palmier à huile

Le constat est identique pour la culture du palmier à huile, quasiment arrêtée de nos jours ; un seul privé installé à Ibenga, Tasspalme, étant actif dans la filière. On note aujourd'hui un engouement des cadres du département pour la création de palmeraies. Toutefois, le problème de dimensionnement et de gestion de celles-ci par rapport aux moyens dont disposeraient les promoteurs se pose. Il est important de concevoir et de mettre en œuvre un plan départemental de développement pour soutenir ces initiatives des originaires du département (ESA, 2013).

Projets de reboisement

Le projet national de reboisement du Congo mené par la Société Nationale de Reboisement (SNR) touche également le département de la Likouala via des unités de production telles que :

- l'Unité Pilote d'Aménagement, de Reboisement et d'Agroforesterie (UPARA. I.T.B.L) ;
- une Station Forestière (STATION ENYELLE) constituée de plantation en forêt dense dont les principales essences sont le Sipo et le Sapelli.

Mines

D'après le cadastre minier de la partie nord du Congo, remis à jour en juin 2011, le département de la Likouala n'est couvert que de permis expirés, sans qu'il n'y ait eu d'activité notable (ESA, 2013).

Déforestation observée

Déforestation brute entre 1990 et 2000	Déforestation brute entre 2000 et 2010	tendance	Deforestation Nette 1990 - 2010 (%)
0,42	0,33	baisse	0,43

Entre 2000 et 2010, avec une déforestation brute de 0,33 %, cela équivaudrait à une perte de 26 600 ha de forêt (sans compter la reforestation). Cette déforestation a diminué lors de la dernière décennie.

D'après les classes de changement d'affectation des terres et l'interprétation des *raster* des données du GAF, les changements d'affectation des terres sont de 39,6 % vers l'agriculture, pour 27,8 % vers des infrastructures et 19,2 % vers les prairies-savanes, entre 2000 et 2010.

Dégradation forestière observée

- Méthode Paysage Forestier Intact : on observe une baisse de 6,88 % de forêt non fractionnée, soit 6665 km² fractionnés.
- Méthode buffer autour des routes et pistes forestières : augmentation de 0,92 % entre 2003 et 2007. Cela correspondrait à une dégradation de 57 600 ha de forêt.

Déforestation due à l'activité forestière

28 600 ha déforestés + 57 600 ha dégradés (buffer) entre 2001 et 2010 (cependant trouées et pistes de débardage difficilement cartographiables).

Déforestation due à l'activité forestière illégale/artisanale

12 500 ha (estimation)

Déforestation /dégradation due à l'approvisionnement en bois de feu/charbon

La déforestation due à la production de charbon de bois est considérée comme négligeable, les centres urbains étant de taille trop modeste (Impfondo) ou trop éloignés (Brazzaville). Il est de notoriété publique que du bois de feu est exploité par des congolais de RDC, mais étant donné les défrichements produits par ces réfugiés, ce bois est très probablement issu des futurs champs ou des jachères.

Déforestation/dégradation due aux activités minières

Néant

Déforestation/dégradation due aux activités agricoles

La déforestation due à l'agriculture aurait une superficie de 8 000 ha, d'après les classes de changement d'affectation des terres et l'interprétation des *raster* des données du GAF.

Les projets d'aide à l'agriculture ne concernent pas de superficies significatives hormis un groupement sur 140 ha.

Déforestation/dégradation due aux activités agro industrielles

Néant car pas encore de véritable reprise de la culture de cacao ou de palmier à huile.

Déforestation/dégradation due aux infrastructures

La municipalisation a eu lieu dans ce département en 2005.

D'après le traitement des données issues du GAF, 27,8 % de la déforestation est due aux infrastructures ce qui correspondrait à une superficie de 5 700 ha. Ce chiffre peut comprendre un certain nombre de routes forestières.

Perspectives et interactions générales entre les différentes causes sous jacentes

L'activité forestière est importante

On peut simplement effectuer une hiérarchisation des causes de déforestation dans ce département :

- l'exploitation forestière ;
- l'agriculture ;
- les infrastructures.

La remise en état des plantation pérennes et la présence de réfugiés en nombre significatif risque de provoquer une déforestation relativement importante.

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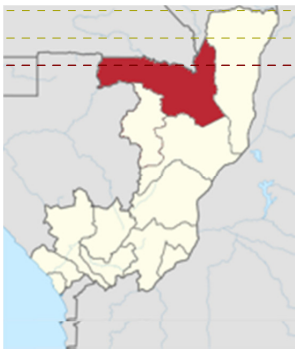
Appendix 4 - Drivers of Deforestation in Département Sangha

Département de la Sangha



Superficie : 57 788 km² (calcul SIG)

Chef lieu : Ouesso

Districts : Ouesso, Mokéko, Sembé, Souanké, Pikounda, Ngbala

Population : 103 420 habitants (RGPH, 2007) ; Densité : 0,83 hab./km²

Accroissement annuel de la population : 2,8 % (RGPH, 2007).

Consommation énergétique
Non connue

Production agricole

Un effort de développement est impulsé par la Société Congolaise Industrielle de Bois (CIB) et les organisations internationales et nationales. La CIB en est le maître d'œuvre sur la base du Fonds de Développement Communautaire (FDC) qu'elle a constitué à partir d'une contribution de 200 FCFA par m³ de bois. La société forestière entreprend ainsi diverses réalisations communautaires au bénéfice des populations par la mise en œuvre des infrastructures de base.

Un comité de gestion de ce Fond siège régulièrement pour accorder des financements aux groupements et aux ONG qui présentent des projets de développement.

Les groupements de Ouesso et de la Communauté urbaine de Pokola, sont environ 50 et les programmes d'activités sont orientés sur une pluralité de secteurs, notamment : l'agriculture, l'élevage, la pêche, la protection de l'environnement, la conservation, le développement culturel, la gestion durable, le renforcement des capacités etc. D'autres activités des groupements agricoles sont diversement appuyées par le PDARP et l'Union Internationale pour la Conservation de la Nature (UICN).

Le programme concerté Pluri Acteurs a sollicité des financements en faveur de plusieurs groupements de Pokola

Le Programme de Développement Rural (PRODER) a fourni aux ménages de Kabo, des nouvelles boutures de manioc pour lutter contre la mosaïque du manioc.

De même, la société IFO a initié le même type de fond de Développement Local en faveur des populations de l'UFA Ngombé pour financer les microprojets communautaires dont en premier lieu l'agriculture. IFO travaille avec les ONG locales (APETDS, SAM…), et internationales (WCS, WWF). En partenariat avec IFO, ces ONG organisent des séminaires sur le renforcement des capacités des communautés riveraines de l'UFA Ngombé.

Couverture de forêt

98,38 % en 1990 et 98,34 en 2010. Cela correspondrait à 5 685 200 ha de forêt en 1990 et 5 682 900 ha en 2000, avec un seuil de 10 % de couvert.

Types de peuplements

82,9 % du département sont couverts de forêt dense humide et 11,5 % de forêts inondables et 5,2 % par du complexe rural (mélange culture et autres peuplements) (cf. tab. 2).

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Concessions forestières

Sociétés forestières	UFA concédées	Superficie UFA concédées (ha)	UFE concédées	Superficie UFE concédées (ha)
CIB	Kabo	296.000		
	Pokola	452.200	Pikounda Nord	93.970
IFO	Ngombé	1.159.643		
SIFCO	Tala-Tala	621.120		
SEFYD	Jua-Ikié	671.336		
Total	5	3.200.299	1	93.970

Projets agro-industriels

Cacao

Devant la mauvaise qualité du cacao proposé et des difficultés de transport dans de bonnes conditions de conservation et du coût de ce transport vers Pointe Noire, les quantités de cacao ont progressivement chuté pour devenir très faibles. Aujourd'hui, seuls un petit nombre d'acheteurs camerounais achètent à bas prix des quantités assez faibles. On estime qu'en 2004, la production de cacao, circonscrite au département de la Sangha (Sembé et Ngbala) aurait été de l'ordre de 750 tonnes, alors qu'elle était encore de 1 500 tonnes en 1990. (ESA, 2013).

Palmier à huile

- Vers 2007, Sangha Palm avait 5 000 ha de plantations, dont 1 000 ha à Mokéko et 4 000 ha à Kandéko (tous les deux situés dans le département de la Sangha). Mais ces plantations avait déjà été décrites en 2002 comme suit : "Les palmeraies abandonnées se trouvent ainsi envahies totalement par le recru forestier, livrés aux incendies et aux dégradations de tout genre", en soulignant que le risque de manque d'entretien était en train de transformer l'huilerie de Mokéko en un simple dépôt de ferraille. Fermée en 1990 avant de réouvrir en 1994, la Sangha Palm a cessé encore ses activités en 1997[3].
- FRI-EL GREEN, société italienne, associée avec RWE, a signé en 2008 un protocole d'accord pour planter 30 000 hade palmier à huile dans la Sangha. De plus, cette société devait également reprendre les actifs des deux sociétés Sangha palm et Régie nationale des palmeraies du Congo (RNPC). Mais la société italienne n'a pas honoré ses engagements vis-à-vis de l'État congolais. Par conséquent, le gouvernement a rompu le contrat. C'est **Eco-Oil Énergie SA Congo** qui a alors bénéficié le 11 juin 2013 d'un contrat de concession avec le gouvernement, pour la reprise des activités des anciens complexes de Sangha Palm et de la RNPC[4].
- La zone d'implantation de la société ATAMA Plantations (Malaisie) se situe entre autre dans le département de la Sangha (district de Mokéko) avec 67.363 hectares. La société agro-industrielle Atama Plantation prévoit d'investir sur 15 ans environ 300 millions de dollars, soit l'équivalent de 150 milliards de F CFA, pour mettre en valeur à terme 470 000 hectares de terre dont 180 000 hectares de palmeraies, pour une production totale estimée à 90 000 tonnes d'huile de palme par an. Ce complexe agro-industriel de palmiers à huile va permettre la création de 20. 000 emplois. La production serait exportée en grande majorité.

  Les 180 000 ha de palmeraies seront répartis en deux concessions :

  - 140.000 ha dans la Cuvette ;
  - 40.000 ha dans la Sangha.

3 (source : http://oilpalminafrica.wordpress.com/2010/08/19/congo-r/)
4 http://www.adiac-congo.com/content/industrie-agroalimentaire-eco-oil-energie-relance-la-filiere-huile-de-palme-au-congo

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Dans la Sangha, ATAMA est installée depuis juillet 2011. Dans la pratique, ATAMA n'a obtenu une autorisation d'exploitation que de 5 000 ha dans la Sangha et 5 000 ha dans la Cuvette. Dans la Sangha, on en est dans le premier bloc de 5 000 ha. Au 30 octobre 2013, 554,5 ha ont été déboisés et occupés comme suit :

- 300,82 ha plantés en palmiers ;
- 200,32 ha sont en opérations préparatoires à la mise en place des plants ;
- 34,2 ha de plants en pépinière ;
- 15,46 ha réservés à la scierie ;
- 0,67 ha réservé à la construction des bureaux de douanes et services forestiers.

Pour les cadres d'ATAMA, il est difficile de faire une projection sur les dix années à venir.

- La relance des cacaoyères par CIB : CIB a lancé en 2012 un programme de relance des cacaoyères dans trois départements : la Sangha, la Cuvette et la Likouala. Beaucoup de champs de cacaoyers se sont reforestés par abandon. La surface des plantations varie de 0,1 à 20,5 ha avec une superficie moyenne de 2,1 ha.

  On observe une faible qualité du cacao et faible capacité de production, avec un matériel végétal dépassé (la moyenne d'âge des plantations de cacao est de 35 ans) et malade (plus de 80% des plantations). Les services techniques et le Ministère Agriculture n'ont pas d'action concrète.

  L'objectif du programme de relance de la CIB en partenariat avec le Gouvernement est dans un premier temps de permettre le reboisement des anciennes plantations de cacao, puis dans un second temps de valoriser certaines jachères voir des terres agricoles à but spéculatif en travaillant avec les paysans qui déforestent continuellement avec le système de rotation d'abattis brûlis. Certaines jachères vont pouvoir ainsi être reforestées en agro-forêt à cacao avec du matériel génétique performant. Le cacaoyer sur un tiers de sa vie à besoin de 30% d'ombrage. Ces surfaces sont aujourd'hui encore majoritairement boisées. Avec une relance massive et non contrôlée il y a un risque de déforestation sur de nouvelle surfaces.

  Il s'agit en outre d'accompagner le développement des séries de développement communautaire en proposant une activité génératrice de revenu « sédentaire » en complément/association avec d'autres champs de culture vivrière…

  Une difficulté majeure observée est le coût de transport mais une évolution favorable est attendue d'ici 2-3 ans vers le Cameroun.

  L'augmentation des productions devrait permettre des économies d'échelles et il y a possibilité d'intégrer le programme cacao à une initiative de faible émission de carbone.

  Le défi est de relancer la cacao-culture par une approche durable pour développer une marque "cacao Congo" en réponse à la demande internationale du marché.

  Une pépinière de 10 000 m² a été aménagée à Pokola en mai 2013. Une distribution de matériels aratoires et des préfinancements ont été effectués en juin 2013.

  Des fèves de cacao hybrides ont été importés et le lancement de la pépinière a eu lieu en septembre 2013.

  On compte près de 1 660 producteurs pour 4 700 ha cultivés avec une production actuelle de 2 300 t/an. La répartition des cacaoyères par département est de l'ordre de 3500 ha (Sangha et nord de la Cuvette) et 1200 ha dans la Likouala.

Mines

Quatre sociétés opèrent dans le secteur minier dans la sangha. Il s'agit de :

- Congo Iron pour le site de Nabemba,
- Congo Mining pour le site de Badondo,
- Core Mining pour le site de Avima,
- SEFYD pour le site de Yangadou.

Congo Iron : la société dispose de 2 Permis d'exploitation : Ibenga (240 km²) et Nabemba (432 km²). Les infrastructures déja réalisées ont une superficie de 60 ha sans compter les voies secondaires selon les taxes de déboisement. Les surfaces à déboiser sont de 70 ha (rail, routes et annexes). La surface des mines à ouvrir reste à définir par l'étude faisabilité. La société a finalisé les travaux d'exploration et prévoit d'investir 600 millions de dollars dans le développement du projet. La mine à ciel ouvert, dont les réserves sont estimées à 210 millions de tonnes de fer à haute teneur, produira environ 21 millions de tonnes par an à partir de 2014.

Près de la frontière avec le Gabon, le projet Avima est conduit par Core Mining Congo, filiale de l'australien Core Mining. L'exploitation devrait démarrer en 2015, avec une production attendue de 20 millions de tonnes par an avec une cible d'exploitation de 690 millions de tonnes.

Le projet Badondo est développé par l'australien Equatorial Resources Ltd avec une cible d'exploration de 1,3 à 2,2 milliards tonnes.

Deux sociétés gèrent les carrières qui sont situées en milieu forestier dans le département :

- CRBC gérant les carrières de Liouésso et Barrage ;
- Sino Hydro gérant également deux carrières : Nzoulabouth et Biessi qui a déboisé 153 ha au cours des 4 dernières années selon les taxes de déboisement.

Une déforestation de 25 ha (estimation a vue d'oeil) a eu lieu ces derniers temps sur le site du projet du barrage de Liouesso, sans qu'aucune déclaration n'ait été faite à la direction départementale de l'Economie forestière.

L'impact des mines dans la dégradation des forêts de la Sangha est ainsi pour l'instant peu important car l'extension de ces activités est très réduite : elle est uniquement représentée par Congo iron et une société des chinois qui n'a pas d'activité importante.

Artisanat minier

L'artisanat minier semble s'exercer autour de Elogo (district de Souanké). Une centaine d'artisans s'activeraient pour cette activité dont les sites détruisent 5 mètres de part et d'autre des rivières. Des chinois sont suspectés également de procéder à l'orpaillage. La direction départementale de l'environnement déclare que les artisans étant dans l'informel; ils sont non maîtrisables.

Déforestation observée (GAF)

Déforestation brute entre 1990 et 2000	Déforestation brute entre 2000 et 2010	Tendance	Deforestation Nette 1990 - 2010 (%)
0,25	0,18	baisse	0,03

Entre 2000 et 2010, avec une déforestation brute de 0,18 %, cela équivaudrait à une perte de 10 200 ha de forêt (sans compter la reforestation). Cette déforestation a diminué lors de la dernière décennie.

D'après les classes de changement d'affectation des terres et l'interprétation des données *raster* du GAF, les changements d'affectation des terres sont de 23,8 % vers l'agriculture, pour 66,15 % vers des infrastructures, entre 2000 et 2010 (cf. tab. 10b).

Dégradation forestière observée

- Méthode Paysage Forestier Intact : on observe une baisse de 8.5 % de forêt non fractionnée, soit 3 822 km² fractionnés.
- Méthode buffer autour des routes et pistes forestières : augmentation de 1,83 % entre 2003 et 2007. Cela correspondrait à une dégradation de 104 000 ha de forêt.

Déforestation due à l'activité forestière

40 500 ha déforestés + 104 000 ha dégradés (buffer) entre 2001 et 2010 (cependant trouées et pistes de débardage difficilement cartographiables, et dans le cas présent,).

Déforestation due à l'activité forestière illégale/artisanale

14 600 ha (estimation)

Déforestation /dégradation due à l'approvisionnement en bois de feu/charbon

Négligeable ; les scieries présentes à Ouesso et Pokola permettent à des groupements de charbonniers de récupérer les déchets et de les transformer en charbon de bois. Ce charbon sert essentiellement pour la consommation dans la région.

Déforestation/dégradation due aux activités minières

La déforestation due aux mines ou aux carrières est pour l'instant négligeable (quelques dizaines d'ha) mais le développement des mines de fer va provoquer la déforestation de vastes zones à court terme (des dizaines de milliers d'ha).

Déforestation/dégradation due aux activités agricoles

La déforestation due à l'agriculture aurait une superficie de 2 400 ha, d'après les classes de changement d'affectation des terres et l'interprétation des données *raster* du GAF.

Déforestation/dégradation due aux activités agro industrielles

Cette déforestation concerne essentiellement les plantations ATAMA ; environ 550 ha ont été défrichés et environ 40 000 ha de plantations sont prévues.

Concernant les cacaoyères remises en état par la CIB, cela est très diffcile à estimer, car les superficies fournies par CIB ne sont pas fixées et l'état actuel des cacaoyères abandonnées est difficilement classable (forêt/complexe rural...).

Déforestation/dégradation due aux infrastructures

La municipalisation n'a pas encore eu lieu dans ce département.

D'après l'interprétation des données *raster* du GAF: 66,15 % de la déforestation est due aux infrastructures, cela parait énorme en pourcentage sans que la municipalisation ait eu lieu, mais il faut rappeler que la déforestation brute reste modeste dans ce département (0,18 % entre 2000 et 2010) et que ce chiffre comprend des routes et des pistes forestières faites pour l'exploitation de la forêt. Le déboisement dû aux infrastructures représenterait 6 750 ha.

Perspectives et interactions générales entre les différentes causes sous jacentes

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Le secteur des mines n'a pas encore d'activité visible. L'activité forestière est très importante.

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On peut simplement effectuer une hiérarchisation des causes de déforestation dans ce département :

- l'exploitation forestière ;
- les infrastructures
- l'agriculture ;
- l'agro industrie.

L'activité forestière est une grande créatrice de déforestation via ses infrastructures, les routes et pistes et les trouées d'abattage car ce département comporte les plus grandes sociétés d'exploitation et représente plus de la moitié de la production de grumes du Congo.

De grandes déforestations sont à prévoir que ce soit par les mines ou les plantations de palmier à huile.

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Appendix 5 – Summary of Various Consultations and Workshops Organized by CN-REDD between 2013-2014

Name of the workshop	Place	Date	Objectives	Number of participants
Workshop of information and awareness for the students of the National School of Agronomy and forestry (ENSAF)	Brazzaville, ENSAF (Marien Ngouabi University)	19 April 2013	Sensitize ENSAF students on the tools used by REDD+ process, especially on the patterns of deforestation in ROC	Around 100 participants
Awereness workshop for the students of the faculty of Sciences, Marien Gouabi University	Brazzaville, Faculty of Sciences, Marien Ngouabi University	13 may 2013	Sensitize students of the faculty of sciences on REDD+ process tools, especially on the patterns of deforestation in ROC	Around 80 participants
Workshop for the validation of lingala and kituba versions of the R-PP	Brazzaville (CN-REDD headquarters)	from 17 to 18 may 2013	Evaluation and adoption by stakeholders of lingala and kituba translationa (local languages) of R-PP	60 participants
Awareness workshop for stakeholders of the Sangha region on the REDD+ in ROC	Ouesso (in the Cuvette Region)	24 may 2013	Awareness and consultation of Sangha stakeholders on the REDD+ process and the ER-PA	60 participants
Awareness workshop of the Ministry of Forest Economy and Sustainable Development on the REDD+ process	Brazzaville (Ministry Conference room)	6 june 2013	Status of REDD+	45 participants
Information workshop for the researchers and students of Marien Ngouabi University	Brazzaville	7 june 2013	REDD+ process in the ROC	50 participants
National Workshop for the validation of the strategy and communication plan for the REDD+ process in ROC	Brazzaville (EFDD Ministry conference room)	from 26 to 27 july 2013	Evaluation and validation of the communication strategy and plan by stakeholders of REDD+	90 participants

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Awareness workshop for civil society organizations and indigenous people in the REDD+ process (CACO-REDD)	Brazzaville (CN-REDD Conference Room)	from 24 to 25 september 2013	Provision of information on the evolution of REDD + in Congo	45 participants
Awareness workshop for stakeholders of Pointe Noire (Pointe Noire Department)	Pointe-Noire	from 24 to 26 november 2013	Educate and consult stakeholders of the Department of Pointe-Noire on the REDD + process, including pilot projects, backups and status of REDD +	45 participants
Awareness workshop for stakeholders of Sibiti (Lekoumou Department)	Sibiti	From 27 to 28 november 2013	Educate and consult with stakeholders of Lékoumou department on REDD + process, including pilot projects, backups and status of REDD +	50 participants
Awareness workshop for stakeholders of Madingou (department of Bouenza)	Madingou	From 29 to 30 november 2013	Educate and consult with stakeholders of Bouenza department on REDD + process, including pilot projects, backups and status of REDD +	49 participants
Awareness workshop for stakeholders of Dolisie (department of Niari)	Dolisie	from 30 november to 2 december 2013	Educate and consult with stakeholders of Niari department on REDD + process, including pilot projects, backups and status of REDD +	50 participants
Sensitization workshop for REDD + focal point of key REDD + departments	Brazzaville, Hôtel Saphir	from 6 to 7 december 2013	Create wareness for Focal REDD + Points of key REDD + process departments on the status of that process	45 participants
Consultation workshop and	Brazzaville, Hôtel Saphir	18 january 2014	Present the project ER-PIN to project	28 participants

awareness of staff of the Ministry of Forest Economy and Sustainable Development on ER-PIN			managers of the Ministry of Forest Economy and Sustainable Development for their critical look at the document	
Civil society support in Congo's revitalization process and advocacy workshop to (1) influence the consideration of the rights of indigenous and local communities and REDD + in the political process, (2) finalize the development of the proposal of a program to reduce emissions (ER-PIN) in the Republic of Congo.	Brazzaville, Hôtel Phoenix	1er march 2014	Advisory Objective: a position paper of CACO-REDD must be produced, a draft of the CACO-REDD 2014 action plan must be produced, a clear roadmap draft for the development of position papers or contribution of CACO-REDD REDD + must produced.	35 participants
Consultation and awareness of indigenous representatives of the Likouala region	Impfondo (departement of Likouala)	5 march 2014	Share proposals with Indigenous peoples on emission reduction (ER-PIN) program to gather critical look at the prospects of the fight against deforestation	20 participants
Consultation and awareness of village leaders of the Likouala region	Impfondo (departement of Likouala)	7 march 2014	Educate village leaders on the REDD+ process and proposals of the emissions reduction program (ER-PIN) to gather critical opinions on the prospects of the fight against deforestation	70 participants

Appendix 6 – Details of the Planned Degradation Values used for the REL_{PLDEG} Calculations

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Planned Degradation is determined by using available 2002 – 2011 harvesting data. Total harvesting amounts and annual averages are determined. The annual averages are used to estimate harvesting for years with no data.

Concession & Harvesting Volumes of Sangha:

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Concessions of Sangha	Owner	Size (ha)	Average Harvesting Vollumes 2002-2010 (m3)	Total Harvesting Volumes 2002-2010 (m3)	Estimated Harvesting Volumes	Total Harvest Volumes 2000-2010 (m3)
Pokola	CIB	377,550	108,733	281,435	217,466	498,901
Pikounda Nord	CIB	92,530	0	-	-	-
Ngombe	IFO	1,351,600	198,179	1,783,613	396,358	2,179,971
Kabo	CIB	267,048	94,021	970,533	188,042	1,158,575
Tala-Tala	SIFCO	448,000	49,979	99,958	99,958	199,916
Jua-Ikie	SEFYD	671,336	19,118	152,944	38,236	191,180
	Total	**3,208,064**	**470,030**	**3,288,482**	940,060	**4,228,542**

Concessions of Sangha	Owner	Size (ha)	Total Harvesting Volumes 2002-2012 (m3)	Average Harvesting Vollumes 2002-2012 (m3)	Estimated Harvesting Volumes 2000-2001 & 2013 (m3)	Total Harvest Volumes 2000-2013 (m3)
Pokola	CIB	377,550	1,099,241	99,931	299,793	1,399,033.69
Pikounda Nord	CIB	92,530	-	-	-	-
Kabo	CIB	267,048	921,172	83,743	251,229	1,172,401

Concessions of Sangha	Owner	Size (ha)	Total Harvesting Volumes 2002-2011 (m3)	Average Harvesting Vollumes 2002-2011 (m3)	Estimated Harvesting Volumes 2000-2001 & 2012-2013	Total Harvest Volumes 2000-2013 (m3)
Ngombe	IFO	1,351,600	1,969,641	196,964	787,856	2,757,497
Tala-Tala	SIFCO	621,120	210,523	30,075	120,299	330,822
Jua-Ikie	SEFYD	671,336	222,031	24,670	49,340	271,371
	Total	**3,381,184**	**4,422,608**	**435,383**	1,508,517	**5,931,124.82**

Concession & Harvesting Volumes of Likouala:

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Concessions of Likoulala	Owner	Size (ha)	Total Harvesting Volumes 2002-2011 (m3)	Average Harvesting Vollumes 2002-	Estimated Harvesting Volumes 2000-	Total Harvest Volumes 2000-2013 (m3)
Ipendja	Thanry-Congo	461,296	291,104	64,690	129,380	420,484
Mobola-Mbondo	Bois Kassa	105,000	17,456	1,940	3,879	21,335
Mokabi-Dzanga	MOKABI SA	370,500	818,865	81,887	327,546	1,146,411
Missa & Betou	Likouala-Timber	525,000	613,834	68,204	272,815	886,649
Mimbeli	ITBL	322,000	297,962	33,107	132,427.56	430,390
Loubonga	Cristal	213,000	186,576	62,192	124,384.00	310,960
Lopola	BPL	199,900	402,315	40,232	160,926	563,241
Loundoungou-Toukoulaka	CIB	552,676	1,121,670	112,167	112,167	1,233,838
	Total	**2,749,372**	3,749,782	464,417	1263524.383	**5,013,307**

Concessions of Likoulala	Owner	Size (ha)	Average Harvesting	Total Harvesting Volumes	Estimated	Total Harvest Volumes
Betou	Likouala Timber					
Missa	Likouala Timber	525,000	68,540	548,321	137080	685,401
Mokabi-Dzanga	Mokabi	370,500	79,287	713,580	158574	872,154
Mimbeli	ITBL	322,000	36,458	291,662	72915.5	364,578
Lopola	BPL	199,900	41,488	373,389	82976	456,365
Ipendja	Thanry-Congo	461,296	32,894	263,149	65788	328,937
Enyelle-Ibenga	Not Active	Not Active	0	-	0	Not Active
Loundoungou-Toukoulaka	CIB	552,676	61,391	1,085,253	0	1,085,253
Mobola Mbondo	Bois Kassa	105,000	1,997	15,975	3994	19,969
	Total	2,536,372	322,055	3,291,329	521327.5	3,812,657

Annual harvesting amounts for Sangha
(values in orange are estimations based on Average Harvesting Volumes from 2002-2011)
These values will be used to extrapolate planned degradation for 2000-2001 & 2011-2013 until the most recent harvesting data becomes available from the MEFDD for the years in question.

Sangha Département

Concession	Owner	Size (ha)				
Pokola	CIB	377,550				
Year	Harvesting Year	Reported Harvested Timber Volumes (m3)	Total Harvesting Volumes 2002-2012 (m3)	Average Harvesting Vollumes 2002-2012 (m3)	Estimated Harvesting Volumes 2000-2001 & 2012-2013 (m3)	Total Harvest Volumes 2000-2013 (m3)
	2000*	99,931	1,099,241	99,931	299,792.93	1,399,034
	2001*	99,931				
R1	2002	179,838				
R2	2003	156,604				
R3	2004	153,087				
R4	2005	132,550				
R5	2006	85,102				
R6	2007	84,237				
R7	2008	93,747				
R8	2009	43,311				
R9	2010	50,120				
R10	2011	48,593				
M1	2012	72,053				
M2	2013*	99,931				

Concession	Owner	Size (ha)				
Pikounda	CIB	92,530				
Year	Harvesting Year	Reported Harvested Timber Volumes (m3)	Total Harvesting Volumes 2002-2011 (m3)	Average Harvesting Vollumes 2002-2011 (m3)	Estimated Harvesting Volumes 2000-2001 & 2012-2013 (m3)	Total Harvest Volumes 2000-2013 (m3)
	2000*	-	-	-	-	-
	2001*	-				
R1	2002	-				
R2	2003	-				
R3	2004	-				
R4	2005	-				
R5	2006	-				
R6	2007	-				
R7	2008	-				
R8	2009	-				
R9	2010	-				
R10	2011	-				
M1	2012*	-				
M2	2013*	-				

Concession	Owner	Size (ha)				
Kabo	CIB	267,048				
Year	Harvesting Year	Reported Harvested Timber Volumes (m3)	Total Harvesting Volumes 2002-2011 (m3)	Average Harvesting Vollumes 2002-2011 (m3)	Estimated Harvesting Volumes 2000-2001 & 2013 (m3)	Total Harvest Volumes 2000-2013 (m3)
	2000*	83,743	921,172	83,743	251,228.71	1,172,401
	2001*	83,743				
R1	2002	155,207				
R2	2003	141,325				
R3	2004	130,530				
R4	2005	88,163				
R5	2006	67,612				
R6	2007	89,968				
R7	2008	86,633				
R8	2009	50,869				
R9	2010	35,881				
R10	2011	44,618				
M1	2012	30,366				
M2	2013*	83,743				

Concession	Owner	Size (ha)				
Ngombé	IFO	1,351,600				
Year	Harvesting Year	Reported Harvested Timber Volumes (m3)	Total Harvesting Volumes 2002-2011 (m3)	Average Harvesting Vollumes 2002-2011 (m3)	Estimated Harvesting Volumes 2000-2001 & 2012-2013 (m3)	Total Harvest Volumes 2000-2013 (m3)
	2000*	196,964	1,969,641	196,964	787,856	2,757,497
	2001*	196,964				
R1	2002	481,350				
R2	2003	107,663				
R3	2004	180,812				
R4	2005	175,648				
R5	2006	162,668				
R6	2007	163,588				
R7	2008	146,616				
R8	2009	164,670				
R9	2010	200,598				
R10	2011	186,028				
M1	2012*	196,964				
M2	2013*	196,964				

Concession	Owner	Size (ha)				
Jua-Ikie	SEFYD	671,336				
Year	Harvesting Year	Reported Harvested Timber Volumes (m3)	Total Harvesting Volumes 2002-2011 (m3)	Average Harvesting Vollumes 2002-2011 (m3)	Estimated Harvesting Volumes 2012-2013 (m3)	Total Harvest Volumes 2000-2013 (m3)
	2000	/	222,031	24,670	49,340	271,371
	2001	/				
R1	2002	/				
R2	2003	72,385				
R3	2004	35,725				
R4	2005	9,499				
R5	2006	5,182				
R6	2007	5,182				
R7	2008	725				
R8	2009	3,310				
R9	2010	20,936				
R10	2011	69,087				
M1	2012*	24,670				
M2	2013*	24,670				

Concession	Owner	Size (ha)				
Tala-Tala	SIFCO	621,120				
Year	Harvesting Year	Reported Harvested Timber Volumes (m3)	Total Harvesting Volumes 2002-2011 (m3)	Average Harvesting Vollumes 2002-2011 (m3)	Estimated Harvesting Volumes 2012-2013 (m3)	Total Harvest Volumes 2000-2013 (m3)
	2000*	30,075	210,523	30,075	120,298.86	330,822
	2001*	30,075				
R1	2002	93,440				
R2	2003	6,518				
R3	2004	/				
R4	2005	/				
R5	2006	/				
R6	2007	7,812				
R7	2008	35,759				
R8	2009	8,060				
R9	2010	21,909				
R10	2011	37,025				
M1	2012*	30,075				
M2	2013*	30,075				

Likouala Département

Concession	Owner	Size (ha)				
Ipendja	Thanry-Congo	461,296				
Year	Harvesting Year	Reported Harvested Timber Volumes (m3)	Total Harvesting Volumes 2002-2011 (m3)	Average Harvesting Vollumes 2002-2011 (m3)	Estimated Harvesting Volumes 2000-2001 & 2012-2013 (m3)	Total Harvest Volumes 2000-2013 (m3)
	2000*	32,345	291,104	32,345	129,379.56	420,483.56
	2001*	32,345				
R1	2002	17,565				
R2	2003	44,035				
R3	2004	55,150				
R4	2005	20,319				
R5	2006	42,247				
R6	2007	55,877				
R7	2008	27,721				
R8	2009	/				
R9	2010	235				
R10	2011	27,955				
M1	2012*	32,345				
M2	2013*	32,345				

Concession	Owner	Size (ha)				
Mobola-Mbondo	Bois Kassa	105,000				
Year	Harvesting Year	Reported Harvested Timber Volumes (m3)	Total Harvesting Volumes 2002-2011 (m3)	Average Harvesting Vollumes 2002-2011 (m3)	Estimated Harvesting Volumes 2000-2001 & 2012-2013 (m3)	Total Harvest Volumes 2000-2013 (m3)
	2000	/	17,456	1,940	3,879	21,335
	2001	/				
R1	2002	/				
R2	2003	1,455				
R3	2004	915				
R4	2005	561				
R5	2006	1,151				
R6	2007	4,194				
R7	2008	822				
R8	2009	5,046				
R9	2010	1,831				
R10	2011	1,481				
M1	2012*	1,940				
M2	2013*	1,940				

Concession	Owner	Size (ha)				
Mokabi-Dzanga	MOKABI SA	370,500				
Year	Harvesting Year	Reported Harvested Timber Volumes (m3)	Total Harvesting Volumes 2002-2011 (m3)	Average Harvesting Vollumes 2002-2011 (m3)	Estimated Harvesting Volumes 2000-2001 & 2012-2013 (m3)	Total Harvest Volumes 2000-2013 (m3)
	2000*	81,887	818,865	81,887	327,546	1,146,411
	2001*	81,887				
R1	2002	55,145				
R2	2003	78,062				
R3	2004	71,024				
R4	2005	74,043				
R5	2006	98,839				
R6	2007	126,104				
R7	2008	96,144				
R8	2009	13,918				
R9	2010	100,301				
R10	2011	105,285				
M1	2012*	81,887				
M2	2013*	81,887				

Concession	Owner	Size (ha)				
Lopola	BPL	199,900				
Year	Harvesting Year	Reported Harvested Timber Volumes (m3)	Total Harvesting Volumes 2002-2011 (m3)	Average Harvesting Vollumes 2002-2011 (m3)	Estimated Harvesting Volumes 2000-2001 & 2012-2013 (m3)	Total Harvest Volumes 2000-2013 (m3)
	2000*	40,232	402,315	40,232	160,926	563,241
	2001*	40,232				
R1	2002	45,144				
R2	2003	49,437				
R3	2004	55,396				
R4	2005	45,574				
R5	2006	48,636				
R6	2007	53,396				
R7	2008	19,220				
R8	2009	26,795				
R9	2010	29,791				
R10	2011	28,926				
M1	2012*	40,232				
M2	2013*	40,232				

Concession	Owner	Size (ha)				
LOUNDOUNDGOU-TOUKOULAKA	CIB	552,676				
Year	Harvesting Year	Reported Harvested Timber Volumes (m3)	Total Harvesting Volumes 2002-2011 (m3)	Average Harvesting Vollumes 2002-2011 (m3)	Estimated Harvesting Volumes 2000-2001 & 2012-2013 (m3)	Total Harvest Volumes 2000-2013 (m3)
	2000	/	1,121,670	112,167	112,167	1,233,838
	2001	/				
R1	2002	/				
R2	2003	28,330				
R3	2004	95,593				
R4	2005	121,472				
R5	2006	201,600				
R6	2007	179,481				
R7	2008	145,251				
R8	2009	59,231				
R9	2010	97,357				
R10	2011	94,510				
M1	2012*	98,845				
M2	2013*	112,167				

Variables and Factors used for Calculating historical REL_{PLDEG}

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Variable	Value	Unit
Volume of extracted timber during the baseline period	8,041,199	m³
Wood density value	0.6	wood specific gravity - dimensionless
Default carbon fraction value	0.49	t/C
Stand damage factor	0.7	tC / m3 extracted
Total Area of timber concessions	5,744,436	ha
Carbon to CO2e factor	3.67	
Adjustment for Harvested Wood Products		
Exported Logs	40%	Percentage of roundlogs
Transformed Logs	60%	Percentage of sawnwood
Lumber Recovery factor	40%	Percentage of volume from round Logs post-transformation
Baseline emissions logging (2000-2010)	4,069,114	tCO2e
Baseline emissions Stand Damage (2000-2010)	20,657,840	tCO2e
Total Baseline emissions 2000-2010	24,726,954	tCO2e
Annual Baseline emissions (REL_{PLDEG})	2,472,695	tCO2e

~~2000-2010 Export and Transformation Rates of Harvested Timber In the Rep. of Congo~~

		Tonnes of DM	Tonnes of C	Harvest Timber 2000-2010 tCO2e
Volume transformed in Country (m³)	4,824,719.40	1,736,899	851,081	3,123,465
Round Logs Exported (m³)	3,216,479.60	1,929,888	945,645	945,649

~~2000-2010~~

Variable	Value	Unit
Volume of extracted timber during the baseline period	10,944,432	m³
Wood density value	0.6	wood specific gravity - dimensionless
BEF	1	-
Default carbon fraction value	0.49	t/C
Stand damage factor	0.7	tC / m3 extracted
Total Area of timber concessions	6,130,556	ha
Carbon to CO2e factor	3.67	-

Historical Planned Degradation (logging) 2000-2013	11,808,823	tCO2e
Historical Planned Degradation (Stand Damage, log landings, logging roads, infrastructure, etc) (2000-2013)	28,116,245	tCO2e
-	-	-
Total Historical Baseline emissions 2000-2013	39,925,068	tCO2e
Annual Historical Baseline emissions (RELPLDEG)	2,851,791	tCO2e

2000-2013 Harvested Volume and Stand Damage (Stand Damage includes branches, crowns, stumps, skid trails, roads, log landings, etc)

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Harvested Volume (m³)	Stand Damage factor	Stand damage (tC)	Stand damage (tCO2e)
8,041,199	0.7	5,628,839.30	**20,657,840.24**

Harvested Volume (m³)	Total Stand Damage factor	Stand damage 2000-2013 (tC)	Stand damage 2000-2013 (tCO2e)
11,808,823	0.7	8266176.0	28,116,245

Appendix 7 – Details of the Planned Deforestation Values used for the REL_{PLDEf} Calculations

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Planned Deforestation is an emission activity that has only recently begun (since 2011) in the north of the Congo. As such, the large-scale deforestation that accompanies land clearing for oil palm plantations, which began in 2012, as well as the national road building, which began in 2011, is not captured by the 2000-2010 remotely sensed data used for the ER-PIN REL. In order to ensure that the RoC REL was a fair representation of the on-the-ground reality, the ER-PIN has extended the Reference Period to include 2000-2013.

Activity Data for historical Planned Deforestation in Sangha & Likouala

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Oil Palm (ha)		
Sangha Palm	58,000	Secondary Forest
ATTAMA	189,489	Primary Forest
Roads (km)		
Sangha	300	Primary Forest
Likouala	200	Primary Forest

Oil Palm (ha)		
Sangha Palm	58,000	Secondary Forest
ATTAMA	189,489	Primary Forest
Roads (km)		
Sangha	300	Primary Forest
Likouala	200	Primary Forest

Activity Data and Emission Factors for historical Planned Deforestation in Sangha and Likouala

Oil Plam	Concession Size	Forest Classification	Converted (ha)		Emission Factor (tC/ha)	tC	tCO2e
Sangha Palm	58,000	secondary	27,000		118.6	3,202,200	11,752,074
Atama	189,489	primary	113,693		149.05	16,946,001	62,191,824.66
Roads (km)		ha of deforestation per 1 km					
500		5			149.05	372,625	1,367,533.75
						TOTAL	75,311,432
						Annual Mean Loss between 2011-2020	8,367,936.93
Carbon to CO2e factor	3.67						

Oil Plam	Concession Size	Forest Classification	Converted (ha)		Emission Factor (tC/ha)	tC	Total Emissions 2012-2020 tCO2e	Average Annual Emissions (tCO2e)
Sangha Palm	58,000	secondary	27,000		118.6	3,202,200	11,752,074	1,305,786
Atama	189,489	primary	113,693		149.05	16,946,001	62,191,825	6,910,203
National Road Project								
Roads (km)		ha of deforestation per 1 km						
500		5			149.05	372,625	1,367,534	151,948
						TOTAL Loss between 2012-2020	75,311,432	
							Average Annual Loss between 2012-2020	**8,367,937**

It is critical to bear in mind that the future reality in Sangha and Likouala is that oil palm exploitation has just begun on a massive industrial scale, and as the development of this sector is a priority for the government, that it is more likely then not that additional land clearing will take place for oil palm. The deforestation from Sangha Palm and ATAMA, as it only began in 2012, is anticipated to be

completed before 2020. The REL_{PLDEF} component is assumed to be conducted over nine years from 2012-2020.

Deforestation expected to occur due to increasing population:

	Annual Defor (ha)	Cumalative Deforestation (ha)	Annual Emissions (CO2e)	Cummalative Emissions (CO2e)
2014	1687	1,687	922,838	922,838
2015	1687	3,374	1,845,676	1,845,676
2016	1687	5,061	2,768,514	2,768,514
2017	1687	6,748	3,691,353	3,691,353
2018	1687	8,435	4,614,191	4,614,191
2019	1687	10,122	5,537,029	5,537,029
2020	**1687**	**11,809**	**6,459,867**	**6,459,867**
2021	1687	13,496	7,382,705	7,382,705
2022	1687	15,183	8,305,543	8,305,543
2023	1687	16,870	9,228,381	9,228,381
2024	1687	18,558	10,151,219	10,151,219
2025	1687	20,245	11,074,058	11,074,058

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The below graphs are reproduced from the PDSA département SANGHA and show the anticipated growth of the agriculture sector in Sangha until 2035.

Evolution of the Increased need of Surface Area devoted to Maize and Soy

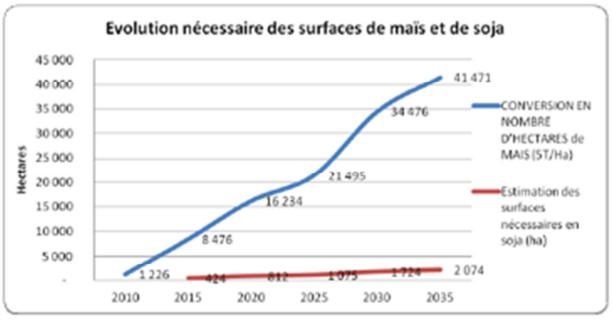

Figure 9 : Evolution de la progression des surfaces nécessaires de maïs

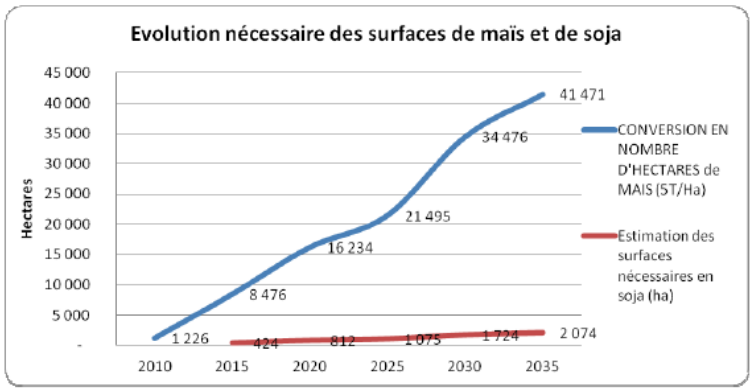

Figure 9 : Evolution de la progression des surfaces nécessaires de maïs

Evolution of the Increased need of Surface Area devoted to Oil Palm

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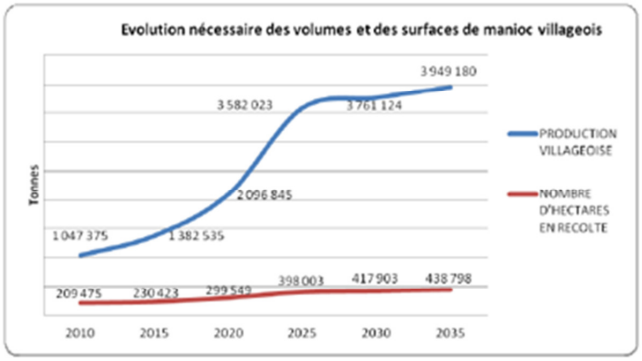


Figure 12 : Evolution des besoins de production de manioc

Le RGPH-2007 - Population of the Départemnets
accessed Mar 2014 - http://www.cnsee.org/index.php?option=com_content&view=article&id=135:popdep&catid=43:analyse-rgph

	Likouala Population Estiamte				**Sangha Population Estiamte**			
2007	154,115.00				2007	85,738		
2008	159,509.03				2008	88,739		
2009	165,091.84	Growth Rate	3.50%		2009	91,845	Growth Rate	3.50%
2010	**170,870.06**				**2010**	**95,059**		
2011	176,850.51				2011	98,386		
2012	183,040.27				2012	101,830		
2013	189,446.68				2013	105,394		
2014	196,077.32				2014	109,083		
2015	**202,940.02**				**2015**	**112,901**		
2016	210,042.93				2016	116,852		
2017	217,394.43				2017	120,942		
2018	225,003.23				2018	125,175		
2019	232,878.35				2019	129,556		
2020	**241,029.09**				**2020**	**134,090**		
2021	249,465.11				2021	138,784		
2022	258,196.39				2022	143,641		
2023	267,233.26				2023	148,668		
2024	276,586.42				2024	153,872		
2025	**286,266.95**				**2025**	**159,257**		
2026	296,286.29				2026	164,831		
2027	306,656.31				2027	170,601		
2028	317,389.28				2028	176,572		
2029	328,497.91				2029	182,752		
2030	339,995.33				2030	189,148		
2031	351,895.17				2031	195,768		
2032	364,211.50				2032	202,620		
2033	376,958.90				2033	209,712		
2034	390,152.46				2034	217,052		
2035	**403,807.80**				**2035**	**224,648**		
2036	417,941.07				2036	232,511		
2037	432,569.01				2037	240,649		
2038	447,708.93				2038	249,072		
2039	463,378.74				2039	257,789		
2040	479,597.00				2040	266,812		
2041	496,382.89				2041	276,150		
2042	513,756.29				2042	285,815		
2043	531,737.76				2043	295,819		
2044	550,348.58				2044	306,173		
2045	569,610.78				2045	316,889		
2046	589,547.16				2046	327,980		
2047	610,181.31				2047	339,459		
2048	631,537.66				2048	351,340		
2049	653,641.48				2049	363,637		
2050	**676,518.93**				**2050**	**376,364**		

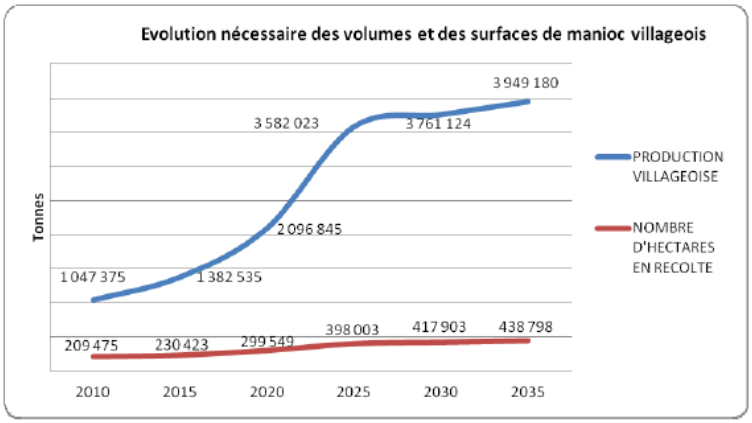


Figure 12 : Evolution des besoins de production de manioc

Estimated Populations of Likouala and Sangha
Le RGPH-2007 - Population of the Départemnets
accessed Mar 2014 - http://www.cnsee.org/index.php?option=com_content&view=article&id=1

	Likouala Population Estiamte				Sangha Population Estiamte			
2007	154,115.00				2007	85,738		
2008	161,974.87				2008	88,139		
2009	170,235.58	Growth Rate	5.10%		2009	90,607	Growth Rate	2.80%
2010	178,917.60				**2010**	93,144		
2011	188,042.40				2011	95,752		
2012	197,632.56				2012	98,433		
2013	207,711.82				2013	101,189		
2014	218,305.12				2014	104,022		
2015	229,438.68				**2015**	106,935		
2016	241,140.05				2016	109,929		
2017	253,438.20				2017	113,007		
2018	266,363.55				2018	116,171		
2019	279,948.09				2019	119,424		
2020	294,225.44				**2020**	122,768		
2021	309,230.94				2021	126,205		
2022	325,001.71				2022	129,739		
2023	341,576.80				2023	133,372		
2024	358,997.22				2024	137,106		
2025	377,306.08				**2025**	140,945		
2026	396,548.69				2026	144,891		
2027	416,772.67				2027	148,948		
2028	438,028.08				2028	153,119		
2029	460,367.51				2029	157,406		
2030	483,846.25				2030	161,814		
2031	508,522.41				2031	166,344		
2032	534,457.05				2032	171,002		
2033	561,714.36				2033	175,790		
2034	590,361.79				2034	180,712		
2035	620,470.24				**2035**	185,772		
2036	652,114.23				2036	190,974		
2037	685,372.05				2037	196,321		
2038	720,326.03				2038	201,818		
2039	757,062.66				2039	207,469		
2040	795,672.85				2040	213,278		
2041	836,252.17				2041	219,250		
2042	878,901.03				2042	225,389		
2043	923,724.98				2043	231,700		
2044	970,834.95				2044	238,187		
2045	1,020,347.54				2045	244,857		
2046	1,072,385.26				2046	251,713		
2047	1,127,076.91				2047	258,760		
2048	1,184,557.83				2048	266,006		
2049	1,244,970.28				2049	273,454		
2050	1,308,463.76				**2050**	281,111		

Appendix ~~8 – Details of the Values used for the Adjustment of the REL~~

~~Percentage of Forest Cover in Sangha & Likouala and Corresponding Emission Factors~~

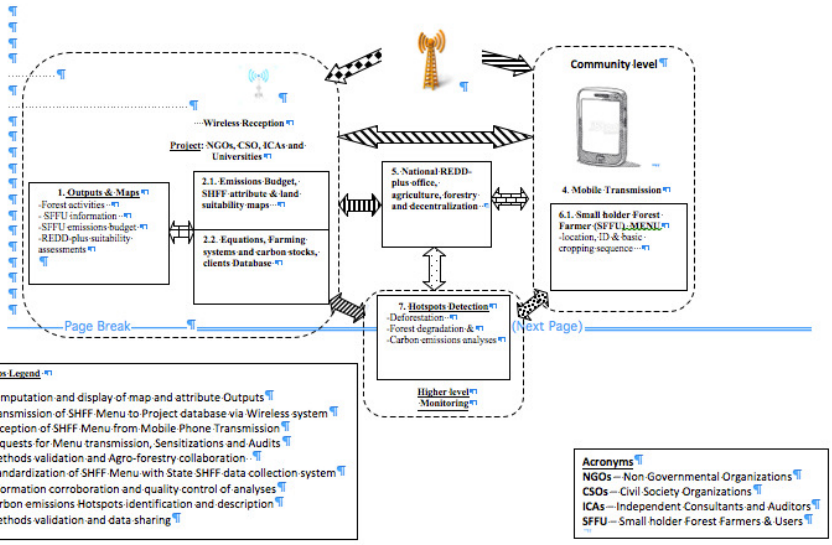
% of Forest Cover Type & Emission Factors		
Likouala		**Emission Factor (tC/ha)**
Primary Forest	39%	149.05
Secondary Forest	1%	118.16
Wetland/Swamp Forest	61%	88.49
Sangha		
Primary Forest	59%	149.05
Secondary Forest	2%	118.16
Wetland/Swamp Forest	39%	88.49

~~Forest Cover Loss and Annual Emission Reductions for Deforestation from areas identified in the Agricultural Sector Development Plan of Sangha~~

Sangha							
Mining	**Forest Cover Loss**	**Primary Forest**	**Secondary Forest**	**Swamp Forest**	**Total C**	**Total CO2e until 2015-2020**	**Annual CO2e Emissions 2015-2035**
Congo Iron * (max 3 years of Deforestation, and all prior to 2020)	3,000	1,764	51	1,185	270,270	991,890	165,315
						-	-
Agriculture		-				-	-
Macro Agro Zone 1	133,253	78,370	2,261	52,622	12,000,913	44,043,351	2,202,167.56
Macro Agro Zone 2	67,144	39,489	1,139	26,515	6,047,107	22,192,883	1,109,644.15
						-	-
Oil Palm Sembe	133,513	78,523	2,266	52,725	12,024,329	44,129,287	2,206,464.35
							-
TOTALS	**336,910**					**111,357,411**	**5,567,870.57**

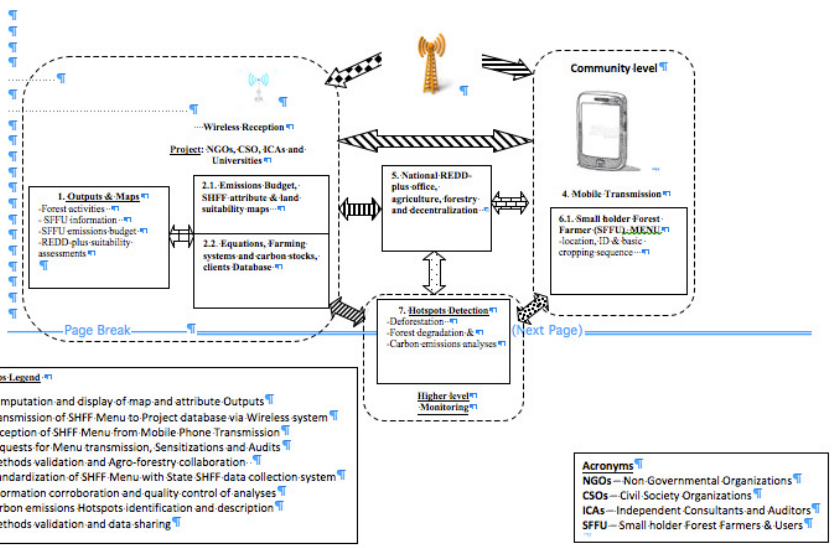
~~Appendix 9~~ 8 - Preliminary Example of how Indigenous communities can take part in MRV Activities

Figure 9: Community-based carbon emissions monitoring and accounting (CB-CEMA) for REDD-plus governance



~~Mbile, STRENGTHENING TRACEABILITY OF EMISSIONS FROM FOREST COVER CHANGE TO ALLEVIATE GOVERNANCE CONCERNS OF REDD-PLUS (WRI) Unpublished~~

Figure 9: Community-based carbon emissions monitoring and accounting (CB-CEMA) for REDD-plus governance



Appendix ~~10~~9 Displacement – (Leakage)

The REDD+ Congo Emission Reduction Program Initial Displacement Assessment

The following is the initial displacement assessment conducted by the RoC in order to analyze the displacement risks, both positive and negative for the Primary and Secondary Project Activities.

	Domestic Displacement	International Displacement (ID)	Mitigation Approach
Primary Project Activities	**(ER-P Activities)**		
1. Cocoa Production	**Activity Shifting Displacement (ASD)**	**International Displacement (ID)**	**Mitigation Approach**
	None Identified	ID a. Displacement due to the intensification of cocoa plantations in neighboring Cameroon and Ghana. Results in degradation and deforestation.	ID a. Only domestically sourced cocoa will be allowed to contribute to the ER-P. Sellers will, through contracts and registration be known to the Program. Without being able to trace the location where the cocoa was grown, it can not be accepted into the Program.
	Market Displacement (MD)		

	MD a. Displacement due to the intensification of cocoa plantations from both local farmers and migratory farmers interested in undertaking cocoa activity. Results in degradation and deforestation.	None Identified	MD a. The Program will be able to promote sustainable cocoa production that does not include degrading or deforesting and will ensure that Cocoa that it purchases is traceable to a registered farmer. Registered farmers will be provided capacity building, access to inputs, ability to register their land claim, etc and so their is a benefit to being registered
2. Improved charcoal production efficiency and utilization of biochar	**Activity Shifting Displacement (ASD)**	**International Displacement (ID)**	**Mitigation Approach**
	None Identified	ID a. Displacement occurs due to intensification of charcoal production by individuals in nearby Ghana, Cameroon, CAR and DRC due to the new demand for biochar.	ID a. - International displacement in neighboring countries can be avoided by building in a simple charcoal traceability element into the Program in order to have a verification method of the origin of charcoal.
	Market Displacement (MD)		
	MD a. Displacement occurs due to intensification of charcoal production by locals and migrants due to the greater efficiencies and new demand for biochar.	None Identified	MD a. - The ER-P will seek to include as much industrial logging wood waste as possible into the charcoal and biochar production chain in the north of Congo.

	MD b. Displacement occurs as the result of increased forest clearance as local farmers clear more land due to the increased value they receive from crop intensification.	MD b. - Although expansive agriculture growth is possible, the Program will develop and promote additional sustain able agricultural techniques to limit the impact of any such displacement.	None Identified
3. SFM- Reduced Impact Logging	**Activity Shifting Displacement (ASD)**	**International Displacement (ID)**	**Mitigation Approach**
	ASD a. intensification of harvesting to other areas within the Project Proponent's operations and/or under its management	Because timber production rates will not necessarily decrease, International displacement is not anticipated but will be monitored	ASD a. - Harvesting intensity will be limited by FMP - Improvements to Forest Governance will be undertaken (i.e. FLEGT-VPA) - Enhancement to MEFDD's ability to monitor FMPs
	ASD b. - shifting of harvesting to other areas within the Project Proponent's operations and/or under its management	None Identified	ASD b. - Harvesting intensity will be limited by FMP - Improvements to Forest Governance will be undertaken (i.e. FLEGT-VPA) - Enhancement to MEFDD's ability to monitor FMPs
	Market Displacement (MD)		

	Because timber production rates will not necessarily decrease, market displacement is not anticipated but will nonetheless be monitored	None Identified	None Identified
4. SFM – Conversion of logged forests to protected forests	**Activity Shifting Displacement (ASD)**	**International Displacement (ID)**	**Mitigation Approach**
	ASD a. intensification of harvesting and/or shifting of harvesting to other areas within the Project Proponent's operations and/or under its management	Because timber production rates will not necessarily decrease, International market displacement is not anticipated	ASD a. - Harvesting intensity will be limited by FMP - Improvements to Forest Governance will be undertaken (i.e. FLEGT-VPA) - Enhancement to MEFDD's ability to monitor FMPs
	Market Displacement (MD)		
	Because timber production rates will not necessarily decrease, market displacement is not anticipated but will nonetheless be monitored	None Identified	None Identified
5. Afforestation/Reforestation (including community Agroforestry)	**Activity Shifting Displacement (ASD)**	**International Displacement (ID)**	**Mitigation Approach**
	None Identified	None Identified	None Identified
	Market Displacement (MD)		

	Because timber production rates will not necessarily decrease, market displacement is not anticipated but will nonetheless be monitored	Because timber production rates will not necessarily decrease, International market displacement is not anticipated	None Identified
Secondary Project Activities (ER activities)			
1. High efficiency Cook Stoves	**Activity Shifting Displacement (ASD)**	**International Displacement (ID)**	**Mitigation Approach**
	None Identified	None Identified	None Identified
2. Cogeneration	**Activity Shifting Displacement (ASD)**	**International Displacement (ID)**	**Mitigation Approach**
	ASD a. Intensification of slash and burn agriculture as community agroforestry areas compete for available space is not anticipated in the north of Congo	None Identified	None Identified
	Market Displacement (MD)		
3. Green Mining (Protected Areas)	**Activity Shifting Displacement (ASD)**	**International Displacement (ID)**	**Mitigation Approach**

	None Identified	ID a. Displacement to neighboring countries (Ghana, Cameroon) due to less onerous mining regulations then in RoC with Reduced Impact Logging.	ID a. International displacement will be monitored
	Market Displacement (MD)		
	None Identified	None Identified	None Identified

Appendix ~~11~~10 – Section 11 Reversals (Non-Permanence Risk-Assessment)

Primary and Secondary Project Activities	Anthropogenic Risks	Non-Anthropogenic Risks	Risk Mitigation Activity
Primary Emission Reduction Activities			
1. Cocoa Production	- Degradation of forests by cocoa growers		Expansion of cocoa plantations shall only be in forest that has not been degraded for cocoa
		Internal Risk	
		- Project Management	Appropriate oversight, QA/QC systems, Safeguards
		External Risk	
		- Commodity Price Fluctuation	n/a
		- Land Tenure	Concession based micro zoning to clarify tenure
		- Community Engagement	On-going consultations & grievance mechanism
		- Political Risk	Coalition building between ministries and départements
		Natural Risks	
		- Extreme Weather	n/a
		- Disease or Pestilence	mixed variety of robust hy-bred species will be used
2. Improved charcoal production efficiency and utilization of biochar	- Increased degradation and deforestation if charcoal production becomes to large		Concessions will provide waste wood as needed
		Internal Risk	
		- Project Management	Appropriate oversight, QA/QC systems, Safeguards
		External Risk	

		- Community Engagement	ongoing consultations & grievance mechanism
		- Political Risk	Coalition building between ministries and départements
		Natural Risks	
		- None	n/a
3. SFM- Reduced Impact Logging	- None		
		Internal Risk	
		- Project Management	Appropriate oversight, QA/QC systems, Safeguards
		- Financial Viability	Appropriate financial modeling
		External Risk	
		- Community Engagement	On-going consultations & grievance mechanism
		- Political Risk	Coalition building between ministries and départements
		Natural Risks	
		- None	n/a
4. SFM – Conversion of Logged to protected forests	- Increased poaching in undisturbed areas		Minimize access into protected area
		Internal Risk	
		- Project Management	Appropriate oversight, QA/QC systems, Safeguards
		- Project Longevity	FMP will be amended and extension of licenses can be granted for ER purposes
		External Risk	
		- Community Engagement	On-going consultations & grievance mechanism
		- Political Risk	Coalition building between ministries and départements
		Natural Risks	

		- None	n/a
5. SFM – Afforestation/Reforestation (including community Agroforestry)	- Introduction of non-native species		Ensure use of native species only
		Internal Risk	
		- Project Management	Appropriate oversight, QA/QC systems, Safeguards
		- Project Longevity	FMP will be amended and extension of licenses can be granted for ER purposes
		External Risk	
		- Political Risk	Coalition building between ministries and départements
		Natural Risks	
		- Extreme Weather	n/a
		- Disease or Pestilence	FSC approved herbicides
Secondary Emission Reduction Activities			
1. High efficiency Cook Stoves	- None		
		Internal Risk	
		- Project Management	Appropriate oversight, QA/QC systems, Safeguards
		- Financial Viability	Appropriate financial modeling
		External Risk	
		- Community Engagement	ongoing consultations & grievance mechanism
		- Political Risk	Coalition building between ministries and départements
		Natural Risks	
		- None	n/a
2. Gogeneration	**Not an ER-P project activity**		
3. Green Mining (protected areas)	- Increased poaching in undisturbed areas		Minimize access into protected area
		Internal Risk	

		- Project Management	Appropriate oversight, QA/QC systems, Safeguards
		- Project Longevity	FMP will be amended and extension of licenses can be granted for ER purposes
		External Risk	
		- Community Engagement	On-going consultations & grievance mechanism
		- Political Risk	Coalition building between ministries and départements
			Minimize access into protected area
		Internal Risk	
		- Project Management	Appropriate oversight, QA/QC systems, Safeguards
		- Project Longevity	FMP will be amended and extension of licenses can be granted for ER purposes