

Forest Carbon Partnership Facility Readiness Plan Idea Note Equatorial Guinea

Country submitting the R-PIN: Equatorial Guinea

Date submitted: 15 July December 2008

EG¹ REDD² national circumstances are unique compared to other countries in Central Africa and countries that have joined the World Bank Forest Carbon Partnership. Because of its recent economic development and recent government actions to protect its forests, EG may be approaching the cusp of reversing deforestation and forest degradation. World Bank FCPF³ and REDD incentives can play a critical, catalytic role to reinforce and stabilize this still tentative trend. Especially when considering EG's financial resources, its emerging political support for forest protection, and its relatively small size, EG has an exceptional opportunity to achieve a net increase in its forest carbon stock, something only Costa Rica has yet done. As a FCPF partner EG has the potential to develop quickly into an innovative demonstration for the issues of forest degradation and forest enhancement supported in the Bali Action Plan.

and by countries such as India. Such an effort in Equatorial Guinea may also provide lessons learned for countries that may turn the tide of deforestation and degradation in the future so they must consider reference scenario adjustments when they begin stabilizing or actually increasing the national forest carbon stock.

1. General description:

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c) Who was consulted in the process of R-PIN preparation, and their affiliation?

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¹ Equatorial Guinea

² Reduced Emissions from Deforestation and Forest Degradation

³ Forest Carbon Partnership Facility



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2. Which institutions are responsible in your country for:

a) forest monitoring and forest inventories:

1. INDEFOR-AP: National Institute for Forest Development and Protected Areas Management INDEFOR⁴ is the Government of Equatorial Guinea (GoEG) agency with responsibility for forest monitoring and forest inventories. INDEFOR has an approved budget to carry out a national forest inventory compatible with the FAO inventory done in 1992. The GoEG plans to release the funds to INDEFOR in the future.
 2. The Guinean conservation NGO, ANDEGE⁵, carries out field monitoring studies of forest biodiversity and forest cover;
 3. UNGE⁶ is actively carrying out field monitoring studies of forest biodiversity and forest condition on Bioko Island.
 4. BBPP⁷, an American/Guinean NGO collaborates with UNGE on forest monitoring studies on Bioko Island.
 5. CI-EG⁸ works closely with all of these institutions on conservation-related forest monitoring and forest inventories.
 6. Other international organizations/projects have carried out various projects contributing to forest monitoring in EG (CARPE⁹/U of Maryland, WRI¹⁰, WWF¹¹, MBG¹²).
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b) Forest law enforcement in the sectors of forest and environment:

1. Ministerio de Agricultura y Bosques (MdeAyB): Ministry of Agriculture and Forests
 2. Ministerio de Pesca y Medio Ambiente (MdePyMA): Ministry of Fishing and Environment
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c) Forestry and forest conservation:

1. MdeAyB has the legal mandate to manage the forestry sector including concessions and commercial practices.
 2. MdePyMA has the legal mandate to develop policy, protect, and manage biodiversity, including forest biodiversity.
 3. ANDEGE, UNGE, BBPP, and CI-EG are all conservation NGOs actively working on forestry and forest conservation issues in EG.
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⁴ Instituto de Desarrollo Forestal

⁵ Amigos de la Naturaleza y Desarrollo de Guinea Ecuatorial

⁶ Universidad Nacional de Guinea Ecuatorial

⁷ Bioko Biodiversity Protection Program

⁸ Conservation International in Equatorial Guinea

⁹ Central African Regional Program for the Environment

¹⁰ World Resources Institute

¹¹ World Wide Fund for Nature

¹² Missouri Botanical Garden

**d) Coordination across forest, environment and agriculture sectors, and rural development:**

1. Ministry of Agriculture and Forests
2. Ministry of Fishing and Environment
3. Ministry of Planning, Economic Development and Public Investment
4. Ministry of Infrastructure and Urbanization

3. Current country situation (consider the use of Annex 1 to help answer these questions):**General introduction:**

Equatorial Guinea is a small, sparsely populated, urbanized country. Its territory covers 2,805,100 hectares: 2,601,700ha on mainland Africa, 201,700ha on Bioko Island, and 17,500ha on Annobón Island. In 2007 EG's population was 527,000 and growing at 2.3 percent/year (UNDP 2007, EIU 2008). Three main towns, Malabo, Bata, and Ebebyin, have approximately 400,000 residents (76% of the population, EIU 2008). Although there are 18.7 Guineans per km² of national territory, population density in rural areas is less than 0.25 persons/hectare and only 0.045 persons/hectare in forested areas (FAO 2005, EIU 2008).

EG remains a forested country. Closed canopy forest covers approximately 62.5% of the national territory: 1,637,000ha on the mainland, 104,000ha on Bioko, and 12,000ha on Annobón (FAO 2005). The forest conversion rate is 11,000ha/year or 0.6 percent (FAO 2005).

EG's 2008 GDP per capita (PPP) is US \$32,889 with a real GDP growth of 11.5 percent (EIU 2008). Oil and gas account for over 90% of GDP; most of the remaining GDP is infrastructure development and public services. Agriculture, forestry, and fishing, once important sectors, contributed less than 2% of GDP in 2007. Commercial agriculture, which, in the 1960s gave EG sub-Saharan Africa's highest GDP, collapsed in the mid-1970s and never recovered. Fishing has been declining for several decades. The 2005 fish catch was less than half mid-1997 levels. Commercial timber production peaked in 2000 at 689,169 m³ and has declined since. In 2008 the government banned log exports, production has fallen below 100,000 m³, and many concessionaires have stopped activity. The only mining is for sand and gravel.

Topography varies from sea level to 3,000m (Pico Basilé, Bioko Island). Both islands are volcanic cones with rich soils and steep terrain. Mainland geomorphology includes a broad, flat, coastal plain, the granitic Niefang escarpment rising to 1500m (Monte Mitra), and an interior mid-elevation peneplain with rugged hills and scattered, emergent granite domes. Mainland geology is a result of several tectonic events that have shifted, deformed, and metamorphosed archaic rocks of the Congo Craton. There are reputed to be rich mineral deposits on the mainland.

Most of EG's original vegetation was dense, closed canopy, wet forest. The exceptions are small areas of tropical alpine and sub-alpine vegetation at high elevations on Bioko, mangrove forests along the coasts, and a variety of scattered swamp habitats and permanently or temporarily flooded forests in the interior. EG's mainland forests are the richest forests in the Congo Basin in numbers of plant species and endemics, a result of a relatively stable climatic history and the variety of physical habitats.

a) Where do forest deforestation and forest degradation occur in your country, and how extensive are they? (i.e., location, type of forest ecosystem and number of hectares deforested per year, differences across land tenure (e.g., national forest land, private land, community forest, etc.)):

- Table 1 (Appendix 1) summarizes the estimated original and present area of each EG forest. Figure 1 (Appendix 2) provides a map of dense forest, secondary forest, and non-forest land uses on the EG mainland, based on 1997 remote-sensed imagery. There is no equivalent map of Bioko or Annobón.
- Formally, the state owns all land as in Equatorial Guinea, but traditional community and individual land and resource rights are recognized:
 1. The GoEG informally recognizes forests traditionally associated with a community as "bosques comunales". A community can apply to the state to have a bosque communal legally recognized, when it becomes a "reserva de poblado". Village presidents and councils control access and use of bosques comunales and reservas de poblados and may choose to sell timber to logging companies or individual buyers.
 2. On Bioko, land tenure is heterogenous: some land is reserved for the village, other for collective property and other for private agricultural companies.



- Most deforestation occurs when non-state land is cleared for agriculture which has resulted in approximate 349,000 hectares of cultivated or settled land. Such clearing is usually done along transportation corridors and usually converts already degraded or secondary forests rather than old-growth forest which tends to be in remote areas or rugged terrain.
- Most forest degradation has occurred as a result of logging operations by international timber companies within timber concessions on national forest land. Some forest degradation has occurred as a result of small-scale, local-market logging activity in community forests (bosques comunales or reservas de poblados). The result is a total degraded and secondary forest extent of approximately 1.9 million hectares.
- A 2007 decree banned log exports which had led to a steep drop in commercial timber harvests (Appendix 2, Figure X), and associated forest degradation. The number and area of national timber concessions has decreased in recent years (Appendix 2, Figure X). In recent years, many timber concessions have become inactive or have been abandoned. This has the potential to reverse forest degradation through natural forest regeneration. There are no data to map where this may be occurring or to quantify its importance.
- Due to economic development, there is a strong and widespread movement of rural people to urban centers, particularly Bata and Malabo. Anecdotal evidence suggests this is leading to abandonment of swidden agriculture in some areas, leading to an increased potential for forest regeneration. There are no data to map where this may be occurring or to quantify its importance.

b) Are there any estimates of greenhouse or carbon dioxide emissions from deforestation and forest degradation in your country? If so, please summarize:

- There are limited estimates of greenhouse gas emissions from deforestation and forest degradation for EG.
- CBFP¹³ estimated the annual deforestation rate in EG at 0.41% and the annual degradation rate at 0.52%.
- Deforestation has reduced forest C stocks by over 65 million tons however more detailed multi-year analyses are required to assess both the historical and future deforestation rates and resulting emissions. (Table 2, Appendix 1).
- Degradation has reduced forest C stocks by over 128 millions tons however detailed multi-year analyses and field monitoring are required to assess both the historical and future degradation rates and resulting emissions. (Table 2, Appendix 1).
- Due to a variety of circumstances, there is the potential that reductions in industrial logging and increased potential natural regeneration in abandoned concessions could stabilize emissions and begin increasing carbon stocks in the relatively near term.

c) Please describe what data are available for estimating deforestation and/or forest degradation. Are data published? Describe the major types of data, including by deforestation and forest degradation causes and regions if possible (e.g., area covered, resolution of maps or remote sensing data, date, etc.).

- Data available for estimating deforestation and/or forest degradation are:*
1. A FAO forest inventory completed in 1992 based on field work from the late 1980s. FAO established permanent inventory plots, but the original plot data and plot locations are lost. There is no surviving hard-copy or digital map of the inventory.
 2. CUREF¹⁴ prepared a model management plan in 1999 that included a detailed forest inventory.
 3. A land use map CUREF produced in 2000 based on visual interpretation of 1997 remote-sensed imagery. CUREF qualitatively ground-truthed their interpretation through field visits; they did not establish and map quantitatively measured, permanent vegetation plots that could now serve as a baseline to monitor change.
 4. Global Land Cover produced a coarse-resolution land use map in 2000 based on remote sensed image interpretation that was not ground-truthed.
 5. CUREF, ECOFAC, UNGE, BBPP, and CI have all carried out or supported field vegetation studies in a number of locations for different purposes using various methodologies. Together the results give an impression of the state of EG forests, but do not allow a full and accurate quantitative estimate of deforestation and degradation in EG.
 6. A 2002 Landsat image with a 30m resolution covers the EG mainland. The image has heavy cloud cover over the western half of EG mainland therefore radar and other data analysis must done in EG.
 7. FORAF Project of OFAC¹⁵ has measured the area of forest types in the Congo Basin in 2006 and the deforestation rates from 1990-2000 and 2000-2005 based on analysis of 10km x 10km samples drawn from

¹³ Congo Basin Forest Partnership

¹⁴ Conservacion y Utilizacion Racional de Los Ecosistemas Forestales), 1996-2001. European Union



Landsat imagery on a ½ degree sampling grid. These methods are too coarse to provide useful spatial mapping of deforestation and forest degradation however EG's small size allows for relatively easy and inexpensive higher resolution analysis using LANDSAT and radar imaging for the entire country.

8. Hard-copy 1998 aerial photographs taken on north, center, and south E-W transects of the EG mainland are stored under poor conditions at INDEFOR. These do not provide complete coverage of the EG mainland and do not cover Bioko or Annobón.
- *Future sources of data to estimate forest degradation and deforestation are:*
 1. The FORAF Project of OFAC will continue monitoring forest cover in the Congo Basin. These studies are not of the appropriate resolution for the needs of EG and they do not include Bioko or Annobón.
 2. CARPE/U of Maryland will continue to monitor forest change in the Congo Basin at a resolution marginally useful for EG. CARPE/U of Maryland studies will not include Bioko or Annobón.
 3. MdeAyB/INDEFOR has developed and presented to the GoEG a proposal to carry out a full national forest inventory compatible with the FAO inventory of 1992. This proposal has been accepted in principle and included in the National Economic Development Plan: Horizon 2020. When fully funded, the inventory will focus on the volume of commercial timber species not on deforestation and forest degradation.
 4. The GoEG is considering a biodiversity conservation technical support agreement. Funding is needed to support remote-sensed image analysis and ground-truthing field work as part of a national biodiversity research program that will include mainland EG and Bioko.
 - *In summary:*
 1. There are no up-to-date remote-sensed images or ground-truth plot data credibly to map the current state of deforestation and forest degradation in EG.
 2. FORAF's and CARPE's planned studies are at best going to be very coarse resolution and sparsely ground-truthed (CARPE does not plan any ground-truthing) and do not include the islands of Bioko or Annobón.
 3. MdeAyB's national forest inventory will focus on volume of commercial timber species in forests with timber potential. As proposed, it will not focus on providing a baseline specifically to monitor deforestation and forest degradation.
 4. CI-GoEG technical support agreement is not yet funded but when funded it could begin to establish a baseline for monitoring deforestation and forest degradation.

d) What are the main causes of deforestation and/or forest degradation? The main proximate causes of the deforestation that have occurred in EG are ordered by importance (trend):

1. Forest clearing for export-oriented plantations (cacao, coffee, tropical fruits, etc) (an important historical cause and oil palm plantations are growing a threat);
 2. Small-scale commercial and short-rotation, subsistence, swidden agriculture of traditional crops (decreasing);
 3. Urban expansion (increasing);
 4. Road-building and other infrastructure development (increasing);
 5. Sand-mining (increasing);
 6. Future hydro-electric dam plans on the Rio Wele would submerge a large area of dense lowland moist forest.
- *The main proximate causes of the forest degradation that have occurred in EG ordered by importance (trend):*
 1. Export-oriented commercial logging (rapidly decreasing);
 2. Short-rotation, subsistence, swidden agriculture (decreasing);
 3. Over-harvesting of firewood/charcoal and non-timber forest products (unchanging);
 4. Small-scale, local-market-oriented commercial logging and artisanal timber harvesting (unchanging);
 5. Hunting that eliminates keystone species (e.g., elephants) (increasing).
 - *These proximate causes of deforestation and forest degradation are rooted in an ultimate, socio-economic and political context that has shifted several times:*
 1. Shortly after independence in 1968 the export-oriented agriculture plantations that deforested Bioko and areas near Bata were abandoned for political reasons.
 2. Oil and gas driven economic growth based in urban centers has caused a migration of the rural population to cities mostly to Bata and Malabo which is linked to decreasing subsistence swidden and small-scale, traditional-crop agriculture as a result of urbanization.

¹⁵ Central Africa Forest Observatory



3. Returning expatriate Guineans and foreign workers are increasing EG's urban population and urban-expansion-caused deforestation.
4. Oil sector revenues have eliminated the need for timber exports to generate foreign reserves. This has reduced support for export-oriented logging.
5. Government and public awareness of biodiversity and ecosystem values of EG's forests is increasing and creating a broad constituency for reducing deforestation and forest degradation.

e) What are the key issues in the area of forest law enforcement and forest sector governance (e.g., concession policies and enforcement, land tenure, forest policies, capacity to enforce laws, etc.?)

Key issues in forest law enforcement and forest sector governance are:

1. Overlapping ministerial jurisdiction in enforcement authority;
2. Low civil society participation in forest sector governance;
3. Complex, partially conflicting land tenure systems;
4. Limited enforcement of forest sector laws;
5. Low technical capacity to carry out forest sector policy;
6. Limited of monitoring capacity.

4) What data are available on forest dwellers in lands potentially targeted for REDD activities (including indigenous peoples and other forest dwellers)? (e.g., number, land tenure or land classification, role in forest management, etc.):

1. There are no forest dwellers in EG in the sense of people living the majority of time in the forest and dependent principally on hunting and gathering activities for their livelihoods. The population of the EG mainland is dominated by the Fang ethnic group, which is divided into 67 clans with strong differences. Culturally the Fang are a forest hunting people. The indigenous inhabitants of Bioko are the Bubi. The traditional culture of the Bubi was more agricultural than the Fang.
2. In 2000 Future of Rainforest Peoples (FRP)¹⁶ carried out an intensive study of ten representative EG villages. This study analyzed land tenure, land tenure perception by local people, trends in rural demography, rural economic activities and economic relationship to the forest and forest resources.
3. Many rural people in EG live in daily contact with the forest and/or are partially dependent on forest resources (in addition to the diffuse benefits of ecosystem services on which even urban residents depend). Rural people have greater contact and dependence on the forest in the southern, more heavily forested half of mainland EG and the southern parts of Bioko.
4. CARPE/CI supported studies by Imperial College (London) of the socio-economic role of bushmeat hunting in several villages in the heavily forested southern half of mainland EG established that bushmeat hunting and consumption was correlated with better adult and child health and greater household income stability.
5. Many people who have moved to urban centers for cash-paying employment maintain ties to their family or clan villages. The increasingly good road system of EG is making visits to such villages easier and therefore more routine. In this sense, rural areas are becoming less remote and the division between rural and urban economies less distinct.
6. The GoEG has developed policies and laws over the last decade that formally gives local stakeholders and residents a prominent role in forest management planning and implementation. In practice forest management remains highly centralized with local stakeholders involved in a distinctly subordinate role.

5. Summarize key elements of the *current* strategy or programs that your government or other groups have put in place to address deforestation and forest degradation, if any:

- *EG's current strategy does not include REDD payments which could be a powerful incentive to rationalize, coordinate, and implement elements of the Government strategy particularly with the support of the FCPF Readiness planning.*
- *Key elements of EG's current strategy that addresses deforestation and forest degradation are:*
 1. Establish and effectively manage a national system of protected areas (SNAP¹⁷) that increases formal protection from 17% up to 40% of the national territory. The government has committed to converting 500,000ha of timber

¹⁶ Future of Rainforest Peoples, 2000. Les peuples des Forêts Tropicales Aujourd'hui – Volume III – Région Afrique Centrale – 2. Guinée Equatoriale. pp. 259-299.

¹⁷ Sistema Nacional de Áreas Protegidas



concessions in the heavily forested southern half of mainland EG into a sustainably managed national forest. The government is considering a 20,000ha protected forest corridor to link Pico Basilé National Park and the Caldera de Luba Scientific Reserve. These two additions to the protected areas system would bring ~40% of EG national territory under formal protection against deforestation and forest degradation. In design and intent, EG's SNAP is one of the world's most comprehensive, but it is not fully implemented and requires sustainable financing.

2. Establish mechanisms sustainably to finance SNAP and forest conservation: The GoEG has committed to creating two funds to provide sustainable financing for managing the national system of protected areas and protecting biodiversity and the environment. By policy intent and signed agreement, EG is unique in Central Africa in its ability and commitment to establish early financing for forest conservation with an initial US\$15 million that could match REDD incentives.
 3. Commit to global and regional environmental treaties bearing on deforestation and forest degradation: The GoEG has signed and ratified all major international environmental and biodiversity treaties, committing itself to their provisions that address deforestation and forest degradation. EG is a member of CBFP and COMIFAC which specifically commits EG to actions for the protection and sustainable development of the Congo Basin forest.
 4. Improve the legal and policy context of the environmental sector: Since EG independence and particularly in the last decade, the GoEG has developed and promulgated a series of laws and decrees that have improved the legal and policy context and have created implementing institutions for biodiversity conservation and sustainable natural resource use. These legal instruments include a National Forest Plan, a national Protected Areas System, a National Biodiversity Strategy, a ban on hunting primates, and a ban on log exports.
 5. Build Guinean technical capacity to address deforestation and forest degradation: Now funded by the government, the National University of Equatorial Guinea (UNGE) in 2005 created a new Department of Environmental Studies to develop EG's technical capacity in the environmental sector by providing undergraduate and advanced degree programs, non-degree technical training, and research. The Department has awarded advanced degrees to more than 50 students many of whom government positions of technical and policy responsibility. The GoEG has signed an agreement to support Guineans in Master's and PhD programs at foreign institutions. Guinean technical capacity is improving, but still more work is needed to develop capacity in both the urban and rural institutions and agencies.
 6. Improve enforcement of laws and regulations influencing deforestation and forest degradation activities: INDEFOR/ECOFAC has developed a trained corps of ecoguards that patrol Monte Alen National Park. Various legal instruments authorize ecoguards in other protected areas and forest guards to enforce compliance by timber concessionaires in their operations. BBPP and UNGE have organized community members to monitor presence of hunting and other illegal activity in the two protected areas on Bioko.
 7. Establish a national biodiversity institute and research program to generate data needed for credible planning and implementation of actions to reduce deforestation and forest degradation: The "*Estrategia y Plan de Acción para la conservación de la biodiversidad en Guinea Ecuatorial*" ("*Estrategia*")¹⁸, the current national environmental policy framework document, envisions a National Biodiversity Institute to develop and coordinate a comprehensive biodiversity research and monitoring program. Such a program would be the mechanism to establish critical baseline data and support subsequent monitoring to enable adaptive management and effectiveness of actions to reduce deforestation and forest degradation. The GoEG is developing a collaborative project that would implement a national Biodiversity institute and national biodiversity research program with the assistance of CI.
 8. Sustain a public education campaign to sensitize the Guineans to the issues of deforestation and forest degradation: There is awareness within the GoEG and in EG generally that reducing deforestation and forest degradation will require building public understanding, support, and participation. INDEFOR, UNGE, and several Guinean (ANDEGE) and international NGOs (CI, BBPP) are actively implementing limited public education and sensitization on biodiversity and natural resource issues to achieve these goals.
 9. Establish legal, regulatory, and economic mechanisms for the equitable participation of stakeholders, particularly local residents, in implementing a strategy to reduce deforestation and forest degradation:
- *EG's current strategy to address deforestation and degradation must improve the patchwork of laws and decrees:*
 1. The current strategy needs additional coherency and coordination among numerous institutions and agencies;
 2. The elements of the current strategy are must be recognized and treated by the government as providing an inter-dependent, and comprehensive response to deforestation and forest degradation;
 3. The several new legal instruments that formally established the various elements of EG's strategy have created unresolved conflicts of authority among ministries;

¹⁸ Decreto No. 171/2005 de fecha 8 de septiembre



4. The EG system of government is extremely centralized so there is an increased need for delegation of authority to resolve conflicts and implement the elements of the strategy;

a) What government, stakeholder or other process was used to arrive at the current strategy or programs?

- *The process resulting in the current EG strategy to address deforestation and forest degradation involved an overlapping sequence of several externally funded technical projects:*
 1. There are broad stakeholder participation guidelines mandated by CARPE, a USAID funded regional program, with a strategic objective to reduce the rate deforestation in the Congo Basin. CARPE is the US government's mechanism to provide support to the CBFP. CARPE's focus is on improving management and reducing deforestation in eleven CBFP landscapes. The Monte Alen-Monts de Cristal Landscape includes most of the southern half of mainland EG and extends into northern Gabon.
 2. A key study was performed that included analysis of local and rural residents needs and requirements relating to forest use and conservation. CUREF was a well-funded, highly influential, technical support project active in EG from 1995-2002 whose influence on the current EG strategy to address deforestation and forest degradation is still strong.
 3. ECOFAC is a long-term externally funded regional program with a strategy of preventing deforestation and forest degradation by supporting strictly protected parks. In EG, ECOFAC focuses on Parque Nacional Monte Alen offering local stakeholders ecotourism and employment as park guards as economic alternatives to compensate for eliminating timber harvesting and hunting within park boundaries. ECOFAC's workplan is developed through a process of technical meetings and discussions mostly internal to the GoEG with some participation by specifically invited technically competent NGOs and other civil society representatives.

b) What major programs or policies are in place at the national, and the state or other subnational level?

- **National government programs and policies that address deforestation and forest degradation are:**
 1. The GoEG constitution of 1995 specifically protects EG's biodiversity. A series of laws has tended towards increasing forest protection. For example there was a 1992 logging ban on Bioko, a 1997 Forest Law requiring management plans and enforcement of best practices and sustainable harvests, a 1998 law regulating forest fauna and protected areas, a 2000 National Forest Action Plan, a 2001 law establishing and funding SNAP, a 2003 National Environmental Law, a 2005 National Environmental Strategy ("Estrategia"), a 2007 ban on hunting, selling or consuming primates, and a 2007 ban on the export of logs. Reconciling and coordinating the implementation of these laws and decrees is a key REDD Readiness planning and implementation activity. The GoEG has agreed to study how to make its long-term economic development plan (National Economic Development Plan: Horizon 2020) carbon neutral.
 2. A national system of protected areas (SNAP) exists that now includes 17% of national territory. It is projected to expand to 40% by converting export timber concessions to a national forest managed for traditional and local uses. In 2000 (Ley No. 4/2000) the GoEG created INDEFOR as a national forest research institute and to manage SNAP. The GoEG has committed to establish mechanisms sustainably to finance SNAP and forest conservation. REDD payments could be part of the design of these mechanisms. GoEG policy calls for a national biodiversity institute and research program to coordinate the study and monitoring of biodiversity including deforestation and forest degradation.
 3. A public education campaign to sensitize the Guineans to the issues of deforestation and forest degradation: Establish legal, regulatory, and economic mechanisms for the equitable participation of stakeholders, particularly local residents, in implementing a strategy to reduce deforestation and forest degradation. GoEG policy calls for increasing the participation of civil society organizations and local stakeholders in the management and protection of forest resources.
 4. MdeAyB has proposed projects to mechanize agriculture, introduce cattle raising, and to domesticate local animal and plant species alternatives to economic activities that lead to deforestation and forest degradation.
- **Subnational programs that address deforestation and forest degradation are:**
 1. The Guinean NGO ANDEGE is organizing cooperatives of small-scale loggers and introducing better woods practices and more efficient equipment, preparing sustainable harvesting plans for "reservas de poblados", conducting biological and socio-economic research in support of protected areas management, conducting a public education and sensitization campaign, and developing a management plan for Altos de Nsork.
 2. ANDEGE and CI are working together to prepare the planning for a 600,000 hectare national forest reserve.



3. NGOs such as CI are supporting the government in the development of Guinean conservation institutions, EG technical capacity, EG conservation policy, EG sustainable conservation finance, and EG biodiversity research.
4. BBPP is conducting biological and socio-economic research on Bioko in support of managing the Caldera de Luba and Pico Basilé protected areas and organizing local communities to monitor illegal hunting and timber harvesting.
5. ECOFAC is managing Parque Nacional Monte Alen with funding from the EU and the GoEG including park patrols and developing a management plan.
6. CARPE is providing funding for forest protection and management in EG through CI and IUCN.
7. WWF has proposed a cross-border collaboration with INDEFOR in the Río Campo/Campo M'aaan complex of protected areas.
8. The GoEG has proposed large-scale reforestation in the northeast mainland EG

6. What is the current thinking on what would be needed to reduce deforestation and forest degradation in your country? (e.g., potential programs, policies, capacity building, etc., at national or subnational level):

- As described in question 5, EG has elements of a credible strategy to reduce deforestation and forest degradation. But these elements require increased coordination and streamlining of laws, policies, and regulations, programs, and projects. To reduce deforestation and forest degradation the most pressing need is to create the conditions that allow these elements to be implemented effectively:
 1. Develop a mechanism to allow civil society actors, particularly Guinean NGOs and local stakeholders and residents, to participate meaningfully in forest management planning and implementation. This should include a public education and sensitization program.
 2. The policy and legal context must be further streamlined and rationalized:
 - a. A full legal review of environmental sector laws and government institutions leading to recommendations and enabling legislation for their rationalization. The GoEG recognizes this need as it is in the workplan of the technical support agreement with CI for example.
 - b. Establish an effective structure for inter-ministerial coordination as proposed, for instance, in the “Estrategia”.
 - c. Complete the design of the two environmental sector funding mechanisms (FONAMA to be funded with current revenue, and the National Conservation Trust Fund funded by a permanent endowment) so that they meet global standards of transparent and independent governance and provide matching funding for field actions that may also receive incentives to reduce deforestation and forest degradation. These funding institutions could be the mechanism to accept, manage, and disburse REDD revenue equitably based on agreed upon standards and regulations, thus resulting in a more stable and sustainable financial management for REDD.
 - d. Clarify the authority between INDEFOR (MdeAyB) and INCOMA (MdePyMA) to improve SNAP management agency funding, equipment, technical training, and enable SNAP’s ability to effectively in 40% of EG’s national territory.
 3. EG’s present technical and institutional capacity must be broadened and strengthened:
 - a. The degree programs and technical training of UNGE Department of Environmental Studies should be strengthened so that EG can improve its technical capacity to protect our forests. A well-funded program of advanced academic study for Guineans at foreign institutions should be established to develop a high-level scientific research capacity to study and guide the protection of its forests.
 - b. As has been proposed in various forms, an EG Biodiversity Institute should be established with the resources and powers to coordinate a national biodiversity research program feeding accurate information and analysis to policy-makers, to natural resource managers, researchers, and the public. Such an institute would undertake to coordinate the field studies to establish a baseline measurement of current status of deforestation and forest degradation that is critical to enable credible monitoring that is at the heart of REDD and adaptive management.
 4. EG’s capacity to enforce its laws protecting its forests must be improved:
 - a. The separate corps of ecoguards (ECOFAC), park guards (INDEFOR), forest guards (MdeAyB), and environmental inspectors (INCOMA) should be rationalized.
 - b. Enforcement of actions to reduce deforestation and forest degradation should be coordinated with other government enforcement agencies.
 5. Bring more of EG’s national territory under appropriate protection and management within SNAP:
 - a. Implement the proposed national forest (mainland EG) creating a biological corridor providing an ecological link between four existing protected areas and providing support for traditional and artisanal livelihoods for local communities;
 - b. Implement the proposed Bioko corridor to provide an ecological link between Pico Basilé NP and Caldera de



Luba Reserve.

6. Provide stable, dedicated, and sufficient funding for the forest management institutions and programs that would implement EG's REDD strategy
 - a. FONAMA
 - b. National Conservation Trust Fund
 - c. REDD payments
 - d. GoEG annual budget appropriations
 - e. International grants

a) How would those programs address the main causes of deforestation?

1. Except for deforestation caused by urban and infrastructure development, which occurs near the cities of Malabo and Bata, the main current cause of deforestation and forest degradation involves the use of primary and secondary forests by local stakeholders. Establishing an effective mechanism to allow local stakeholders and residents to participate meaningfully in forest management planning and implementation would:
 - a. help manage the impacts of these groups on the forest,
 - b. give these groups a stake in the success of forest management and protection, and
 - c. provide a way these groups could participate in the benefits of REDD payments.
2. Although EG has initiated policies and programs to reduce deforestation and forest degradation, these initiatives are still ineffective and at risk of failure because the policy, legal, and administrative context is confused and contradictory. A legal review of environmental sector laws and government institutions leading to recommendations and legislation will be an essential step towards making the positive intentions of the GoEG effective.
3. Although CUREF and other programs provided technical training, EG's present technical capacity is still not sufficient to address the complexities of REDD. Strengthening Guinean scientific capacity is necessary to ensure a REDD program is designed, implemented, and monitored to high standards. A national biodiversity research program built around Guinean scientists is essential to provide REDD information. Current institutions such as UNGE, INDEFOR, and Guinean NGOs need to be strengthened so they can play their roles in REDD effectively. New institutions are needed in some cases, such as CONAMA and a National Biodiversity Institute are needed to support REDD implementation.
4. Currently EG's environmental laws and regulations are weakly and/or selectively enforced. For a REDD program to be effective its associated laws and regulations must be consistently and equitably enforced. This includes better training, better equipment, and a streamlining of the various enforcement groups that now exist, and an expansion of the corps to include a presence where they do not operate at present (e.g., on Bioko).
5. At present 17% of EG's national territory is SNAP and nominally being managed. Now that many timber concessions are cancelled or abandoned, this area leaves a large part of EG's forest land in an uncertain status without even the theoretical requirement to have a management plan. An expansion of SNAP would bring another 20% of EG's national territory – and almost all of its best remaining forest – under the requirement of having a management plan that reduces deforestation and forest degradation. The proposed additions would increase the likelihood of maintaining forest ecological health by consolidating large blocks of continuous forest where natural forest dynamics, including the roles of keystone species such as elephants and top predators, can occur.
6. Despite ample oil revenues, a persistent problem of conservation and forest management in EG is the lack of stable and sufficient financing of field operations for forest management and conservation. This is a key reason why most of the elements of EG's present REDD strategy remain well-intentioned, but unimplemented proposals. Solving this problem, to some extent more a cash flow problem than a lack of funding, would greatly increase the likelihood that EG would tip into the category of countries that are increasing their forest carbon stocks. The sources of funding listed above are reinforcing and REDD payments could be particularly catalytic.

b) Would any cross-sectoral programs or policies also play a role in your REDD strategy (e.g., rural development policies, transportation or land use planning programs, etc.)?

1. The GoEG has agreed to analyze its national carbon balance and its 20-year economic development strategy with the objective of making its economic development carbon neutral. A REDD program would be an important element of reaching this objective.
2. REDD programs in EG must consider agriculture, education, water, labour, rural development and national economic development. All elements of EG's current REDD strategy as described in question 5 involve cross-sectoral



integration. The need for such intergration is anticipated in the “Estrategia” proposal for coordinating bodies (CONAMA and COREMA).

3. REDD implementation may be a responsibility of CONAMA or COREMA, or the coordination could be accomplished by a multi-sector task group within the Vice-Primature (cabinet of the Vice Prime Minister) focused only on REDD implementation..This group could be include national/international experts and NGOs. A similar cross-ministerial task group is already operating successfully in Equatorial Guinea under the name of Fondo de Desarrollo Social.

c) Have you considered the potential relationship between your potential REDD strategies and your country’s broader development agenda in the forest and other relevant sectors? (e.g., agriculture, water, energy, transportation). If you have not considered this yet, you may want to identify it as an objective for your REDD planning process.

- Equatorial Guinea made a strong commitment to maintain forest integrity by passing a series of laws to protect its forests and to establish SNAP.
- REDD will help reinforce and implement this commitment.
- REDD is an opportunity to consolidate the National Development Plan which includes objectives to establish sustainable uses of natural resources.
- The GoEG has agreed to study how it can modify its 20-year development plan to make it carbon neutral. REDD would be an important role in helping EG development become carbon neutral.

d) Has any technical assistance already been received, or is planned on REDD? (e.g., technical consulting, analysis of deforestation or forest degradation in country, etc., and by whom):

1. Equatorial Guinea, and all Congo Basin countries, received support from France and others CBFP partners (NGOs such as CI, WWF, WCS, Germany) in the framework of climate negotiations. Several meetings and seminars took place to prepare submission to the UNFCCC. COMIFAC, French Cooperation and GTZ organized a meeting, in March 2008 in Paris, in order to present the technical aspects of the monitoring. Equatorial Guinea was represented by Mr Ikaka NZAMIO and Mr Miguel NDONG KUO. FORET RESSOURCES MANAGEMENT provided technical consulting for drafting the R-PIN through the COMIFAC grant. Conservation International is currently implementing a long term CARPE program (up to 2011), under USAID funding. This program strengthens the conservation of nature and the environment, especially targetting the reduction of deforestation and forest degradation with local development conservation programs.
2. Technical assistance could be considered as a priority for Equatorial Guinea to reinforce local capacity in the REDD process, which links different aspects which the administration is more or less familiar with. Further consulting work and research support will be requested to achieve a global approach of the social aspects relating to REDD. A great need for technical and scientific research exist as some obstacles should be overcome, both on technical aspects of the monitoring and carbon accounting and on the social, political and financial aspects. This need is especially important in the definition of a methodology to determine an applicable reference scenario particular to EG’s national circumstances.
3. Scientific research should be conducted to provide reliable data and ratio in order to calculate variations of the annual carbon stock. There is a need for precision on the Biomass Expansion Factor and the Roots to Shoots Ratio, see Annex 1, part 4.6.
4. The CARBOCAF project, currently being submitted to the GEF, aims particularly to calibrate allometric equations of biomass (Two compartments will be studied: trees ≥ 10 cm dbh, and trees between 1 and 10 cm dbh in order to get an estimate of their relative importance) and to use the allometric equations to convert forest inventories into biomass stocks, and to re-examine the links with satellite imagery (can the spatial pattern of stocks of biomass be detected directly?).
5. OFAC could also play a central role in collecting information required by the monitoring of GHG emissions. Countries should rely on OFAC to concentrate the efforts for the technical aspects of monitoring and calculation of GHG emissions. Equatorial Guinea authorities would like to see OFAC playing a central role in the monitoring

7. What are your thoughts on the type of stakeholder consultation process you would use to: a) create a dialogue with stakeholders about their viewpoints, and b) evaluate the role various stakeholders can play in developing and implementing strategies or programs under FCPF support?

**a) How are stakeholders normally consulted and involved in the forest sector about new programs or policies?**

- The EG framework policy for the environmental sector (“Estrategia”) explicitly requires consultation of local stakeholders and their participation in forest policy and programs.
- The central government still plays the dominant decision-making role in forest programs and policies and the requirement and mechanism for involving civil society representatives called for in the “Estrategia” is not well developed or formalized;
- Consultations with local stakeholders normally occurs through village councils (“consejos de poblados”) led by a government-appointed village president.
 1. Village presidents and consejos de poblados control the use of resources in forests associated with the village.
 2. Village presidents and consejos de poblados have great influence on the local activities affecting the forest. If they can see an economic benefit to their village from a REDD program that outweighs the benefits from agriculture or logging, they are in the position to stop activities leading to deforestation and forest degradation.
- Civil society organizations increasingly play an important role in developing new forest policies and designing and implementing new forest programs:
 1. National and international conservation NGOs have collaborative agreements with GoEG ministries and agencies that involve developing and implementing forest-related policies and programs;
 2. Womens groups are vocal and visible participants in the public discussions of forest policy and programs, and play an increasing role in their technical design;
 3. Forest products harvester’s cooperatives are encouraged to participate in consultative workshops on forest policy and management;
 4. Agricultural cooperatives are encouraged to participate in consultative workshops on forest policy and management;
- Guinean academic institutions still play a peripheral role in developing new policies and programs; their potential to contribute is under-used.
- There are no mechanisms in place or yet contemplated to ensure the equitable distribution of financial disbursements:
 1. FONAMA – a proposed environmental and forest fund financed with current revenues with potentially large impacts on forest stakeholders. This fund has no detailed design that includes consultations with local communities or stakeholder groups.
 2. National Conservation Trust Fund – an endowed fund to support forest conservation and the SNAP similarly is not yet designed. This fund should also include a mechanism of consultation with stakeholders.
 3. Current government support payments to villages are centrally controlled.
- The current environmental policy framework and strategy (“Estrategia”) explicitly call for a sustained public sensitization program in order to make local communities and stakeholders better informed and better able to participate in consultation mechanisms

b) Have any stakeholder consultations on REDD or reducing deforestation been held in the past several years?**If so, what groups were involved, when and where, and what were the major findings?:**

- There have been no stakeholder consultations specifically on REDD.
- Civil society organizations, most notably the Guinean conservation NGOs ANDEGE (on the mainland, supported by CI) and BBPP (on Bioko Island supported by Drexel University) have held consultations and village workshops with village residents and village councils on biodiversity conservation and natural resource management issues that overlap with REDD.
- ANDEGE and BBPP have been implementing a public conservation education and sensitization program among municipalities and rural communities.
- Building on work started by CUREF almost a decade ago, ANDEGE, supported by CI and ECOFAC have been carrying out socio-economic research in the rural villages of mainland EG.

c) What stakeholder consultation and implementation role discussion process might be used for discussions across federal government agencies, institutes, etc.?

- The current GoEG policy framework (“Estrategia”) provides a mechanism for consultation and coordination across sectors and government ministries and agencies:
 1. The “Estrategia” proposes a Comisión de Medio Ambiente (CONAMA) to coordinate environmental sector policy and policy implementation at a national level with sector representation.



2. The “Estrategia” proposes a Comisiones Regionales de Medio Ambiente (COREMAs) to coordinate environmental sector policy and policy implementation at a regional level with regional stakeholder representatives participating.
 3. The “Estrategia” proposes a Comité Nacional de Medio Ambiente to coordinate technical design and implementation of a national biodiversity policy. This organization includes representatives of technical organizations and projects including UNGE, national and international NGOs, technical support projects (e.g., ECOFAC, COMIFAC).
- The consultative structures proposed the “Estrategia” have not yet been created and do not function. They potentially conflict or replace existing mechanisms.

d) Across state or other subnational governments or institutions?

- Regional harmonization has been promoted between Congo Basin countries through COMIFAC¹⁹. COMIFAC was created by the Yaounde agreement in 2000, defining different levels of work between Congo Basin countries, namely Cameroon, Central African Republic, Chad, Congo, DRC, Equatorial Guinea, Gabon. Several sub-organizations contribute including RAPAC (Protected areas management), OAB (Forest economy, certification, legality), OCFSA (biodiversity and transboundary protected areas), ADIE (information collection), CEFDHAC (consultation process)...
- The six forest-rich countries (Cameroon, CAR, Congo, DRC, Eq. Guinea, Gabon) of the COMIFAC have clearly indicated that they want to position themselves at a regional level in the international debate on climate change and have already done so, by regularly submitting joint proposals to UNFCCC.
- The establishment of a regional platform is requested by these countries as a coordination instrument. This platform could be an extension of the CDM-platform already existing, but an effort should be done to avoid confusion between REDD and CDM. This platform could be a strong incentive for national capacity building, relying on workshops, training, public consultation and disclosure of information²⁰.
- A convergence plan has been elaborated under COMIFAC including coordination and consultation as a priority.

e) For other stakeholders on forest and agriculture lands and sectors, (e.g., NGOs, private sector, etc.)?

- Civil society organizations increasingly play an important role in developing new forest policies and designing and implementing new forest programs:
 1. National and international conservation NGOs have collaborative agreements with GoEG ministries and agencies that involve developing and implementing forest-related policies and programs;
 2. Womens groups are vocal and visible participants in the public discussions of forest policy and programs, and play and increasing role in their technical design;
 3. Forest products harvester’s cooperatives are encouraged to participate in consultative workshops on forest policy and management;
 4. Agricultural cooperatives are encouraged to participate in consultative workshops on forest policy and management;

f) For forest-dwelling indigenous peoples and other forest dwellers?

- There are no forest-dwelling indigenous peoples who are culturally and economically entirely dependent on forests. Many rural EG communities are in close daily contact with the forest and exploit forest resources directly as part of their livelihoods. These populations live in villages near forests and are involved in the consultation process through the village president and village council mechanism.

8. Implementing REDD strategies:

a) What are the potential challenges to introducing effective REDD strategies or programs, and how might they be overcome? (e.g., lack of financing, lack of technical capacity, governance issues like weak law enforcement, lack of consistency between REDD plans and other development plans or programs, etc.):

- *The potential challenges to introducing effective REDD strategies in EG are:*
 1. **Establishing a reference scenario and monitoring plan for EG forests that fills information gaps.** The Congo Basin being an ecologically integrated region, as well as an increasingly integrated economic territory, a consensus emerged: REDD challenges, at least some of them, could be effectively managed at a regional level, resulting in an

¹⁹ <http://www.comifac.org>

²⁰ From “Regional coordination of the Congo Basin countries on Climate change issues” note, not published.



economy of scale, for example, for REDD monitoring. EG requires a unique reference scenario that includes both historic and future projected emissions for both deforestation and forest degradation. There is a strong need to consider current economic conditions to determine the nationally appropriate reference scenario and 'development adjustments'. Another very strong requirement at the regional scale should be the construction and development of a satellite imagery technical center in Central Africa. This station may enable updating of the data collection, resolution of the cloud cover issues in a country such as Equatorial Guinea, and provide the high quality satellite data required for the required degradation analysis and monitoring.

2. **Building individual and institutional technical capacity and improve cross-agency and partner coordination.** As highlighted earlier, different ministries must to coordinate efforts and reduce potential conflicts between their roles and streamline competencies. Performing an extensive audit of the administrative bodies could identify the redundancies of some aspects and work to avoid the misinterpretation of the missions of each entity. This will help to create a supportive and consistent policy environment as well.
3. **Providing stable, long-term financing, and equitable distribution of incentives.** The recent boom of the petroleum sector may be a significant matching source of revenues from the government that, when combined with REDD incentives, could increase funding for technical and field capabilities. The funding mechanisms being established should provide increased financial transparency and enable the distribution of incentives as specified during the REDD Readiness planning process.
4. **Improve and broaden capacity at multiple levels.** There is a general need for capacity building in all the sectors concerned, considering the general weakness of the local authorities regarding technical aspects. Some requirements for capacity building can be clearly explained at this stage, other will be identified while implementing the REDD process. Various government agencies can be clearly reinforced and consolidated.
5. **Integration into Economic development plans.** The transportation network remains deficient in Equatorial Guinea, and REDD should not be an obstacle to develop this network. Human settlements are always occurring along the road, thus road building will for ever be a major cause of deforestation/degradation. The Guinean Government considers REDD as one of the instruments to encourage the development of a land allocation plan, taking into consideration the country's sustainable development needs. As regards the natural increase of the local population and the current population density in forested areas, especially in the southern part of the country (less than 5 inhabitant/km²), targeting absolute zero deforestation seems rather unrealistic. The baseline scenario should take into account the demographic fact. Equatorial Guinea is not auto-sufficient for its food supply. REDD should not oppose auto-sufficiency and deforestation, with an arbitration between getting a reward for protecting the forest or stopping to spend money for supply food. The problem is the same for the energy sector. The harvest of fuel wood, however, could be organized on a sustainable basis.
6. **Stakeholder engagement.** One of the major difficulty to face in the implementation of a REDD strategy will be involving the local populations in the process. We identified several channels (consejo de poblados, cooperatives) to consult the populations. The task to obtain their agreement and mobilize them in the REDD context is significant, requesting them to change habits and behaviours and adopt technical innovations (intensive agriculture, forest management...).

b) Would performance-based payments though REDD be a major incentive for implementing a more coherent strategy to tackle deforestation? Please, explain why. (i.e., performance-based payments would occur *after* REDD activities reduce deforestation, and monitoring has occurred):

- *The FONAMA fund that has been established will begin operations very soon. The social benefits supported by FONAMA will be a very strong test case for measuring the efficacy of REDD incentive payments. In addition, the National Trust Fund being considered will benefit from the lessons learned in the setup and operations of FONAMA.*
- *Under certain conditions performance-based REDD payments could be a powerful incentive at the village and council level to reduce deforestation and forest degradation:*
 1. Village presidents and councils have few non-government sources of revenue to use for village needs other than timber. Customary contract terms encourage practices that lead to forest degradation. Performance-based REDD payments could be a powerful counter-incentive to the offers of timber buyers or to overcome perverse incentives resulting from misaligned policies.
 2. The conditions for performance-based REDD payments to work at a village level are: a) payments must involve village presidents and councils as directly as possible in order to influence their decision as directly as possible, b) because performance based payments would compete against immediate payments from buyers, village presidents and councils must fully understand and trust the performance-based payment mechanism, c) because performance-



based payments depend on monitoring, there must be a credible baseline and monitoring must be frequent, accurate, and known to be taking place; d) the performance-based payment mechanism must be transparent and equitable in order for local stakeholder to have a stake in performance; e) REDD payments must allow essential traditional and small-scale uses essential in the economic life of the local residents without penalty.

- *Performance-based REDD payments could be a powerful incentive at national and ministerial level to reduce deforestation and forest degradation:*
 1. Village exploitation for immediate payments from timber harvesters who pay by volume must be addressed in the REDD strategy and with performance-based incentives coming from the government.
 2. Incentives to impoverished rural farmers could address subsistence drivers of deforestation and degradation, however, distributing these benefits to the poor farmers will require an investment in funding infrastructure.
 3. The small agricultural or forest producers already struggle to draw a fair remuneration from their productions so indications are that small incentives efficiently distributed could have a significant impact in EG.

9. REDD strategy monitoring and implementation:

a) How is forest cover and land use change monitored today, and by whom? (e.g., forest inventory, mapping, remote sensing analysis, etc.):

- *Forest cover and land use change in EG is now poorly monitored and potential regional monitoring programs are ill-adapted to the REDD strategy monitoring and implementation needs of EG:*
 1. The COMIFAC OFAC Observatory (FORAF) is a regional-scale project to study past and current Congo Basin deforestation rates using Landsat TM and ETM+ remote-sensed imagery. This project is regional in scale and analysis, using, for instance, a sampling grid of 20*20km. The results are appropriate and useful for regional monitoring and large country REDD implementation. FORAF studies are less useful for EG for two reasons: 1) FORAF's resolution is too coarse to detect patterns and dynamics important for monitoring and implementing a REDD strategy in EG, and 2) FORAF does not include Bioko Island in its analyses. For example, FORAF's recently published study of Congo Basin deforestation included only two sampling points for EG, both on the mainland.
 2. In parallel to FORAF, CARPE/University of Maryland has been mapping forest change in the Congo Basin since 2002. So far, this project has not produced any results useful for EG. Difficulties with this project are: 1) the project's Landsat imagery has heavy cloud cover obscuring EG and there are no plans to obtain better imagery; 2) the project has no plans to ground-truth their interpretation in EG; 3) the analysis resolution is too coarse to detect patterns critical to the EG context; and 4) the project does not include an analysis of Bioko or Annobón Islands.
- *INDEFOR has a foundation of technical capacity inherited from CUREF, but lack of resources has prevented it developing.*

b) What are the constraints of the current monitoring system? What constraints for its application to reducing deforestation and forest degradation? (e.g., system cannot detect forest degradation of forest stands, too costly, data only available for 2 years, etc.):

- *Constraints on the current system for REDD monitoring and implementation are:*
 1. There is no baseline of current forest status against which to monitor changes in deforestation and forest degradation;
 2. There is no field monitoring program in place being carried out by properly trained EG personnel;
 3. There is no quantitative data on carbon stocks specific to the forests of EG, especially the forests of Bioko and Annobón;
 4. Regional forest monitoring programs (FORAF, CARPE/U of Maryland) are designed for analysis of regional patterns in which patterns within a small country such as EG lack detail;
 5. The time interval between remote-sensed imagery used by regional forest monitoring programs (FORAF, CARPE/U of Maryland) is too long meaningfully to track forest changes in EG and the most recent image is six years old;
 6. The current remote-sensed imagery being used in EG was chosen for reasons (cost, familiarity, immediate availability, etc) other than the suitability of its technical main characteristics, which are inappropriate for the needs of EG REDD monitoring;
 7. Current regional forest monitoring programs do not collaborate with or involve EG technical personnel.
 8. Current remote-sensed imagery for EG is not recent and of has heavy cloud cover.
 9. EG technical personnel are not trained in the most recent techniques of remote-sensed image analysis.
 10. EG lacks a DEM or other elevation data for the EG mainland.



c) How would you envision REDD activities and program performance would be monitored? (e.g., changes in forest cover or deforestation or forest degradation rates resulting from programs, using what approaches, etc.)

1. Quantification of carbon stock from forest lands is based on a method combining a national scale work with local analysis to accurate the results. Firstly, a wall-to-wall mapping of the national land use is done using GIS and remote sensing techniques. This mapping will use IPCC categories. These categories will be linked to carbon sink pools also defined by IPCC.
2. Deforestation monitoring will be based on OFAC methodologies and coordinated with regional monitoring of the degradation. EG will not rely on regional programs, however, as the resolution will be too coarse.
3. Biomass stocks can be estimated from field-based inventories that measure Volume Over Bark, for each forest category. These data combined with wood density and expansion factors (BEF, Biomass Expansion Factor, VEF, Volume Expansion Factor, Roots-to-shoot ratio...) are employed to estimate the stock of all biomass each forest category.
4. Where detailed inventory data is not available, an allometric equation can estimate biomass volume from basal area. The equation must be carefully developed for each forest type category. Once the volume is estimated, wood density and expansion ratios are used to determine the biomass stock. This method, while still needing improvement, could much faster and cheaper than forest inventories.
5. Wood density can be estimated by forest strata with the available data on wood technology (especially from the CIRAD). The determination of expansion factors requires studies in order to be refined by forest strata. The CARBOCAF project, being submitted to the GEF, would contribute to calibrate allometric equations of biomass.
6. Finally, surfaces of different strata combined with the biomass stock of each stratum determine the biomass at a national scale.

Methodology summary

1. Selection and definition of the forest strata in accordance with IPCC standards and according to carbon storage variability,
2. Identification of the corresponding forest strata on map,
3. Analysis of the available forest management inventory data for each forest stratum,
4. Quantification of the Volume over bark for each forest strata:
 - a. Based on the analysis of field inventory data when available,
 - b. Based on the use of a quick appraisal field method (see [Annex 1](#), part 4.3) when inventory data is not available (as in protected area, in concessions not involved in management process...),
5. Quantification of the entire Volume over bark,
6. Use of the different coefficients to estimate carbon storage of all the biomass pools.

10. Additional benefits of potential REDD strategy:

a) Are there other non-carbon benefits that you expect to realize through implementation of the REDD strategy (e.g., social, environmental, economic, biodiversity)? What are they, where, how much?

- Non-carbon benefits that would be realized by implementing a REDD strategy in EG include:
 1. REDD will protect forest resources that a significant (but still unmeasured) segment of EG's population uses in traditional livelihoods.
 2. On Bioko REDD will help protect habitat in one of the most biologically significant places in Africa, with four of Africa's ten most endangered primates, nesting beaches of four sea turtle species, many rare and endemic birds, and more than 50 endemic plants. On the EG mainland REDD will protect the habitat of one of Africa's most important concentrations of biodiversity: the Congo Basin's most diverse flora, extremely high diversity of freshwater biodiversity particularly in higher level taxa, and a terrestrial fauna that includes critical populations of forest elephant, chimpanzee and gorilla, 16 other taxa of primates (one Critically Endangered, one Endangered, and three Vulnerable on the IUCN Red List), leopards and other top predators, and a large part of the range of *Conraua goliath*, the world's largest frog.
 3. A REDD strategy will protect watersheds on Bioko and the EG mainland that drain to estuarine and coastal marine environments that are biologically diverse and support coastal and pelagic fisheries exploited by international fleets and artisanal fishermen of minority coastal tribes.



4. A REDD strategy will protect forests in the watersheds of hydroelectric installations supplying over half of EG's electricity.
-

b) Is biodiversity conservation being monitored at present? If so, what kind, where, and how?

- *EG does not have in place a national program to monitor biodiversity.*
 - *A national biodiversity research program that would include biodiversity monitoring has been proposed and approved a number of times but a national program has never been implemented.*
 - *Researcher Gail Hearn (Arcadia University/Drexel University, BBPP) has monitored Bioko primates and sea turtles since the early 1990s*
 - *Researcher Angela Formia (WCS²¹) with funding from CUREF and USF&W²² has monitored seaturtles on the EG mainland since 2003*
 - *ECOFAC has carried out monitoring studies of biodiversity in Monte Alen National Park. These have suffered from erratic funding and interruptions when ECOFAC withdrew from EG between 2004-2007.*
 - *In 2009 ANDEGE/CI will start field work to establish a monitoring baseline for great apes and elephants in EG.*
 - *A number of research studies carried out by international and national NGOs and academic institutions have collected biodiversity data on specific species at specific sites but they have not established a baseline and tracked change against this baseline through repeated measurement:*
 1. CARPE, through CI-EG has supported studies of EG mainland primates and vegetation;
 2. CARPE, through CI-EG supported a field expedition that established a one-time measurement of the status of biodiversity near Monte Mitra;
 3. CARPE/UICN has supported several short-term studies of various mainland species;
-

c) Under your early ideas on introducing REDD, would biodiversity conservation also be monitored? How?

- *A REDD program would monitor biodiversity as being an essential ecological component of healthy forest function.*
 - *Such biodiversity monitoring would be integrated into an EG national biodiversity research program that:*
 1. a national institute coordinates,
 2. involves scientific collaboration between Guinean and international researchers,
 3. receives GoEG funding through FONAMA and FFCB, and through ministerial operations budgets,
 4. receives matching funds through research grants and international funding mechanisms.
 - *Biodiversity monitoring methodology includes:*
 1. a credible baseline as a monitoring reference;
 2. a field program to measure changes against this baseline;
 3. recent, high-resolution remote-sensed imagery;
 4. permanent field plots and transects for ground-truthing the interpretation and classification of remote-sensed imagery.
 - *Biodiversity monitoring will need to build EG institutional and technical capacity:*
 1. training in monitoring field work;
 2. training in remote-sensed image analysis and GIS
 3. training in data analysis
 4. training in the application of results to policy recommendations and adaptive management
 5. acquisition of field vehicles, field equipment, office/lab equipment, appropriate computers and software.
 - *EG biodiversity monitoring should be coordinated with regional efforts such as the COMIFAC OFAC*
 - *EG biodiversity monitoring should be coordinated with Guinean and international NGOs and academic institutions*
-

d) Are rural livelihood benefits currently monitored? If so, what benefits, where, and how?

The Ministry of Agriculture and Forests in coordination with the Ministry of Fishing and the Environment have set a program to determine the positive or negative effects on the population of once created protected areas (job opportunities, development of tourism, access to far away areas, restriction of access to the resource, etc.). A program also exists at the Ministry of Fishing and the Environment to study the impacts of the deforestation reduction on the

²¹ Wildlife Conservation Society

²² United States Fish and Wildlife Service



rural population and the plan de gestion forestière needs a social study on the exploitation in order to plan things in a sustainable way.

e) Under your early ideas on introducing REDD, would rural livelihood benefits also be monitored? How?

The established methodologies for the ECOFAC project (Forest Ecosystems of Central Africa) can be useful for the monitoring of the local population. This methodology can be adapted to the REDD mechanism.

11. What type of assistance are you likely to request from the FCPF Readiness Mechanism?

Identify your early ideas on the technical or financial support you would request from FCPF to build capacity for addressing REDD, if you are ready to do so. (Preliminary; this also could be discussed later.)

Include an initial estimate of the amount of support for each category, if you know.

Please refer to the Information Memorandum and other on-line information about the FCPF for more details on each category:

The World Bank FCPF Readiness program can catalyze and accelerate EG policy reform, national program implementation including reference scenario development and national accounting, field-based activities, and forest carbon monitoring components.

a) Establishment of a transparent stakeholder consultation process on REDD (e.g., outreach, workshops, publications, etc.):

Transparent stakeholder consultation in the REDD process should be based on existing consultation mechanisms, such as those designed in the Forest Management framework or those applied in the national standards building. The definition of REDD priorities and strategies would be based on the conclusions of the local consultations. Deforestation and degradation is highly sensitive to the behaviours of the local inhabitants in the EG context so this process must result in effective communication across a broad range of local stakeholders in order to address their needs through REDD programs, activities and incentives.

b) Developing a reference case of deforestation trends: Assessment of historical emissions from deforestation and/or forest degradation, or projections into the future.

EG and other Congo Basin countries must develop reference scenarios that use historical and future projected emissions that also included development factor adjustments. As above mentioned, pressure is increasing on forest resources for several reasons and data is lacking to achieve a clear comprehension of the evolution of the forest savannas. Funds will be required to help develop alternative reference scenarios particularly as EG may require a scenario that includes stabilizing deforestation and degradation that result in enhancing potentially increasing the national forest carbon stocks over time.

c) Developing a national REDD Strategy: Identification of programs to reduce deforestation and design of a system for providing targeted financial incentives for REDD to land users and organizations (e.g., delivery of payments, governance issues, etc.):

The lessons learned from the establishment and operations of the FONAMA fund will provide examples for targeted financial and non-financial incentives used to implement the national development plans and to achieve REDD. The REDD Readiness plan will likely be developed with funding from the World Bank FCPF but one key strength of the EG REDD program will be the extent to which incentives will be generated by REDD revenue as well as government revenue allocations as matching.

d) Design of a system to monitor emissions and emission reductions from deforestation and/or forest degradation:

Support is needed to map, quantify, and monitor the state of deforestation, forest degradation and conversion in EG, namely to:

1. quickly establish a reference scenario specifically for deforestation and forest degradation;
2. acquire new, high-resolution, cloud-free imagery with analysis capabilities for various analyses;
3. establish permanent field ground-truthing and monitoring plots at an adequate sampling density to detect deforestation/degradation changes against a background of inherent variability;
4. collect quantitative data from these plots and perform the required analysis to link remotely sensed data with field data;
5. train Guinean remote sensing technicians to analyze, validate and manage this remotely sensed and field-based data.



e) Other?:

In the coming months, the Congo Basin countries will have to decide on how regional coordination may supplement national REDD programs to improve efficiencies and share successful lessons learned. As no consultation process has yet taken place between the Congo Basin countries, the links between national and regional issues of the REDD process remain to be defined.

12. Please state donors and other international partners that are already cooperating with you on the preparation of relevant analytical work on REDD. Do you anticipate these or other donors will cooperate with you on REDD strategies and FCPF, and if so, then how?:

1. The French Ministry of Foreign Affairs (MAE) has supported the process through the COMIFAC for the creation of this R-PIN through a consultation process. The MAE is very interested in the collaboration with and assistance from the REDD Readiness process.
2. In addition, various NGOs such as WWF, WCS, CI, France, European Union, Germany and the United States can be identified as potential collaborators in the implementation of the EG REDD strategy.

13. Potential Next Steps and Schedule:**Have you identified your priority first steps to move toward Readiness for REDD activities? Do you have an estimated timeframe for them yet, or not?**

The Equatorial Guinea REDD national circumstances can inform the discussions leading up to COP-15 in Copenhagen. Equatorial Guinea's recent development path, if supported with REDD incentives, may actually reverse deforestation and forest degradation and support an increase in the forest carbon stock, a recovery only achieved in the tropical forests of Costa Rica. The World Bank FCPF and REDD incentives can play a key catalytic role in this effort especially when considering the Government's will, matching resource potential, and the manageable country size. In addition, these national circumstances may serve as an innovative demonstration for the issues of forest degradation and forest enhancement supported in the Bali Action Plan and by countries such as India. Such an effort in Equatorial Guinea may also provide lessons learned for countries that may turn the tide of deforestation and degradation in the future so they must consider reference scenario adjustments when they begin stabilizing or actually increasing the national forest carbon stock.

1. We believe that it is a true emergency to urgently refine the methodology through the above mentioned recommended studies. By 2012, the methodologies should be consolidated and reliable to integrate easily the REDD issue in the Convention on Climate Change Framework. The methodology should be applied, tested and gradually updated, this work should be scheduled all along the available period, from now up to 2012. As regards the complexity of such a methodology, the remaining three years should be employed to build and structure a strong methodology.
2. The urgency is also real for the economic study on the effects and causes of the payments, on enforcing legal aspects, on building national and regional capacity as mentioned above with the establishment of a regional scientific panel.
3. To sum up, there is an urgent need to start REDD planning in parallel with raising awareness to engage all national and local stakeholders in the development and implementation of the national REDD plan.

14. List any Attachments included

Appendix 1: Tables.
Appendix 2: Figures



Appendix 1: Tables

Table 1. Estimated original and present area of each EG forest. T Butynski (BBPP) provided estimates for Bioko, C Kernan (CI) provided estimates for Annobón and EG mainland based on CUREF forest ecosystem classification and land use maps.

	Vegetation type	Original area (ha)	Present area (ha)	Original percent area	Present percent area
MAINLAND	Lowland moist forest	2,397,662	347,832	92.16%	13.37%
	Degraded lowland moist forest		1,250,000	0.00%	48.05%
	Montane forest	200,538	91,068	7.71%	3.50%
	Degraded montane forest		20,600	0.00%	0.79%
	Secondary forest		546,200	0.00%	20.99%
	Heath & grassland	3,500	3,500	0.13%	0.13%
	Cultivation/settlement		342,500	0.00%	13.16%
	TOTAL	2,601,700	2,601,700	100%	100%
BIOKO	Lowland moist forest	126,160	48,620	62.55%	24.11%
	Degraded lowland moist forest		8,580	0.00%	4.25%
	Montane forest	74,940	37,505	37.15%	18.59%
	Degraded montane forest		20,195	0.00%	10.01%
	Secondary forest		80,000	0.00%	39.66%
	Heath & grassland	600	600	0.30%	0.30%
	Cultivation/settlement		6,200	0.00%	3.07%
	TOTAL	201,700	201,700	100%	100%
ANNOBÓN	Lowland moist forest	1650	760	97.06%	44.71%
	Degraded lowland moist forest		190	0.00%	11.18%
	Montane forest		0	0.00%	0.00%
	Degraded montane forest		0	0.00%	0.00%
	Secondary forest		400	0.00%	23.53%
	Heath & grassland	50	50	2.94%	2.94%
	Cultivation/settlement		300	0.00%	17.65%
	TOTAL	1,700	1,700	100%	100%
GUINEA ECUATORIAL	Lowland moist forest	2,525,472	397,212	90.03%	14.16%
	Degraded lowland moist forest	0	1,258,770	0.00%	44.87%
	Montane forest	275,478	128,573	9.82%	4.58%
	Degraded montane forest	0	40,795	0.00%	1.45%
	Secondary forest	0	626,600	0.00%	22.34%
	Heath & grassland	4,150	4,150	0.15%	0.15%
	Cultivation/settlement	0	349,000	0.00%	12.44%
	TOTAL	2,805,100	2,805,100	100%	100%



Table 2.

	Vegetation type	Present area (ha)	Carbon density (tC/ha)	Present total C stock (million tC)	Original total C stock (million tC)	Annual deforestation /degradation C loss (million tC)	Total deforestation C loss (million tC)	Total degradation C loss (million tC)	Annual deforestation /degradation C loss (million tC)
Mainland	Lowland moist forest	347,832	231.200	80.419	554.340	1.045			1.045
	Degraded lowland moist forest	1,250,000	173.400	216.750	0.000	2.818		72.250	2.818
	Montane forest	91,068	188.420	17.159	37.785	0.223			0.223
	Degraded montane forest	20,600	141.315	2.911		0.038		0.970	0.038
	Secondary forest	546,200	145.260	79.341		1.542		46.940	1.542
	Heath & grassland	3,500	78.060	0.273	0.273				
	Cultivation/settlement	342,500	43.446	14.880	0.000		64.306		
	TOTAL	2,601,700		411.733	592.398	5.666	64.306	120.161	5.666
Bioko	Lowland moist forest	48,620	231.200	11.241	29.168	0.146			0.146
	Degraded lowland moist forest	8,580	173.400	1.488	0.000	0.019		0.496	0.019
	Montane forest	37,505	188.420	7.067	14.120	0.092			0.092
	Degraded montane forest	20,195	141.315	2.854		0.037		0.951	0.037
	Secondary forest	80,000	145.260	11.621		0.226		6.875	0.226
	Heath & grassland	600	78.060	0.047	0.047				
	Cultivation/settlement	6,200	43.446	0.269			1.164		
	TOTAL	201,700		34.586	43.335	0.520	1.164	8.322	0.520
Annobón	Lowland moist forest	760	231.200	0.176	0.381	0.002			0.002
	Degraded lowland moist forest	190	173.400	0.033				0.011	0.000
	Montane forest	0	188.420						0.000
	Degraded montane forest	0	141.315						0.000
	Secondary forest	400	145.260	0.058		0.001		0.034	0.001
	Heath & grassland	50	78.060	0.004	0.004				
	Cultivation/settlement	300	43.446	0.013			0.056		
	TOTAL	1,700		0.284	0.385	0.004	0.056	0.045	0.004
Guinea Ecuatorial	Lowland moist forest	397,212	231.200	91.836	583.889	1.194			1.194
	Degraded lowland moist forest	1,258,770	173.400	218.271		2.838		72.757	2.838
	Montane forest	128,573	188.420	24.226	51.905	0.315			0.315
	Degraded montane forest	40,795	141.315	5.765		0.075		1.922	0.075
	Secondary forest	626,600	145.260	91.020		1.769		53.850	1.769
	Heath & grassland	4,150	78.060	0.324	0.324				
	Cultivation/settlement	349,000	43.446	15.163	0.000		65.526		
	TOTAL	2,805,100		446.603	636.119	6.190	65.526	128.529	6.190



Appendix 2. Figures.

Figure 1 Commercial timber production in Equatorial Guinea.

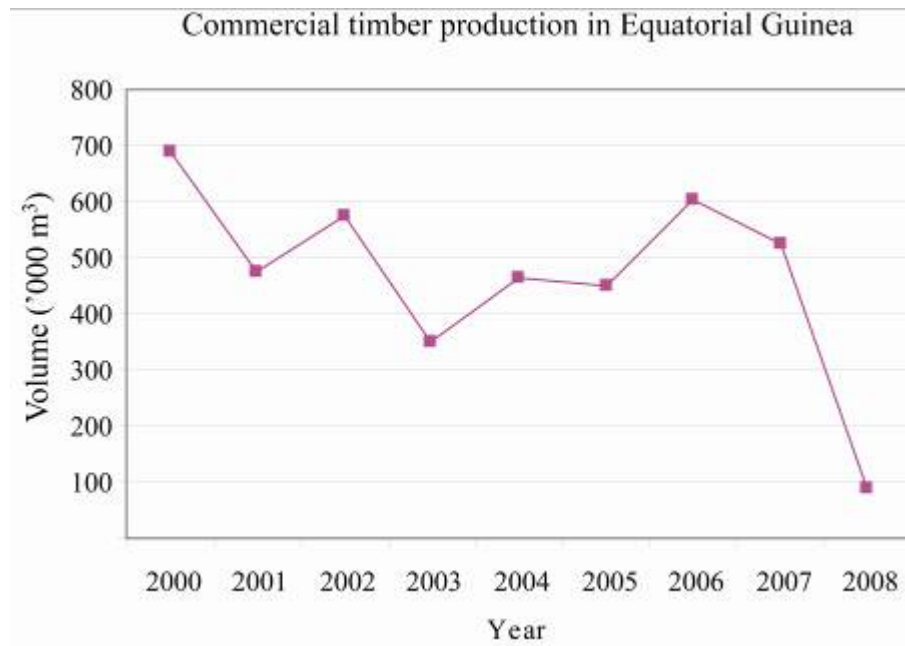




Figure 2. Land use map of mainland EG based on CUREF data.

