

**GUYANA FCPF Readiness Plan
Revised June 1, 2009**

R-Plan General Information:

1. General Information:

a) Name of submitting institution and person:

Title: Mr. James Singh, Commissioner of Forests

Contact information

Address: Guyana Forestry Commission (GFC)

Lot 1 Water Street, Kingston, Georgetown, Guyana

Telephone: (+592) 225-3898 or 226-7271 or 226-7274

Fax: Fax: (+592) 226-8956

Email: commissioner@forestry.gov.gy

Website, if any: www.forestry.gov.gy

Affiliation and contact information of Government focal point for the FCPF:

The Guyana Forestry Commission is the national focal point of the FCPF. (Contact information listed above)

b) List authors of R-Plan, contributors to the R-Plan, and others consulted, and their organizations:

Mr. James Singh, Commissioner of Forests, Guyana Forestry Commission; Dr. Denis Alder, Forest Biometrician; Ms. Pradeepa Bholanath, Head, Planning and Development Division, Guyana Forestry Commission; Mr. Jagdesh Singh, Deputy Commissioner of Forests, Guyana Forestry Commission; Mr. Tasreef Khan, Deputy Commissioner of Forests, Ms. Nasheta Dewnath, Programme Officer, Guyana Forestry Commission; Mr. Carey Bhojedat, Management Trainee, Guyana Forestry Commission; Mr. Vilas Gobin, Guyana Forestry Commission.

c) Describe any technical assistance received from outside experts or organizations in producing this R-Plan. Is any technical assistance planned on REDD over the next year or so? (e.g., technical consulting, analysis of deforestation or forest degradation in country, etc., and by whom):

The GFC contracted the services of Dr. Denis Alder, a forest biometrician and information system specialist for guidance in the development of some areas of the R-Plan.

2. Current country situation: brief stand-alone summary.

Requirement: Current country situation summary here:

Guyana's pristine forest covers over 85% of the country, contains over 5GtCO₂ in above ground biomass, and is estimated between 18.416 million hectares (WRI) and 18.695 million hectares (UN FAO). The great majority of Guyana's forests are suitable for timber extraction and currently over 50% of the forest is allocated to some form of production.

The relatively low deforestation rate in Guyana is 0.1% to 0.3% (UN FAO FRA 2005, Colchester 1999). Using a baseline forest area of approximately 18.5 million hectares (FAO 2005), an average above-ground stock of 340 t CO₂e per hectare (the average of the estimates of Hans ter Steege, 2001, and Brown (1997), and an additional 20% of biomass below ground, the deforestation emissions since 2000 averaged 22.6 million t CO₂e per year. It is more difficult to estimate the historical emissions from logging until further studies on the biomass of forests before and after logging are conducted.

Guyana has had relatively low historical rates of deforestation. Logging has been moderate in comparison to some of its neighbors. However, Guyana's national circumstances clearly indicate that if incentives and governance are not directed to controlling deforestation and degradation, both of these rates and their associated emissions are expected to significantly increase.

Guyana is a perfect example of the need to include REDD¹ activities in a country with historically low rates and emissions because of several reasons:

- 1) Much forest suitable for logging and conversion to agriculture remains;
- 2) There is a growing national and regional demand for agricultural products;
- 3) There is a growing international demand for tropical timber and a strong presence of international logging companies in Guyana;
- 4) Access to Guyana's forests will be significantly increased during this decade. Most notably, a major international highway from Brazil through southern Guyana to the north coast will be built;
- 5) Brazil has a very large and dynamic human population that could rapidly move into Guyana for both logging and agricultural activities;
- 6) Implementation of REDD and other conservation measures in Brazil leads to a high potential for international leakage of deforestation and degradation into Guyana, via the highway.

¹ For purposes of Guyana's RPlan, REDD should be construed to mean activities consistent with para 1 (b) (iii) of the Bali Action Plan. Further, Conservation in this paragraph should be construed to include avoided deforestation in the context of Guyana's RPlan.

Guyana's low historical deforestation and degradation emissions do not accurately predict immediate expected future higher emissions because the majority of Guyana's State Forest Estate is suitable for logging and has been allocated for exploitation.

Deforestation and degradation occur mainly in the State Forest Estate where logging, mining and agricultural activity co-exist, as well as in the forests on Amerindian and other private lands. Deforestation is driven by four principal factors, namely: 1) the targeted harvesting of a limited number of prime commercial species, with little emphasis being placed by the loggers on efficiencies or harvesting of a broader range of species, 2) the clearing of forested areas for mining, 3) the conversion of forested areas to allow for agricultural activities, 4) infrastructure development such as roads. A limited amount of clearing is also done for the construction of housing and illegal logging activities.

The revised Forests Bill was passed on January 22, 2009 by Parliament. The preparation of this Bill involved eleven years of extensive consultation that began in 1996 and ended in September 2007. The process included consultations with more than 23 entities including representative Amerindian Associations, local communities and their representatives, private sector entities in particular those in the forestry sector, and in conjunction with the World Bank.

This revised Forests Bill allows for "forest conservation activities" which include the preservation of forests for the purpose of carbon sequestration or any other form of environmental services. Investors therefore have the opportunity to invest in this area in accordance with the Government of Guyana guidelines that would be established to govern this.

In addition to this, there is existing legislation governing forest reserves. Potential new carbon and biodiversity reserves include the Kaieteur National Park Act of 1929 (as amended 1999) which establishes the 63 000 hectare Kaieteur National Park, and the Iwokrama Act (1996) that establishes the 371,000 hectare Iwokrama Programme.

Protected Areas Legislation is now being drafted, with the first round of consultations that concluded in March 2008. This legislation will establish the framework for establishment of protected areas which will be part of the national initiative to maintain carbon reserves in areas of high known biodiversity value.

3. Definition of objectives, approach, and responsibilities for the R-Plan process:

The general objectives of the R-Plan are as follows:

- a) To develop and implement a methodology to assess the national baseline as well as predict future scenarios and assess and update biomass field estimates
- b) To establish a framework for demonstration & consultation initiatives as part of preparation for readiness
- c) To advise on governance and financial structures to incorporate REDD into these structures as well as carbon trading
- d) To establish a system for national monitoring & verification

- e) To build and develop capacity in all of the above mentioned areas
- f) To allow for sustainable utilization of forest resources to help sustain poor and forest communities

The GFC has already commenced a series of Sensitization Meetings targeting communities in all of the 10 administrative regions of Guyana (see Appendix 4). The main objective of these meetings was to inform stakeholders about the upcoming REDD initiative which the GFC would be implementing and the implications and opportunities for members of the various communities and organisations involved within the forestry sector. Along with this, initial stakeholder comments and concerns as it related to the implementation of this Initiative have been addressed. These sensitization meetings are considered as the prelude to the REDD Consultations which are scheduled to begin shortly (See Appendix 4).

The R-Plan is designed in such a way as to allow for a national evaluation and quantification of carbon stocks as well as develop a framework of monitoring for these carbon stocks.

It will allow for an Environmental and Social Impact Assessment of the potential impacts of the implementation of the R-Plan on the local environment. These impacts will be assessed and quantified and from this, appropriate mitigation measures to address these impacts will be developed.

The R-Plan will also allow for there to be an assessment of the capacity and investment needs of the country in order to bring Guyana to a state of readiness.

How would the result of the process change current land use and other sectoral behavior, policies, or governance, so that reductions in deforestation and degradation can occur?

The overall process is designed to achieve changes in the national legislative framework and policies pertaining to deforestation and degradation through the following four elements: a) cross-ministerial coordination, b) institutional capabilities, c) technical programs, and d) community and Amerindian development.

a) Cross-ministerial coordination

With the strengthening of the Land-Use Committee there would be better, more harmonized legislation, national land-use policy, and national physical plan related to improved land-use planning and zoning. Additionally, the Guyana Geology and Mines Commission (GGMC) must upgrade its monitoring and enforcement systems. The various emissions profiles of these activities will be compared to the deforestation and degradation reference scenarios to tradeoffs between the economic gains from development versus REDD incentives. In carrying out its Sensitization Meetings, the GFC has also included the Ministry of Amerindian Affairs in these meetings so as to sensitize Ministry officials who can later engage in wider stakeholder dialogue, to present this information to other communities which the

GFC has not met with.

Through the sensitization meetings, alternative economic and employment opportunities were presented to the community members that agree to protect forest resources and reduce any unsustainable activities. Alternatives such as ecotourism, production of higher value forest products, aquaculture, botanical research, and non-timber forest products including handicraft production, were presented for the communities to evaluate. The community members were informed that these activities would be implemented once they decided upon a feasible option and that it will be further discussed during the official REDD Consultations.

b) Institutional Capabilities

Improvement of the legislation is critical for harmonizing land-use decisions, expansion of protected areas managed by both communities and the government, improving monitoring and enforcement of the GFC Code of Practice, and to obtain true stumpage values from the timber resource extraction.

Improving the forest industry efficiency, quality control, broader use of species, value added activities, and installed technology base may translate into less pressure on the forest in terms of volume extracted and economic value created for communities that use new technology.

The Guyana Forestry Commission is continuing to work with the Community Forest Organizations (CFO) and Amerindian communities to improve their understanding of the GFC's guidelines, especially with regards to SFM practices.

c) Technical Programs

Guyana's low historical deforestation and degradation emissions do not accurately predict immediate expected future higher emissions. Guyana's reference scenario will include modeling of these probable future projected emissions. Readiness funding will produce maps of deforestation and degradation patterns, and the modeling will be based on both spatial and non-spatial data inputs and assumptions. This technical capability will also address the methodology to measure emissions from degradation and to create systems to monitor improvements from SFM and RIL.

The log tagging and tracking system is to be further enhanced by the use of bar codes and hand held scanners, a system of wireless networking amongst key stations, the use of all terrain vehicles (ATV's) for monitoring, and use of remote sensing to detect illegal activities in the state forest estate. These improvements will provide useful information to enhance concession monitoring and chain of custody tracking to quickly identify illegal activities, and to help avoid creaming of the most valuable forest resources.

The national level inventory will provide a reliable estimate of the carbon stock. It will also enable the GFC to assist Amerindian Communities and other private forest owners in developing informed management and community development plans for wiser management of the forest resources. In addition, it is noted that incentives for REDD can be effective only to the extent that they adequately compensate communities, private individuals, corporate land owners, and small-scale loggers that have legal access to State Forest Permissions for protecting and sustainably managing the forests.

The formation of a national forest fire management strategy and action plan will enable better use of fire as a useful tool, and so reduce the threat of uncontrolled fires which have the potential to damage expanses of forest and increase emissions. This program is relatively low cost to implement and has high probability to reduce unwanted fires and emissions. It is reported that the contribution of this driver to deforestation is small in Guyana, however this has not been officially recorded at a given percentage level.

d) Community and Amerindian Involvement

Engaging Amerindian communities to use their titled lands in a sustainable way is critical to reducing emissions from degradation and deforestation because these areas are sometimes subject to logging intensities which are unsustainable over the long term. CFO's and Amerindian communities (Orealla, Kwebana and Batavia) have benefited from Reduced Impact Logging and Sustainable Forest Management Training, and the GFC requires funding and assistance to expand the programs beyond the 23 community forestry organizations trained during the past 3 years.

Improving the capacity of local community groups and increasing the direct REDD incentives to Amerindian communities can help to reduce the practice of "slash and burn" for agriculture expansion or for human occupation.

As indicated earlier, the GFC will continue to provide education and training to additional Amerindian Communities to enable them to manage in a sustainable manner, the forest resources that are on their titled Amerindian Lands. This will be done through a collaborative effort of the GFC and the Forestry Training Centre Incorporated (FTCI).

Through the sensitization meetings, the GFC was able to consult with several of these communities, such as Orealla/Siparuta, Santa Mission, St. Ignatius, Moca Moca, Nappi and Kwebana. The community members had expressed their interest in pursuing REDD activities.

Through the implementation of the REDD initiative, the Government of Guyana will be allocating a part of the Readiness budget for providing training and extension services to Amerindian Communities.

For which aspects of the R-Plan does the country seek external support? (This builds on question 6 in the R-PIN template.)

Guyana seeks support for all Components of the RPLAN. There will be counterpart in kind support for each aspect as well.

Component 1: Land use, forest policy and governance quick assessment

Requirement: Prepare a quick, early analytic assessment of past experience with efforts to reduce deforestation or forest degradation in your country, and relative successes and shortcomings, leading to identification of major potential deforestation reduction approaches, by major cause and driver of deforestation and degradation.

Requirements for Component 1:

1.1. Executive Summary of the quick assessment paper:

Summary

At present, a national approach to assess forest carbon stock has not been developed for Guyana and needless to say, implemented in Guyana. Several aspects have however been addressed to some extent, in terms of assessing change in land cover through remote sensing imagery analyses and forest inventory assessment. Additionally, some work has begun in terms of biomass estimation in various soil types. There still however, needs to be a methodological assessment model developed to assess forest carbon stock at the national level drawing in some way, on the resources and results of these steps already initiated.

There are several policy guidelines in the natural resources sector, including the National Forest Policy, which addresses key areas of forest sector development in Guyana. While there has been several identified drivers of deforestation relevant to Guyana, a quick assessment done of land change at the national level, formulated an assessment of the effect of the main drivers. Mining seems to be the single most major cause of degradation within the State Forest Estate. According to the baseline information in 2008, approximately 24, 428 ha of forests was cleared due to mining activities and another 21, 903 ha of forests was cleared for agriculture. This therefore accounts for all previous years' activities in natural resources utilization. The most degraded forests areas are found in the North-West region of the country, which is traditional known to have the highest concentration of mining concessions.

Several agencies work in concert to address natural resources issues at the level of policy, planning and management, in Guyana. These include the: Guyana Forestry Commission, Guyana Lands and Surveys Commission, Guyana Geology and Mines Commission, Ministry of Amerindian Affairs, and the Environmental Protection Agency among others.

The Quick Assessment Report was completed by the GFC using wall to wall medium resolution images from satellite coverage. This was based primarily on work done by the Guyana Forestry Commission.

The foreseen role of international and local donors is seen both in lending technical and financial support to activities planned at a national level. The involvement of these bodies has so far contributed greatly to the basic knowledge and technical base available in Guyana.

Forestry Sector in Guyana

The forest resources of Guyana are used for multiple purposes including the harvesting of forest produce, agriculture, research, eco-tourism, sustaining the livelihood of Amerindian communities, conservation and protected areas management and biodiversity reserves protection. Forests are an integral part of Amerindian culture and communities make use of forest resources as a source of food, building materials, fibres for textiles and weaving, medicine, tannins and dyes.

Table showing the importance and contribution of the Forestry Sector to Guyana's Development

Year	GDP at Factor Costs	Forestry as a % of GDP	Population (end of year)
1992	3,792	2.3%	738,965
1993	4,104	2.9%	746,949
1994	4,452	4.4%	763,687
1995	4,676	4.9%	773,410
1996	5,048	4.5%	777,648
1997	5,360	4.93	778,795
1998	5,270	3.80	777,125
1999	5,426	4.17	781,164
2000	5,352	3.53	743,107
2001	5,474	3.56	744,200
2002	5,536	3.25	751,223
2003	5,500	3.33	753,772
2004	5,587	3.29	756,349
2005	5,478	3.63	758,925
2006	5,734	3.85	761,510
2007	6,016	3.86	763,719

Table compiled with data provided by GFC, MoF, BoG, & Bureau of Statistics

Table 5: Forest Sector Employment: Years 2005 to 2008

Activity	2005	2006	2007	2008
Logs	12,229	14,097	14,852	15,033
Sawmilling	4,051	4,241	4,330	3,819
Timber Dealership (Lumber Yards)	1,647	1,825	2,037	1,907
Plywood	712	699	650	500
Manicole Palm	658	658	658	698
Other*	4,340	4,369	4,500	4,500

* Other: includes activities in Furniture, Building Components, Craft, Utensils/Ornaments, Firewood, Charcoal and Conservation.

**Information Source: GFC*

Institutional Framework & REDD

The following describes the various agencies and organizations and a description of their role in climate change & REDD.

The Office of the President

The Office of the President is responsible for overseeing climate change initiatives at the national level and provides direction in climate change and REDD policy. It is responsible for achieving Guyana's prominent international reputation in its views on conserving its forests. Through the OP, a number of activities on REDD have been initiated, including gaining support from the Prince of Wales. Through the work of the President, a bilateral agreement between the governments of Norway and Guyana has been initiated. The overarching policy and developmental framework for climate change in Guyana is the Low Carbon Development Strategy (LCDS) which will be launched shortly. REDD is one component of the LCDS.

Ministry of Agriculture

The Ministry of Agriculture has the responsibility for the forestry sector, and has also been responsible for a number of departments that have responsibility for various aspects of climate change and REDD activities. These Agencies include the Hydrometeorological (Hydromet) Division and the National Drainage and Irrigation Authority. The Agricultural Ministry remains integral to the coordination and implementation of REDD policy and activities.

Guyana Forestry Commission

The GFC is responsible for the management and regulation of Guyana's State Forest Estate and the implementation of REDD activities in Guyana. The GFC's main responsibility is policy enforcement, sustainable forest management,

community forestry and planning the effective utilization of Guyana State Forest Resources. It coordinates the activities of the REDD Secretariat.² The REDD Secretariat will be responsible for the facilitation of REDD activities.

The passage of the Forests Act in January, 2009, now provides the GFC with a broader range of powers to regulate enhanced forest practices including forest conservation operations for purposes of carbon sequestration and environmental services and as such, the GFC is therefore expected to play an increasingly pivotal role in implementation, monitoring, and enforcement of REDD activities.

Collaboration Amongst Agencies in REDD

It is expected that in undertaking work on REDD, implementation will involve coordination and collaboration of the GFC and the REDD Secretariat with other Ministries and Agencies. Whilst agencies such as the Environmental Protection Agency (EPA), Guyana Land and Surveys Commission (GLSC), Guyana Geology and Mines Commission (GGMC), Hydromet Division and the Climate Change Unit will provide support within their respective mandates, Ministries such as the Ministry of Amerindian Affairs (MOAA), Ministry of Finance (MOF) and other Ministries will also play supporting roles in REDD initiatives. Locally-based international NGOs such as CI and the World Wildlife Fund (WWF) can also contribute to this process.

NREAC

The Natural Resources and Environment Advisory Committee is a sub-committee of the Cabinet on Natural Resources and Environment, of which the GFC is a member. This body comprises policy and technical representatives that provide guidance and technical review and support to Cabinet. This sub-committee is chaired by the Prime Minister and coordinated by the Adviser to the President on Sustainable Development. This technical committee comprises representation of key Government entities and provides technical review, coordination and guidance. Natural resources issues, e.g mining, forestry and agriculture are discussed and solutions are developed at this level.

GGMC

The Guyana Geology & Mines Commission is tasked with regulating, on behalf of the Government, all activities in the mineral sector including providing advice to the Government on appropriate mineral policy matters so that Guyana's mineral resources can be rationally developed and utilized. It regulates the extraction of minerals from large scale (500-12,000 acres) mining operations, medium scale (150- 500 acres) mining operations and small scale mining operations. The Mining Act provides for the management of both large and small scale mining claims. Environmental management of both large and small scale operations at the field and policy levels are monitored and implemented by the GGMC. The EPA also has environmental oversight for mining operations.

² Guyana R-Plan Submission to the World Bank's Forest Carbon Partnership Facility (FCPF), p.66

Summary of Key Stakeholders & Their Role in REDD

Ministry/Agency	Role in REDD
Office of the President	Political leadership, policy and strategy setting including international representation of climate change issues and agenda for Guyana
National Climate Committee	Policy and strategy relating to climate change adaptation and mitigation. Members come from government, private and public sector, NGOs and other stakeholder agencies
Ministry of Agriculture	Oversees the forestry sector and the GFC. Houses Hydrometeorological Service and National Climate Unit
Ministry of Amerindian Affairs	Support social, economic and cultural activities in Amerindian communities
Ministry of Finance	Can be expected to become engaged in REDD if REDD payments come to the Government of Guyana
Guyana Forestry Commission.	Manage and regulates the utilization of state forest while ensuring an optimum and sustained yield of forest produce and maintenance of the environment
Guyana Geology and Mines Commission	Manage and regulates the extraction of mineral resources of Guyana. Includes granting and enforcing mining licenses.
Guyana Lands and Surveys Commission	Advise the government on policies relating to public lands and land surveys and to administer and enforce all laws to public lands and land surveys.
National Parks Commission	Regulate the use of any designated park and protected areas
Environmental Protection Agency	Promote, facilitate and coordinate effective environmental management and protection; and the sustainable use of Guyana's natural resources.
REDD Secretariat	Develop coordinate and implement national policy and Readiness Plan for World Bank FCPF
Hydrometeorological Service	UNFCCC Focal point and DNA. Responsible for implementing climate change projects in Guyana.
National Climate Unit	Advisory and executor agency for adaptation projects.
University of Guyana	Training of personnel at tertiary level.
Community-based NGOs	Support the implementation and management of community-based conservation projects, including restoration of degraded lands adjacent to protected areas.
Private Sector	Finance and implementation of REDD Projects
International NGOs and multi-lateral institutions	Support Government of Guyana, implement projects within Guyana

Source of Elements of Table: Biodiversity Mainstreaming Through Avoided Deforestation, Guyana Case Study – Second Draft. Conservation International, IDB and GFC. (BMAD-GCS) Project (GY-T1058) Technical Paper D

Strengthening of Natural Resources Legislation

Natural resources utilization principally forestry and mining activities will be executed in a structured and cohesive manner allowing for clearer and more integrated systems that would allow for effective land utilization. This will be largely achieved through effective implementation of relevant legislation (in the case of the forestry sector, revised legislation will soon be implemented) and through key interaction and participation of relevant stakeholders including indigenous groups. The existing structures in place to facilitate integrated decision making will play an important role in allowing land use decisions to be taken with full cognizance of the requirements of implementation of REDD strategies as put forward in the RPlan.

Determination of Land Tenure

In Guyana, the land use structure provides for the mining sector to be managed by the GGMC and forests by the GFC. With this in place, the national structure provides for the NREAC and the Land Use Committee to provide guidance that allows for the integrated management of these key natural resources. As such, tenure to a particular area with multiple potential uses is enabled through these Committees.

Summary of Efforts to Address REDD

There have been many direct and indirect efforts by the GoG to reduce deforestation and forest degradation through the various natural resources agencies as outlined in the table below:

Table Showing Efforts to Address REDD

Efforts	Outcomes	Gaps/ Challenges	Opportunities
Implementation of the Code of Practice for Harvesting Operations that allows for best practices to be implemented in SFM, including a maximum allowable cut, the harvesting of trees based on proximity limitations, and compliance with social & environmental safeguards, among other areas.	There is managed extraction, control of gaps size openings and overall compliance with social and environmental safeguards. Also protection of buffer and exclusion zones in forest areas. These all contribute to the sustainable management of the	Community groups require additional capacity to implement all aspects of the CoP.	With compliance by all forest land holders, deforestation and forest degradation at the national level will be maintained at the existing low rate and can even be lowered in the future

	forest resources.		
The implementation of the annual management planning requirement, execution of forest inventory assessment and environmental and social impact assessments allow for effective planning of large concession areas	The issuance, planning and management of large concession areas are executed in keeping with GFC's guidelines which themselves lend to the implementation of SFM	Smaller operators require capacity building assistance in conducting forest inventories and in forest planning and management.	With compliance by all forest land holders, deforestation and forest degradation at the national level will be maintained at the existing low rate and can even be lowered in the future
The GFC has implemented a national log tracking system, had developed a legal verification system and has strengthened field monitoring in forest concessions which have collectively enhanced Guyana's compliance in forest law enforcement, governance and trade (FLEGT)	There is enhanced legality in the sector which lends to greater control of forest activities in keeping with guidelines which allow for deforestation and degradation to be kept to a minimum	New areas allocated would have to undergo capacity building and in some cases commitment of additional resources to enable these to be executed.	Maintenance of a high level of legality will foster the maintenance of a low rate of deforestation and degradation.
The GFC social development programme capacity building sessions have been and continue to be held with communities in forest law, forest inventory & management	A stronger compliance with FL, FI and FM allows for sustainable use of forest resources, thereby decreasing deforestation and forest degradation	More resources needed for additional communities to be targeted	With compliance by both large and small scale operators, deforestation and forest degradation at the national level will be maintained at the existing low rate and can even be lowered in the future
For effective implementation of the mining regulations	A stronger compliance with mining regulations allows for sustainable use of forest resources, thereby decreasing deforestation and forest	More resources needed for additional communities to be targeted	With compliance by both large and small scale operators, deforestation and forest degradation at the national level will be

	degradation		maintained at the existing low rate and can even be lowered in the future
The GoG has been working with investors to target possible agroforestry investments	Compliance with policies and regulations in place for agroforestry allows for sustainable use of forest resources, thereby decreasing deforestation and forest degradation	More resources needed for additional communities to be targeted	Compliance will allow for deforestation and forest degradation at the national level to be maintained at the existing low rate and can even be lowered in the future

Inclusion of Indigenous Communities in REDD

The GoG has no legal mandate over the management and utilization of titled indigenous lands and in the implementation of REDD, and participation in the REDD programme will not be mandatory but rather will be optional. Communities will therefore choose whether they would like to get involved following careful decision making after having been fully informed by the GoG. This will be done after appropriate consultations with communities.

Communities that are not ready to participate in of activities, can do so at a later stage - they would not be disadvantaged in any way by choosing to participate at a later time. Communities will have an opportunity to do so once they are ready.

With regards to untitled Indigenous communities, consultations will be done with these groups and following titling, these communities will also be given an opportunity to participate in the readiness programme,

REDD & Forest Activities

With the implementation of REDD activities, it is expected that mining, forestry and agricultural activities will be allowed to continue in accordance with existing laws and guidelines which govern their practices. There will be continued and increased stringent monitoring and enforcement of compliance of the operators by the respective regulatory bodies.

Projects that are currently going through the permitting (as in the case of existing forest concessions and mining leases) process will continue. However, they must adhere to national requirements under current laws and environmental management procedures.

With regards to hunting and farming as well as other subsistence level activities by Indigenous peoples and other forest

dependent groups, these will be unaffected. This is already allowed for under the current legislative structure which provides for continued utilization of forestry resources for subsistence use (as opposed to commercial level utilization) by indigenous communities.

1.2. Partners and organizations involved (describe who wrote the paper, data sources, and the process):

Mr. James Singh, Commissioner of Forests, Guyana Forestry Commission; Dr. Denis Alder, Forest Biometrician; Ms. Pradeepa Bholanath, Head, Planning and Development Division, Guyana Forestry Commission; Mr. Jagdesh Singh, Deputy Commissioner of Forests, Guyana Forestry Commission; Mr. Tasreef Khan, Deputy Commissioner of Forests, Ms. Nasheta Dewnath, Programme Officer, Guyana Forestry Commission; Mr. Carey Bhojedat, Management Trainee, Guyana Forestry Commission; Mr. Vilas Gobin, Guyana Forestry Commission.

1.3. Requirement: Attach your completed Land use, forest policy and governance quick assessment paper as Annex # 1.

Appendix 1 - Quick Assessment Report (in separate file)

Appendix 2 – National Forest Policy (in separate file), National Forest Plan (draft) – this was in draft form, awaiting the revision of the Forest Bill, which was recently passed by Parliament on 22 January, 2009. Given this, this Plan will be revised and finalized. The Policy will likewise, be revised.

Appendix 3 – Land Use Plan (Regional) (in separate file)

Component 2: Management of Readiness

2a. Convene a national REDD working group to coordinate REDD activities, and how REDD will be integrated into the existing land use policy dialogue

Requirements for Component 2a:

By filling in the outline below, summarize the REDD working group and management design and process

2a.1. Design of the working Group:

Design and set up of the group, organization, members, communication:

As part of Guyana's efforts to provide an enabling environment for the facilitation of REDD activities, a working group has been established in the form of a REDD Secretariat (RS). The Secretariat has been set up as a part of the Guyana Forestry Commission (GFC) and will be responsible for the coordination of national REDD activities (such as advice on policy formulation and enforcement, sustainable forest management, community forestry, planning coordination with other agencies etc.) of the country. The REDD Secretariat will oversee the implementation of all REDD activities under the Low Carbon Development Strategy framework, guided by the Office of the President with the involvement of the National Climate Committee which includes stakeholders from both State and non State stakeholders.

It is also tasked with the preparation of the Readiness Plan (RPlan), Consultation and Outreach activities, dissemination of results, training in Sustainable Forest Management, Governance and accountability and the assessment of the carbon stock potential of Guyana's forests.

This Secretariat will report to the Guyana Forestry Commission and the already established National Climate Committee of Guyana on which the following key agencies are represented:

- Guyana Forestry Commission
- Ministry of Agriculture
- Ministry of Amerindian Affairs
- Civil Defense Commission
- Central Housing & Planning Association
- Guyana Lands & Surveys Commission
- Guyana Sugar Corporation

- Guyana Manufacturers Association
- Guyana National Bureau of Standards
- Environmental Protection Agency
- Forest Producers Association
- Iwokrama International Centre for Rainforest Conservation and Development
- Institute of Applied Science & Technology
- Guyana Energy Agency
- Hydromet Office
- Ministry of Foreign Affairs
- National Agriculture and Research Institute
- Ministry of Housing & Water
- National Drainage & Irrigation Authority
- Conservation International, Guyana
- National Climate Unit
- Ministry of Local Government & Regional Development
- Private Sector Commission
- Ministry of Public Works & Communication
- University of Guyana

The RS will report to the NCC as well as collaborate with the NCC as necessary. The NCC will provide support to the RS as is required.

The RS will be responsible for overall coordination as well as being the permanent operational team for REDD nationally. The Secretariat has been established as the national working group to coordinate all national REDD activities as well as to advise of policy formulation and implementation.

The RPlan was reviewed by the coordinating entity, the NCC, on which State and non-State entities are represented. The GFC & RS and the authors of the RPlan drafted this plan following numerous close interactions with all agencies (through meetings, direct contributions of data from agencies and other inputs.)

Partners of the REDD Secretariat

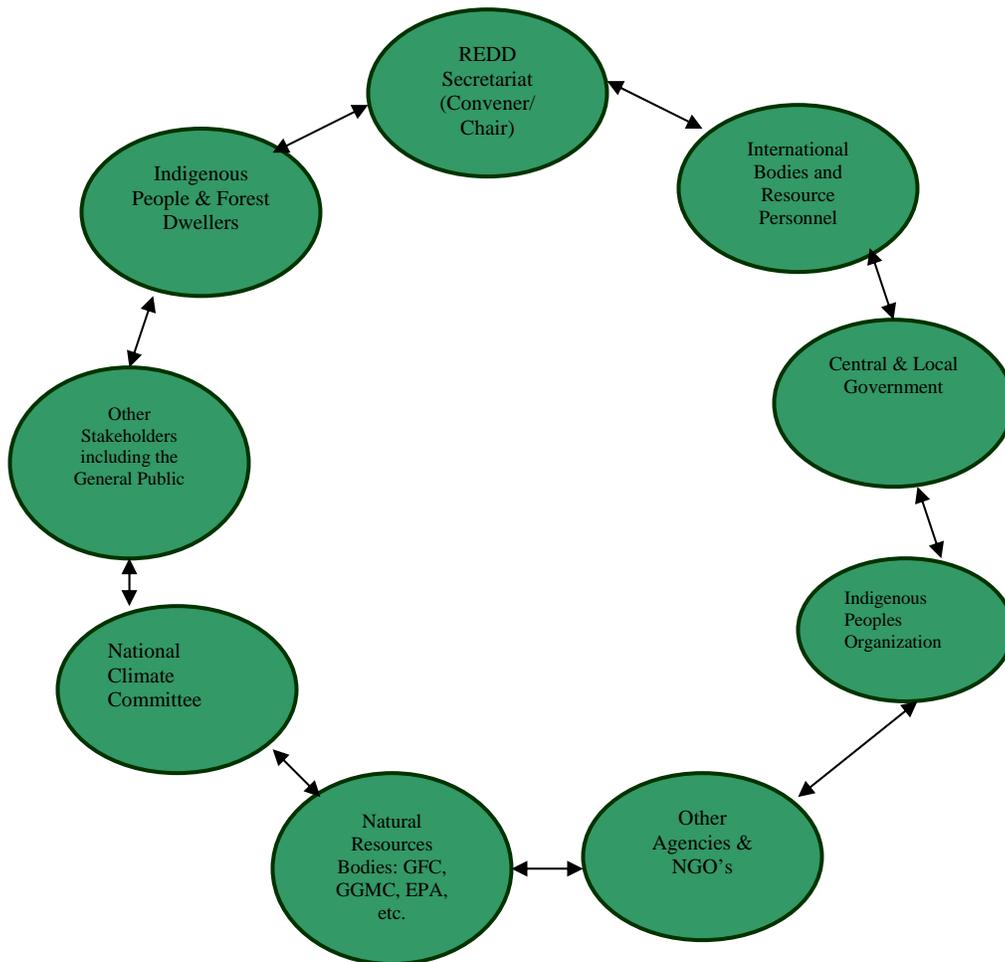
While the REDD Secretariat will be managed by the GFC, it will not operate in isolation of other sector agencies within the national framework. Rather it will involve inputs and collaboration from agencies such as:

- Office of the President (oversees national climate change initiatives)
- Ministry of Agriculture (planning and coordination),
- Guyana Lands and Surveys Commission (land use planning),

- o Indigenous Community groups, members and leaders,
- o Non Governmental Organizations (NGOs) such as Conservation International (CI), Iwokrama and World Wildlife Fund (WWF).
- o Environmental Protection Agency (biodiversity conservation and management),
- o Ministry of Local Government and Regional Development
- o Ministry of Amerindian Affairs (local indigenous community land titling and development)
- o Guyana Geology and Mines Commission
- o Guyana Energy Agency

While these agencies will be consulted upon on an individual level, as the need arises, the REDD Secretariat will also work in close collaboration with the National Climate Committee (NCC) which, is primarily responsible for deciding on policy and projects on climate change matters. Further, the NCC coordinates the management of climate projects.

The Secretariat to date, has received support from two international NGOs, the WWF and CI.



REDD Consultation & Outreach Committee (RCOC)

The government intends to set up an REDD Consultation and Outreach Committee (RCOC), comprising representatives of the following agencies and organizations:

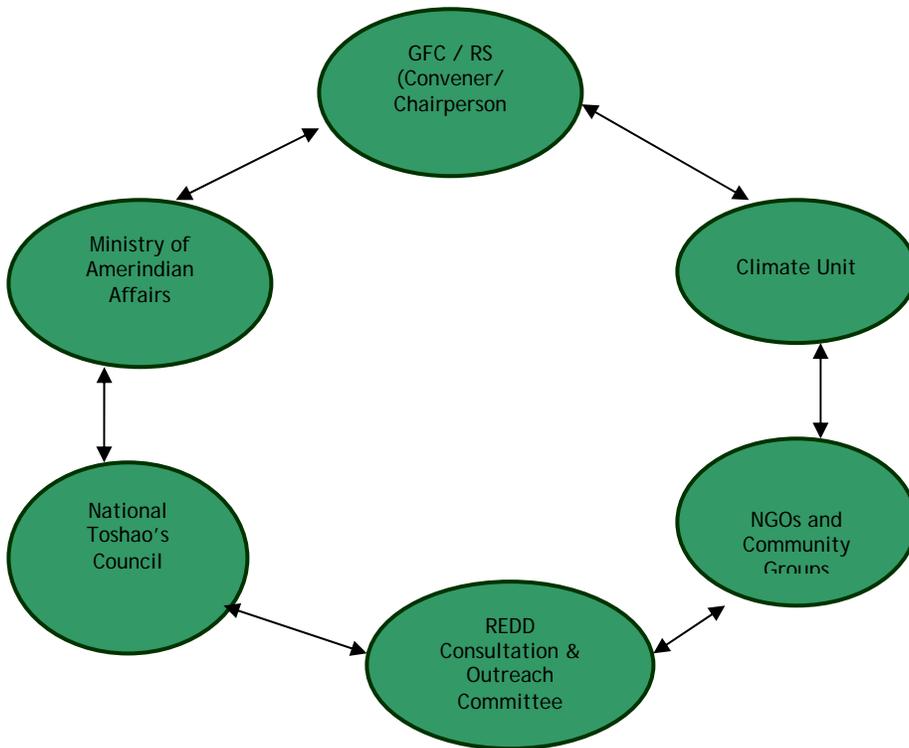
- REDD Secretariat
- Guyana Forestry Commission
- Ministry of Amerindian Affairs and other relevant Ministries
- National Tshao's Council (NTC)
- Climate Unit (from the Office of the President)
- Relevant NGOs and Community Groups (including Indigenous Peoples groups)

The Committee will be set up with the intention of having the indigenous peoples and other forest dependent communities represented during implementation of REDD activities. It will be the oversight and advisory body for the REDD consultations; The consultation programme will be planned and executed in accordance with the national agenda for consultations on climate change.

The Committee will contribute to relevant aspects of the project. This Committee will convene monthly to discuss and report on the following:

- alternative economic activities which the communities would be interested in pursuing and updates on the status of implementation of these activities
- issues/constraints encountered
- identification of areas for capacity building and training
- conflict resolution & investigations of complaints

This Committee will be the interface between the various communities nationally and the government. Further, through the REDD Consultation and Outreach Committee; there will be representation by NGOs. It will be ensured that the NGOs selected will have knowledge of forestry and forestry practices implemented locally as well as internationally.



The GFC/RS will chair the RCOC and this will be a permanent arrangement.

Through the development of the REDD Consultation and Outreach Committee (RCOC), programmes to support and develop capacity will be designed. Based on the fact that there will be representation by the Ministry of Amerindian Affairs and the National Toshao's Council, all limitations and constraints experienced by the communities can be identified and presented during the meeting of the Committee. This will allow for better and more informed decision making at the national level.

As mentioned before the members of the RCOC will be integrated into the development of the REDD process from implementation, hence can assist with the development of the initiative to ensure that it is appropriate to the needs of the forest dependent groups.

Conflict resolution as well as complaints will be dealt with at the level of the RCOC. A protocol will be developed to detail the manner in which complaints will be investigated and by whom; timelines for investigation of complaints so as to prove validity as well as actions to be taken to mitigate these complaints.

In cases where conflict resolution is necessary, the RCOC will deliberate on the matter.

Based on the fact that all REDD and readiness activities are being and coordinated implemented at a national level,

through a national process, it is important to have to have a national coordinating mechanism in place.

Criteria for Selection of NGOs for RCOC

1. There must be full representation by all indigenous groups on the RCOC
2. The mandate, relevance and level of involvement of NGOs to REDD and RPlan implementation will determine the level of involvement of other NGOs, through the following:
 - a. Involvement in previous activities in forestry, mining, agriculture or other land uses;
 - b. Involvement in previous activities relating to environmental services management and or utilization
 - c. Previous interaction with indigenous groups involving activities in land tenure and natural resources utilization;
 - d. International experience in carbon financing initiatives (including REDD) to enable the benefits of lessons learnt from previous experience

It should be reemphasized that the Ministry of Amerindian Affairs, National Toshios Council and NGOs including Indigenous People's groups will be fully involved in the process as they would be part of the planning process as well as will be part taking in organizing and leading some of the sessions.

2a2. How would the REDD debate be linked and integrated into the overall land-use and forest dialogue?

Having the Secretariat established within the GFC framework is one of the main ways by which REDD will be integrated into overall policy. This is so because GFC is the regulatory agency for forestry in Guyana; as such, REDD will be incorporated into existing forest policy dialogue addressing a wide range of forestry and development topics (e.g., forest policy, land tenure, sustainable forest management, etc.).

Further, GFC is a member of the NCC, which as mentioned before is primarily responsible for deciding on policy and projects on climate change matters, hence decisions made by the Secretariat with regards to REDD will be discussed within the NCC and can be further integrated into other relevant national policies.

In addition to this, a process of consultation will be carried out to establish the pros and cons of the REDD initiative with the agencies responsible for land administration and land use (GGMC, GL&SC, EPA etc). The outcomes will be further discussed with all other stakeholders and subsequent results added to suitable policies so as to address the issues raised by stakeholders at all levels. Since Indigenous communities and other forest dependent dwellers will also be affected, emphasis will be placed on ensuring benefits, land use rights and tenure, and the mitigation of potential environmental and social impacts. This would involve collaborative effort of the REDD Secretariat, the MoAA,, Indigenous Peoples Organization, Indigenous Community Leaders and other relevant agencies.

Both large scale concessions as well as mining claims will be targeted as part of the consultation process. Along with this, mining and forestry are addressed by the Land Use Committee, which comprises the Guyana Forestry Commission, Guyana Lands & Surveys Commission, the Guyana Geology & Mines Commission and the Environmental

Protection Agency.

In Guyana, sustainable forestry management (SFM) practices are implemented and these activities are overseen by the GFC. Through the implementation of the RPlan, the option of monitoring of forest concession activities via an independent body will be explored.

2a 3. Type, schedule and sequencing of activities to be developed by working group:

- Describe at least one meeting of this group: attendees, agenda, and outcomes.

The list of attendees will include:

1. Village leaders/Counselors
2. Forest users
3. Villagers
4. Lease holders of forest concession area
5. Religious and Social work community representatives
6. Miners
7. Regional Democratic Council Representatives
8. Representative from the Indigenous community groups and the Ministry of Amerindian Affairs
9. Neighbourhood Democratic Council representatives
10. Community logging group members
11. Students
12. Representatives of other Government of Guyana Agencies present in the area, e.g. Police, Extension Officers, GGMC staff, etc.

Proposed Agenda

- Welcome by Village Leader, Purpose of Session
- Introduction of all Participants
- Overview of Progress made in FCPF
- Identification of Activities to be undertaken in the coming period
- Overview of community's feedback to planned activities
- Presentation of Intended Outputs and Activities
- Outline of the structure of the group work (conducting of work group sessions, report to main session the findings and recommendations arising out of the work of each group)
- Conclusions and way forward

Outputs and activities will include the following:

Output - 1 Selection of areas to be targeted for REDD activities

Activities

- 1.1 Selection of project areas based on specific criteria;
- 1.2 Creation of a database of these selected areas;

Output - 2 *Assessment of Land Use options in areas targeted for REDD activities.***Activities**

- 2.1 Consultation with relevant agencies e.g. GL&SC, MoAA, GGMC as well as GFC records as it regards land use in selected areas;
- 2.2 Assess land use options from information gathered;
- 2.3 Assess the length of time each area was occupied by its respective land use as well as historical land use;

Output - 3 *Identification of alternative land use options available to the selected area***Activities**

- 3.1 Identify alternative land use options in consultation with local stakeholders and relevant GoG agencies.
- 3.2 Account for livelihoods supported by each specific land use option;
- 3.3 Account for land area occupied by each land use;

Output - 4 *Assessment of expected benefits from each land use option.***Activities**

- 4.1 Assess monetary benefits gained from each land use option;
- 4.2 Estimate number of persons involved in each land use activity;

Output - 5 *Identification of likely impact of REDD activities on existing land uses (at community, regional and national levels)***Activities**

- 5.1 Assess compatibility of REDD activities with present land use of the respective area;
- 5.2 Identify positive & negative impacts of implementation of REDD activities to livelihoods & employment rates in each area;
- 5.3 Identify impacts of implementation of REDD activities (positive & negative) to natural environment;
- 5.4 Identify areas where policy implementation maybe required to further support REDD implementation.

Output – 6 *Preparation of a Consultation & Outreach programme to educate communities about the REDD activities***Activities**

- 6.1 Discussion of preferred options for governance and administration of REDD activities with community members from the selected areas
- 6.2 Identification of benefits sharing options preferred by each group.

2a4. Requirement: Attach ToR or plan for component 2a as annex.

Schedule of Activity

ACTIVITIES	Y1	Y2	Y3
1. Selection of areas to be targeted for REDD activities			
1.1 Selection of project areas based on specific criteria;			
1.2 Creation of a database of these selected areas;			
2. Assessment of Land Use options in areas targeted for REDD activities.			
2.1 Consultation with relevant agencies e.g. GL&SC, MoAA, GGMC as well as GFC records as it regards land use in selected areas;			
2.2 Assess land use options from information gathered;			
2.3 Assess the length of time each area was occupied by its respective land use as well as historical land use;			
3. Identification of alternative land use options available to the selected area			
3.1 Identify alternative land use options;			
3.2 Account for livelihoods supported by each specific land use option;			
3.3 Account for land area occupied by each land use;			
4. Assessment of expected benefits from each land use option.			
4.1 Assess monetary benefits gained from each land use option;			
4.2 Estimate number of persons involved in			

each land use activity;			
5. Identification of likely impact of REDD activities on existing land uses (at community, regional and national levels)			
5.1 Assess compatibility of REDD activities with present land use of the respective area;			
5.2 Identify positive & negative impacts of implementation of REDD activities to livelihoods & employment rates in each area;			
5.3 Identify impacts of implementation of REDD activities (positive & negative) to natural environment;			
5.4 Identify areas where policy implementation maybe required to further support REDD implementation.			
6. Preparation of a Consultation & Outreach programme to educate communities about the REDD activities			
6.1 Discussion of preferred options for governance and administration of REDD activities with community members from the selected areas			
6.2 Identification of benefits sharing options preferred by each group.			

Indicators of Performance:

1. Completed selection of areas selected to be targeted for REDD activities
2. Completed Assessment of Land Use options, alternatives and benefits, and potential impacts in areas targeted for REDD activities.
3. Completed Consultation & Outreach programme on REDD activities

Annex 2a – Terms of Reference for the REDD Secretariat

Background

The design of the REDD Secretariat is to have a competent working group that sets the outline for the planning and development of REDD activities through broad consultation with all stakeholders. The REDD Secretariat serves to provide scientific methodologies that assess forest carbon stocks at a national level, projects future emissions, and to coordinate activities, along with the necessary policy and strategy support required, that is necessary for the effective and efficient planning and implementation of REDD.

Goal

To create an enabling environment, through the establishment of a REDD Secretariat, to facilitate the execution of national level readiness activities, to support the Government of Guyana's climate change mitigation initiatives/agenda.

Objective

To implement key policy, strategy and operational initiatives targeted towards enhancing Guyana's readiness to advance its capability and access to climate change incentives which are and may become available.

Stakeholders

The main stakeholders that would have direct contribution to the REDD Secretariat are: National Climate Committee (whose members are from different agencies), and NGO's such as Indigenous People Organization.

The function of these agencies together with the REDD secretariat and the Government of Guyana will be to discuss, plan and implement REDD on a national basis. The REDD Secretariat will also consult with the Indigenous people, Community Forestry Organizations, the Forest Products Association, and the wider stakeholder body, across the country.

Resources

The REDD Secretariat will utilize the following tools, materials and personnel to achieve its objectives:

- Guyana R-PIN and R-PLAN
- The Intergovernmental Panel on Climate Change (IPCC) 2003 Land Use Land Use Change Forestry (LULUCF) Guidance, and the IPCC 2006 Guidelines
- GOFC-GOLD Source Book on REDD.
- Brazilian 'PRODES' software
- FCPF materials and guidelines

- A national accounting, reporting and assessment system would be established in order to ensure a measurable, reportable and verifiable mitigation action through REDD.

Financial Aid

Several donors and international partners have expressed an interest in supporting a forest carbon stock assessment initiative and related activities and these include:

- The World Bank
- World Wildlife Fund (WWF)
- United Nations Development Program (UNDP)
- Inter-America Development Bank (IDB) and
- Conservation International (CI).

Other institutions such as the FAO, IDB, the German Government, USA and the ITTO may be approached for possible technical assistance.

Outputs and Results

The following are the main expected outputs and results of the project:

1. Enhancing capacity at the national, regional and community levels to conduct continuous forest carbon stock assessment in Guyana.
2. Creating a formal structure and framework, through the development of the methodology, to conduct national assessment and monitoring of forest carbon stock that are appropriate, applicable, feasible and relevant in the Guyana context.
3. Enabling the generation of a continuous updated information base on forest carbon storage capacities, that is the basis of securing global carbon financing mechanisms, performance based payments and positive incentives.
4. The promotion of alternative sustainable poverty reduction development programs that are pro-poor and inclusive.
5. Ensuring the quality and inclusiveness of consultations;
6. Conducting and or overseeing all studies and activities listed in the R-Plan;
7. Ensuring coordination and synergies among all activities and policies related to the REDD process in Guyana; and
8. Identifying issues and proposing remedies for the way forward.

2b. Prepare a REDD Consultation and Outreach Plan

Requirements for Component 2b:

By filling in the outline below, summarize your Consultation and Outreach Plan. (Note: a full Plan is required here, not simply ToR.)

2b1. Summarize your Consultation and Outreach Plan under this component, under the headings provided:

a) Include all major components of your R-Plan (e.g., monitoring, etc.)

A consultation and outreach plan is a vital component for the preparation of the REDD Readiness plan. It is geared at gathering information, issues and opinions from all stakeholders and processing it so that possible solutions and policies can be formulated or amended to address concerns of participants. This activity conducted by the REDD Secretariat of the GFC in collaboration with other GFC divisions and cross ministerial agencies (such as MoAA, GGMC etc) will enlighten stakeholders, provide training and address issues and concerns through a continuous process of outreach programs and the efficient and effective dissemination of all relevant information.

There are nine components of the R Plan that needs to be prepared in order to achieve readiness. These are:

1. Land use – forest policy and governance quick assessment
2. Management and Readiness
 - a. Convene a national REDD working Group to coordinate REDD activities and how will REDD be integrated in the existing land use policy dialogue;
 - b. Prepare A REDD consultation and outreach plan
3. Design the REDD Strategy
4. REDD Implementation framework
5. Assess the social and environmental impacts and potential additional benefits of candidate REDD strategy activity
6. Assess investment and capacity building requirement
7. Develop a reference scenario
8. Design and implement monitoring, reporting and verification
9. Design a system of management, implementation and evaluation of readiness preparation activities.

b) Who developed the Plan?

This Consultation and Outreach Plan was developed by the Guyana Forestry Commission's REDD Secretariat with

support from international Consultants. The plan was prepared using a number of materials and literature such as the Guyana R- PIN and the FCPF – Guidance for Preparation of Consultation and Outreach Plan.

c) What methods would be used (e.g., workshops, survey, trainings, etc.)? What will be the format of the consultations, and what topics will they cover?

To achieve optimum participation, which would enable effective discussions and results, the consultation and outreach program will use the following methods:

- Workshops
- Interviews
- Formal and informal discussions
- Surveys
- Advisory groups
- Education outreach and school outreach programs.
- Training
- Community Planning Groups

Format for Consultation and Outreach

- Sensitization activities held within various logging communities throughout the country, informing community members about climate change and the activities of the REDD initiative which the GFC would be implementing.
- Documentation will be sent prior to the actual consultation exercises to enable prior planning for meetings by the communities.
- Workshops to facilitate further discussion where questions, opinions, and issues will be encouraged. These queries will be noted and followed up.
- Discussion on how training (theoretical and practical aspects on various subject area e.g. sustainable forest management and other forest uses that have minimal effect on the forest) will benefit participants thereby enabling them to be fully involved in REDD activities.
- Dissemination of Results and feedback

All aspects of the consultation and outreach program will be fully documented and analyzed to determine how stakeholders input will be used and what policies should be put in place and which ones should be amended.

Topics for Discussion

- Current status of the Country's forest and Forest policies
- Deforestation and forest degradation – main causes and effects
- REDD – details, benefits sharing of incentives, impacts and risks, strategy etc
- Land use, land right and alternative livelihood
- Training

- The link between community activities and practices and the effective achievement of planned objective
- Implementation, Monitoring and verification of a REDD scheme
- Individual, community and national involvement in all of the above.

Over the period September 2008 to January 2009, consultation sessions were planned for and held with the following community groups, many of which are indigenous communities:

1. Great Falls
2. 47 Miles Mabura
3. Ituni
4. Kwakwani
5. Linden
6. Kwebana
7. Mabaruma
8. Port Kaituma
9. Annai Central
10. Surama
11. Nappi and Parishara
12. Moca Moca
13. Lethem
14. St. Ignatius
15. Santa Mission
16. Murataro
17. Bartica
18. Anna Regina, Supenaam, Charity
19. New Amsterdam
20. Corriverton
21. Batavia
22. Georgetown
23. Orealla
24. Three Friends Marie Elizabeth
25. Caria Caria
26. Community representative Group – Kanuku Mountains Protected Area
27. Dora, Demerara River

Within these main community meeting, representatives were also present from:

1. Katoka

2. Yupukari
3. Shea
4. Aishalton
5. Sand Creek
6. Wowetta
7. Kwatamang
8. Aranaputa

Also, after the submission of the RPlan of February 13, 2009, the GFC also had a session with the Indigenous groups of Guyana along with the Forest Products Association, the University of Guyana and the Guyana School of Agriculture.

The following Indigenous groups were invited:

- TAMOG
- Amerindian People's Association
- GOIP

This meeting was held on March 5, 2009 at the GFC and followed the format of the other sessions that were held earlier.

The Consultations were conducted within villages and communities in all of the administrative regions of Guyana targeting specifically:

- Amerindian Communities and other forest dwellers
- Loggers & miners
- NGOs
- Government ministries and agencies
- General public (including students)

These sessions were conducted by the GFC in collaboration with the REDD Secretariat and addressed climate change, REDD and implications for its implementation in Guyana. They were planned and executed in a fully consultative manner, allowing for interaction between the target audiences and the presenters, whereby the participants were urged to ask questions and seek clarifications on any aspect of the presentation that was unclear to them or in which they required further details. Copies of the presentation as well as brochures containing general information on climate change were distributed at all meetings. At the end of each session it was emphasized that the meetings were just the beginning of a much larger consultation process to be implemented within the latter part of 2009. Over 50% of the national consultations were carried out in Amerindian communities. During consultations on Amerindian communities the GFC/RS was accompanied by a representative of the Ministry of Amerindian Affairs.

The sessions sought to garner stakeholder involvement through an informal and participatory approach which engaged the participants in meaningful discussions on climate change and its implications for the future of forest dependents persons from both an environmental perspective as well as a socioeconomic one. It then addressed the benefits of implementing a REDD strategy and demonstrated to the audiences how they could get involved in this, as well as the benefits that could be derived.

In addition to this, the RPlan Component 2 (a & b) - Management of Readiness, was shared with Indigenous leaders working on a climate change action plan during a five day Guiana Shield Regional Meeting of Indigenous Leaders. This involved leaders from the Amerindian Peoples Association of Guyana, Organisatie Van Inheemsen (OIS) of Suriname and the Fédération des Organisations Autochtones de Guyana Village Amérindien (FOAG) of French Guiana, in coordination with the Coordinator of Indigenous Organisations of the Amazon Basin (COICA) and the Amazon Alliance. (April 13-17, 2009)

During REDD Consultation the GFC/RS discussed with communities alternative economic opportunities that the forest dwelling communities could embark upon once REDD was fully implemented to supplement their income.

The GFC/RS sought to encourage the participation of the community members during all consultations and had urged them to voice their opinions and ideas on what they thought would be best suited to them in the implementation of such an initiative. In the closing of all the sessions, the GFC/RS had encouraged all communities consulted to consider alternative economic opportunities which they would have considered feasible to embark upon. They were all informed that in follow up consultations they would be expected to present these ideas to the GFC/RS and discuss its feasibility for the community's development.

Reports on some of the above sessions are attached as Appendix 4 at the end of this Plan.

Upcoming Consultations

Over the next three months, there will be national and sub-national consultations to sensitize, inform, educate, receive comments and suggestions, and generally to share and discuss information and listen to views of all stakeholders. The outcome of the awareness exercise and consultations will be taken into account in finalizing the REDD implementation agenda.

These sessions will target around 141 indigenous and forest communities across the administrative regions of Guyana, covering all forested areas.

Consultations will also be done at individual community level with all communities, as well as with all stakeholder groups.

d) Outreach and Communication: How will results be disseminated? To whom? And how often?

All records of the consultation process will be kept so that feedback on key issues raised during the consultation can be responded to in a suitable way. Relevant stakeholders will be informed of the outcomes and how their inputs will be used. The outcome of these consultations will be incorporated into related policies and programs.

Since the consultation and outreach plan is seen as a means of achieving a goal and not the goal itself, the process will be done on a continuous basis so as to keep stakeholders informed to deal with any issues that may arise before, during, and after the implementation of REDD.

This will be done through village captains, representatives, forestry officers, the REDD Secretariat personnel in the area.

The RCOC will be the main means by which this communication will be facilitated. Through this, information can be disseminated by the GFC/RS to Amerindian communities and other forest dependent groups. Information will also be exchanged from the communities to the GFC/RS through this Committee. Communications will also be transmitted via the GFC field stations located around the country as well as through the Ministry of Amerindian Affairs and the National Tshao's Council quarterly. Questions and answers booklets will be developed addressing issues of readiness planning and REDD.

Quarterly reports will be prepared and submitted to funding agencies as well as relevant stakeholders on the progress of implementation of REDD nationally. These reports will provide details on projects being implemented, the status of these projects as well as constraints encountered.

These reports will be prepared by the REDD Secretariat and will be done so using information provided by the channels of communications mentioned previously. These reports will be circulated to the stakeholders for feedback as well.

e) Stakeholder identification: Who are the targeted potentially affected groups that will be involved in the consultations? What stakeholder group would be consulted on what component (monitoring, REDD strategy, reference scenario, etc.). How are attendees selected?

Stakeholder analysis: what are the potentially affected interests of various stakeholders?

- Who are the targeted potentially affected groups that will be involved in the consultations? What stakeholder group would be consulted on what component (monitoring, REDD strategy, reference scenario, etc.). How are attendees selected?

The targeted potentially affected groups interested in the consultations would be residents of the specific community and representatives of the Government and non-Governmental agencies in the specific community or location.

Selection of participants from indigenous communities will be done via the village council. The RCOC will liaise closely with the Ministry of Amerindian Affairs and indigenous peoples groups. Attendance with other groups of stakeholders will be determined in a participatory way with the RCOC.

The RCOC will plan, advise and execute consultations in collaboration with the REDD Secretariat. The mining sector will be included in consultation and outreach activities.

- What role would forest dwellers and indigenous peoples play?

The REDD Secretariat would collaborate with other agencies for the identification of all stakeholders. Consultations will be done with the following stakeholders:

- Cross ministerial agencies responsible for land, land use and administration (all components)
- Indigenous communities and Community forest organizations (components 1,3,5,6 & 9)
- Forest workers, concessionaires, miners, etc.(components 1,3,5,6 & 9)
- Dissemination Agents

Stakeholder analysis: what are the potentially affected interests of various stakeholders?

Stakeholders cover all persons who will be affected, who have a direct role in executing REDD activities and other interested persons e.g. NGO's. The potentially affected interests may be:

- Land use and land rights
- REDD activities and their effects on traditional livelihoods and culture; what are the alternatives
- Benefits sharing
- Requirement of monitoring and evaluation system
- Demonstration activities and the integration of these into community land use

Stakeholder analysis will be conducted by RCOC on which government representatives, NGOs and indigenous peoples are stakeholders. This will address benefits, risks and feedback and results dissemination as detailed in Component 2b. This stakeholder analysis will be conducted through several rounds of consultation, working group sessions and discussions with stakeholders.

What role would forest dwellers and indigenous peoples play?

Indigenous people and forest dwellers have an important and direct role to play in ensuring their benefits are secured. They will also continue to be exposed to various aspects of sustainable forest management and other uses of the forest that will be REDD friendly. They will also part take in:

- In discussions so as to ensure equity in the distribution of REDD benefits, secure land rights and promoted REDD as a positive contributor to poverty alleviation.
- Providing local knowledge of the forest and its past uses.

- Training
- Forest Policy
- Field Technicians and other resource personnel for the establishment of Carbon assessment plots and subsequent monitoring of the same.
- Data collection
- Dissemination Agents

The GFC/RS considers forest dependent groups as integral in the collection of data as well as in selection of areas suitable for the development of National Biomass Monitoring Plots (NBMP). The GFC/RS foresees the forest dependent groups as important to the successful implementation of REDD in Guyana. This is so as these groups can assist in the following:

- in the establishment of NBMPs;
- monitoring the areas in and around the plots to ensure that there are no disturbances to the plots through illegal logging or mining or other activities;
- data collection with the GFC/RS field teams;
- monitoring or and collection of data from weather stations set up by the GFC/RS to collect weather data within NBMPs.

The GFC/RS have already begun to utilize the assistance of the forest dwelling communities in the establishment of NBMPs. The villagers assisted the team in selecting an area that satisfied the criteria for the plot as well as assisted in establishing the plot.

Community participation into the project has already begun. This is so through the current implementation of the National Carbon Stock Assessment Project, which involves the establishment of National Biomass Monitoring Plots (NBMP) throughout the country.

In the near future it is foreseen that NBMPs will include monitoring and maintenance by Amerindian communities that are nearby these plots. Persons identified by the communities to monitor these plots will be trained by the GFC in order to do so.

In order for communities to participate in activities such as monitoring of forest health, as a prerequisite they would first be expected to prepare management plans which would be submitted to the GFC. The GFC will work along with the stakeholders to produce management plans as well as build capacity to do management plans. These management plans will address all relevant areas in resource utilization.

f) When and where will consultations occur? Does this Plan involve consultations outside the capitol or major cities, in areas where REDD activities are likely to occur?

Consultation and outreach will take place in various Amerindian communities and with any community forestry organization that may exist therein, because that is where REDD activities will occur and inhabitants be most affected. The majority of the locations are outside of the capitol and major cities and in the specific sites where REDD activities are likely to occur.

As new developments in the REDD scheme occur, consultation sessions will be held. This is to keep stakeholders informed on the development of the initiative. Because the communities are scattered and some only accessible by air, considering budget and time, quarterly consultation will be conducted. However, there will be constant linkage and distribution of information to community leaders and representatives in the area.

Participants will be selected through village councils in the case of Amerindian communities and through the regional and national focal agency for Governmental and regional stakeholders. NGOs will be invited directly to participate. Efforts will be made to include all stakeholders (in some way) in implementing each component of the RPLAN. Components 2, 5 and 6 will have a more direct bearing on communities and as such, more extensive consultation will be held for these sections of the RPLAN implementation.

The RCOC will facilitate these discussions as they relate to equitable benefit sharing. The issue of equitable benefit sharing has been addressed in Components 4 and 6 of the RPlan. This aims to achieve the *“Creation of transparent benefits sharing arrangements for targeted financial incentives for REDD”*. Once this has been developed consultations on this aspect will commence.

It should be noted that the Guyana Forestry Commission has no legal authority over private Amerindian lands and as such cannot determine what activities are engaged in onsite of these lands. Rather, the GFC can work along with the Amerindian communities and encourage them to engage in activities that would have fewer impacts on the environment such as SFM.

Also, the GFC will consult with Amerindian communities on the implementation of REDD in order to determine options for REDD activities that are most appropriate and beneficial to Amerindian communities. .

Component 4 of the RPlan also addresses the issues of clarifying land tenure arrangements as well as clarifying carbon ownership across different tenure and management options.

Constraints & Limitations

1. Stakeholders may lack human capacity to implement REDD activities;

2. Stakeholders may lack financial capacity to implement REDD activities;
3. Stakeholders may find it challenging to maintain REDD activities if continuous financial flows are not secure to enable this;
4. Stakeholders may experience challenges in selecting the land use/ REDD strategy that may be most suitable

Expected Outcomes

1. Higher levels of understanding of the concept of REDD and the roles that different stakeholders will play in REDD;
2. Capacity built in areas of plot establishment, forest area management and carbon stock assessment;
3. Support to Forest Carbon Stock Assessment process;
4. Active involvement of stakeholders in REDD process
5. Involvement of stakeholders in developing and implementing the MRVS

Note that all activities will be in compliance with the National Constitution of Guyana.

2b.2. Requirement: Attach your Plan as Annex 2b: Consultation and Outreach Plan

Schedule of Activity and Budget for Component 2 (both a and b)

Schedule	Year 1	Year 2	Year 3
At least 50 Outreach meeting held throughout the 10 Administrative Regions of Guyana to include Indigenous Communities with at least 30 participants at each meeting.			
Three national workshops held to discuss progress of REDD activities.			
Four Regional Workshops held to discuss progress of REDD activities.			

Responsible Agency: RS & GFC

Indicators of Performance

1. Execution of at least 50 Outreach meeting held throughout the 10 Administrative Regions of Guyana to

- include Indigenous Communities with at least 30 participants at each meeting.
- 2. Three national workshops held to discuss progress of REDD activities.
- 3. Four Regional Workshops held to discuss progress of REDD activities.

Budget (for Component 2a and 2b)

Component 2 - REDD Consultation-Outreach	Year 1	Year 2	Year 3	Total (US\$)
Consultancy services				-
Office, field equipment, software	30,000	10,000	30,000	70,000
Vehicles, fuel, maintenance	45,000	30,000	45,000	120,000
Field travel and subsistence	25,000	25,000	25,000	75,000
Workshops, meetings and outreach costs	60,000	50,000	60,000	170,000
International study tours, workshops and training				-
Training fellowships				-
Infrastructure construction and maintenance				-
Overheads and contingencies (5%)	8,000	6,000	8,000	22,000
TOTAL	168,000	121,000	168,000	457,000

2b.2 Terms of Reference

Introduction

As recommended by the World Bank's Forest Carbon Partnership Facility (FCPF) guidelines, a consultation and outreach plan is critical for the implementation of reducing emissions from deforestation and degradation in developing countries (REDD) and will be an essential characteristic of the FCPF Readiness Mechanism. Forests are the direct source of livelihood of thousands of Indigenous Peoples and other forest-dependent people in Guyana, and as such, a forest-related policy should be the subject of broad consultation.

The lack of knowledge will be a challenge at the start for Amerindian communities and Community Loggers Associations, since REDD is a relatively new and evolving topic in Guyana. It is imperative that there is a common understanding among all relative stakeholders about the concept of the REDD initiative and its contributed benefits. The sensitization exercises undertaken from September 2008 to January 2009 would have provided some initial information on REDD to communities, but more obviously needs to be done.

This consultation and outreach plan seeks to overcome this challenge by involving all relevant stakeholders in discussions which will examine the concept of REDD and resolve any misconceptions. It is also geared at clarifying all issues regarding the protection of Indigenous People rights and benefits, their involvement and agreement in international negotiations. The REDD scheme will address the traditional farming practices prevalent among Indigenous people who are dependent on forests for subsistence. Moreover, it will delineate how these communities can contribute to REDD, the alternatives to income generation and to ensure equity in the distribution of REDD benefits.

This will be achieved by:

- Educating Indigenous peoples/Community Loggers Association on the concept of REDD
- Explaining the benefits of the REDD Initiative and illustrating how these benefits can be achieved.
- Discussing any issues, doubts or uncertainties that may arise out of the consultation process and to clarify and emphasize the need for REDD to be implemented.

Method

Documentation will be sent prior to the actual consultation exercises, so that the stakeholders are informed of the topics and could participate more effectively. This can also encourage internal consultations to aid better definition of their position and plans to participate in decision making related to forest, rights and benefits sharing.

An informative and educational approach will be taken so as to facilitate bottom-up participation. This is to ensure that participants have full understanding of what is being conveyed; simultaneously encouraging queries, concerns and suggestions. It will be ensured that the appropriate language, vocabulary and communication medium used are appropriate for the technical knowledge of the participants.

Adequate and relevant information will be presented so that participants may be able to make informed judgment and to minimize any misconceptions. Visual aids such as printed material, displays and exhibits in conjunction with formal and informal sessions, will be used to enhance discussions on the importance of REDD and the benefits to be derived, not only to the people of Guyana, but to the world at large.

These methods are directed towards providing information and addressing issues that may be unclear about the REDD initiative.

Full documentation of all aspects of the consultation will be made, with special emphasis placed on the concerns raised during the consultation process. This will ensure that the data is readily available for analysis and results readily disseminated to stakeholders.

Objectives of the Consultation and Outreach Plan

1. To sensitize stakeholders of the concept of REDD.
2. To provide information on Guyana's involvement in REDD.
3. To discuss the benefits and impacts of REDD and how REDD revenue will be distributed.
4. To gather information on interests and issues that stakeholders may have pertaining to REDD and its activities.
5. To inform stakeholders about the part they play and what they can do to make REDD a success.
6. To develop a protocol to address complaints as well as procedures for conflict resolution through the NCOC.

Reaching Out - Topics for Discussions

All applicable topics will be focused on and sufficient information passed on to stakeholders. This will include:

- REDD and the various aspects of a REDD scheme
- Components of the R-Plan,
- Forest land, policies and cause of deforestation and degradation,
- Land use rights/ land tenure systems
- Forest governance and accountability
- Interests of Indigenous Peoples and other forest dwellers
- The economic, social and environmental impacts of REDD and the mitigation of risks

- Gains or losses from REDD activities
- Benefits sharing
- Existing and future monitoring systems to keep track of forests and forest emissions

In addition to the above, emphasis will be placed on:

- Restoration and rehabilitation of degraded forests
- Material benefits: REDD credits, timber and non-timber products from sustainable forest management
- Potential for poverty alleviation
- Capacity building opportunities for local communities:
 - To learn new model of forest management
 - Enhance collective decision making
- Opportunity Cost - REDD credits vs. Commercial logging and use of forest land for agricultural purposes.
- Ecotourism
- Sustainable Forest Management
 - Education and training for all stakeholders to acquire understanding of forest functions and multiple uses
 - Environmental, Economic, Social benefits through forest management
 - To achieve REDD, the outcome must be sustainable forest management
- Forest Environment Functions
 - Biodiversity conservation
 - Biomass production and carbon sequestration
 - Regeneration capacity, vitality and health of the forest
 - Watershed functions and the water cycle
 - Soil formation and erosion control
 - Maintain ecological processes and avoiding damage other ecosystem.

These topics presented in the discussions will be aided with printed materials and handouts.

Stakeholders

This consultation and outreach plan will target residents from approximately 141 communities targeting each administrative region of Guyana and any Community Loggers' Association that may exist therein. These stakeholders were identified because they are most likely to be affected and their local knowledge will play an important role in forest management. Collaboration with the Ministry of Amerindian Affairs will ensure that these stakeholders are well informed in advance to ensure maximum participation.

Stakeholder Analysis

What benefits and risks are there likely to be for each stakeholder group?

- Benefits:
 - Revenue from a REDD climate change scheme
 - Training – SFM, Forest Monitoring
 - Strong potential for creating alternative means of livelihoods thus contributing to poverty alleviation
 - Employment opportunities linked to REDD related activities created.

- Risks
 - Competing land use option
 - Inequity in distribution of REDD Revenue
 - Unsustainable forest management practices.

Other areas that will be addressed include:

- What stakeholder interests conflicts with project policy/ goals?
- What are the relationships between the various stakeholders? Who has power over whom? Who is dependent on whom?
- Who has control over resources? Who has control over information?
- How has the impact of deforestation and forest degradation affected the forest dependent communities and indigenous people?

The stakeholder analysis would also look at:

- Vulnerability risks: how will the poor and marginalized groups fare in proposed REDD strategy? Are there any threats to their land tenure rights? How to guarantee their participation in REDD revenues?
- Political economy risk: could benefits from REDD activities being centralized in nature? What kind of opposition/ distortion of activities by influential stakeholders are to be expected? How to overcome these?

Feedback and Result Dissemination

Records of the consultation will be kept for analysis and feedback. Information documented will include:

- The type of consultation
- Target group
- Method used
- Names and amount of participants
- Agenda

- Suggestions and issues raised, and
- Response given to queries.

This information will then be used at the national forum to further discuss the outcomes of the consultations and put in to place policies that would address these issues. Stakeholder will be readily informed about how their suggestions and issues have been used and the plan of action the authorities will take.

Component 3. Design the REDD strategy

Note: The R-Plan requirement is not to reach agreement on what your R-Plan is at this time (that may take consultations, analytic studies, etc. that are identified in the R-Plan, but have not yet been carried out). Instead, the R-Plan needs to present the ToR for the strategy component--how it will be undertaken, by whom, and when.

Requirements for Component 3:

By filling in the outline below, summarize the framework ToR and attach the ToR as an annex, for each of the four parts of component 3:

3a. Assess candidate activities for a REDD strategy

3b. Evaluate potential additional benefits of REDD

3c. Trade off Analysis

3d. Risk assessment of your REDD strategy

3.1. REDD Strategy:

Guyana's proposed REDD strategy involves three major elements, each with a number of activities as listed below.

(1) Technical Strengthening: Methodology and Measurement

- (i) Assessment of historical emissions from deforestation
- (ii) Assessment of historical emissions from degradation
- (iii) Projection and modeling of future emissions from deforestation
- (iv) Projection and modeling of future emissions from degradation
- (v) Update biomass field estimates across all land-uses including deforestation and degradation
- (vi) Create a national-level carbon methodology that includes project-level activities
- (vii) Develop carbon, biodiversity and social criteria and spatially-explicit dataset to target incentives to the highest outcome potential
- (viii) Establish national level permanent biomass monitoring plots representative of all geographic regions and forest types, and create monitoring plan and protocol
- (ix) Establish a capacity building plan for biomass monitoring activities
- (x) Develop a capacity building plan for GIS and remote sensing activities
- (xi) Create an informational platform to integrate monitoring data at the national level

- (xii) Increase engagement in UNFCCC SBSTA and other key meetings to build support for Guyana's baseline and methodology
- (xiii) Facilitate workshop with other countries to exchange experiences on remote sensing and monitoring plans

(2) Demonstration Initiatives

- (i) Determine structure for implementation of pilot activities including administration, funding, and implementation
- (ii) Community outreach, communication and education on climate change, carbon project design and REDD incentives
- (iii) Undertake capacity building for carbon and pilot project activities
- (iv) Facilitate study tours with other countries to exchange experiences on potential field demonstration projects
- (v) Establish clear criteria for evaluation and selection of pilot projects
- (vi) Identify pilot activity candidates and make selection based on criteria
- (vii) Develop and implement capacity building plan for field teams and local partners to implement pilots
- (viii) Define and launch initial pilot-projects to be used as demonstration projects
- (ix) Implement permanent site level monitoring plots, monitoring plan and methodology
- (x) Define and implement socio-economic monitoring plans and methodology
- (xi) Analysis and testing of alternatives that address each deforestation and degradation driver (illegal mining and the construction of roads, slash and burn agriculture)
- (xii) Integration of REDD and broad land-use planning into the rural and community development plans

(3) Potential REDD Strategies

- o Utilization of non-timber forest products
- o Expanding the timber species utilization base
- o Expanding multiple uses of the forest (good and services) for economic activities and income generation, including exploring the generation of environmental services benefits
- o Exploring and developing added value forest production and manufacturing
- o Reforestation of forest gaps
- o Engaging communities in forest rehabilitation activities including and enrichment planting
- o Enhanced the enforcement of compliance by miners and mining companies with GGMC & EPA requirement of reforestation on closure of mined out areas
- o Stronger compliance by and improved capacity of miners of mining regulations.
- o Agroforestry & Community agroforestry initiatives

Note that there are overlaps with other R-PLAN Components for some functions, with respective activities detailed elsewhere. These include governance and institutional issues (Component 4), which have overlaps with strategy (3). Components 7 and 8 overlap with Strategy (1).

Existing Gaps

These activities will be conducted to fill the following gaps that currently exist:

Within Technical Strengthening, there is currently a lack of:

- historical baseline
- projection of future emissions
- assessment of deforestation & degradation
- biomass field plots (permanent sample plots (PSP))
- capacity building plan for biomass monitoring, GIS/Remote Sensing
- national methodology for forest carbon stock assessment

Within Demonstration Initiatives there is a lack of:

- structure for implementation of pilot activities
- criteria for evaluation of pilot projects
- capacity building plan for field teams to implement pilots
- socio-economic monitoring plans & methodology

3c. Trade- offs analysis

While conducting of a trade off analysis is listed in the TOR, the following outline is expected to be followed:

- a. Conduct an evaluation of existing economic activities at the community level
- b. Through consultation, workshops with communities, assess the current economic and social benefits including livelihood and welfare support that existing economic activities provide
- c. Identify spin off benefits and costs that existing economic activities provide to local populations and nearby communities
- d. Assess and quantify the impacts on the environment of current economic activities
- e. Identify, through stakeholder consultation, suitable alternative economic opportunities that can be undertaken
- f. Assess and quantify the benefits and impacts (including costs) of such activities on the economic and social livelihood and the environment
- g. From the proposed alternative economic opportunities, identify suitable activities to be undertaken in keeping with the expressed needs of stakeholders. National land use policy and provisions will be referred to in finalizing this to ensure compliance and compatibility.

The Consultation & Outreach Plan detailed in Component 2 will be used as a means through which this will be

achieved. The RCOC, NCC as well as the GFC/RS will be the mechanism through which the trade offs analysis will be executed.

All assessments will be done taking the sustainable development of entire communities into consideration and included in all aspects of the analysis.

Objectives of the REDD Strategy:

The objective of Guyana’s REDD strategy is to enable the effective implementation of natural resources standards (policy, procedures and legislation) including monitoring and enforcement which is necessary to effectively address deforestation and forest degradation (maintain at a low level or to further reduce this level) in Guyana. It is the aim of the strategy to undertake an approach that is participatory, inclusive and integrates all levels of stakeholders, and will aim to address the sustainable development of Guyana. Further, they are to produce a number of pilot projects, demonstration initiatives, community programmes and study tours which will intensify the cultural movement at all levels (from Amerindian communities to large timber companies) towards a full understanding and appreciation of the measures required for sustainable forest management and carbon trading.

Expected Outcome:

The expected outcome from Guyana’s REDD strategy is the maintenance and improvement of Guyana’s forest estate, especially in terms accountable under REDD, ie total carbon. It will also substantially improve standards and add value to the timber industry, encourage non-timber forest activities, lead to higher employment, sustained and improved indigenous livelihoods, and economic growth.

REDD Strategy, Roadmap & Monitoring Plan

Drivers of Deforestation	Strategies to address drivers (REDD Strategies)	Targets	Timeline
Limited utilization of NTFP	Utilization of non-timber forest products	30% increase in NTFP production (extraction)	Within 18 months of implementation
Limited timber species utilization base	Expanding the timber species utilization base	20 additional lumber species in commercial quantities	Within 12 months of implementation
Limited utilization of environmental services	Expanding multiple uses of the forest (good and services) for economic activities and income generation, including exploring the generation of	- At least 10 communities adequately prepared to engage in environmental services scheme (e.g. ecotourism)	Within 24 months of implementation

		environmental services benefits		
Full potential of added value forest activities not realized	Exploring and developing added value forest production and manufacturing	Increased value added production and export of timber products by at least 25%	Within 18 months of implementation	
Forest gaps created in some cases following natural resources utilization	Reforestation of forest gaps	- Capacity built in at least 20 Amerindian communities and 30% of forest concessions in reforesting forest gaps	36 months	
Decrease in forest stocking in some cases	Engaging communities in forest rehabilitation activities including and enrichment planting	Human resource and technical capacity built in 30 Amerindian communities and 40% of forest concession areas	36 months	
Limited resource availability in GGMC & EPA	Enhanced enforcement of compliance by miners and mining companies with GGMC & EPA requirement of reforestation on closure of mined out areas	Human & technical capacity enhanced for GGMC & EPA	36 months	
Limited resource availability and capacity in mining sector	Stronger compliance by and improved capacity of miners of mining regulations.	Enhanced capacity of GGMC to implement mining regulations in all administrative regions	36 months	
Untapped potential of agroforestry initiatives	Agroforestry & Community agroforestry initiatives	At least 10 communities to engaged in agroforestry initiatives	With 24 months of implementation	

** Note that all activities will be continuous to ensure that their implementation is sustained*

Drivers of Deforestation	Strategies to address drivers (REDD Strategies)	Risks	Mitigation Measures
Limited utilization of NTFP	Utilization of non-timber forest products	Over-extraction of NTFP if unregulated.	Finalizing of a Code of Practice for major NTFP and integrate the monitoring of NTFP extraction in a greater way into GFC forest monitoring and resources planning and management functions.
Limited timber species utilization base	Expanding the timber species utilization base	Give the rich species diversity of Guyana's forest, LUSs may be in relatively small volumes. Extraction of these in such cases may affect the forest stocking and the overall integrity of the forest.	The expansion of LUS that are in commercial volumes only. The instituting of species specific extracting quota volumes.
Limited utilization of environmental services	Expanding multiple uses of the forest (good and services) for economic activities and income generation, including exploring the generation of environmental services benefits	Lack of knowledge and previous experience in Environmental Services utilization and PES may lead to challenges in targeting benefits and managing such facilities.	A comprehensive and participatory programme will enable active involvement of stakeholders thereby facilitating knowledge sharing and experience/capacity building in the areas.
Full potential of added value forest activities not realized	Exploring and developing added value forest production and manufacturing	An increase in added value activity may not necessarily decrease the pressure on the forest as growth in demand for added value products may results in equal or greater levels of extraction.	Strict quota regulation and monitoring of extraction of forest produce despite end use application.
Forest gaps created in some cases following natural resources utilization	Reforestation of forest gaps	The introduction of invasive species.	Strict forest resources management and monitoring of species introduced.
Decrease in forest stocking in some cases	Engaging communities in forest rehabilitation activities including and enrichment planting	The introduction of invasive species.	Strict forest resources management and monitoring of species introduced.
Limited resource availability in GGMC & EPA	Enhanced enforcement of compliance by miners and mining	Possible prohibitive cost of reforestation may discourage potential investors.	The Government can provide technical guidance and support in reforestation activities.

	companies with GGMC & EPA requirement of reforestation on closure of mined out areas		
Limited resource availability and capacity in mining sector	Stronger compliance by and improved capacity of miners of mining regulations.	Production may be decrease which may impact on employment and income generation.	Allowing for effective sustainable environmental planning at the initial stages so that any cost or production implication and be provided for at the outset.
Untapped potential of agroforestry initiatives	Agroforestry & Community agroforestry initiatives	May result in competing land use and pressure on existing forest resources.	Close collaboration and planning with the Ministry of Agriculture, Ministry of Amerindian Affairs and the key natural resources agencies, along with the EPA.

Who will lead and coordinate the design and organization of the REDD-Strategy:

The Guyana Forestry Commission, the REDD Secretariat, in consultation and cooperation with other Government and non-Governmental stakeholders.

Explain the process how the REDD strategy will be developed, what elements will be analyzed and what stakeholders will be involved:

Activities relating to baseline development and monitoring are discussed in further detail in Components 7 and 8. They are commencing immediately, and will progress, subject to resources, over the first year of the project. Annex 3 a-d details Terms of Reference relative to these. Other activities will be scheduled as per the table below, to lead to completion of the REDD strategy within a 3 year period.

Stakeholder liaison and workshops with other government institutions is already ongoing and will develop further as the strategy unfolds. The demonstration initiatives provided for in the strategy will provide a concrete context for engagement with other stakeholders such as timber companies, conservation and other NGOs, indigenous community groups, as well as informing and updating the general public through the media and GFC website.

REDD will be incorporated into the overall development of the country through two ways:

1. into the national forest policy via the Guyana Forestry Commission which is the forest policy making body of Guyana
2. into national climate policy via the Climate Unit of the Office of the President which is the principal climate policy making body of Guyana

REDD will be incorporated into both the national climate change agenda as well as the national forest policies to ensure that there is a holistic approach to its implementation, rather than a fragmented one. This will be accomplished through collaboration and coordination by both bodies.

Budget, Schedule and Sequencing of activities:

The table below shows the proposed schedule of activities.

Readiness Plan Components	Year 1	Year 2	Year 3
Technical Strengthening: Methodology and Measurement			
Assessment of historical emissions from deforestation			
Assessment of historical emissions from degradation			
Projection and modeling of future emissions from deforestation			
Projection and modeling of future emissions from degradation			
Update biomass field estimates across all land-uses including deforestation and degradation			
Create a national-level carbon methodology that includes project-level activities			
Develop carbon, biodiversity and social criteria and spatially-explicit dataset to target incentives to the highest outcome potential			
Establish national level permanent biomass monitoring plots representative of all geographic regions and forest types, and create monitoring plan and protocol			
Establish a capacity building plan for biomass monitoring activities			
Develop a capacity building plan for GIS and remote sensing activities			
Create an informational platform to integrate monitoring data at the national level			
Increase engagement in UNFCCC SBSTA and other key meetings to build support for Guyana's baseline and methodology			

Facilitate workshop with other countries to exchange experiences on remote sensing and monitoring plans			
Demonstration Initiatives			
Determine structure for implementation of pilot activities including administration, funding, and implementation			
Community outreach, communication and education on climate change, carbon project design and REDD incentives			
Undertake capacity building for carbon and pilot project activities			
Facilitate study tours with other countries to exchange experiences on potential field demonstration projects			
Establish clear criteria for evaluation and selection of pilot projects			
Identify pilot activity candidates and make selection based on criteria			
Develop and implement capacity building plan for field teams and local partners to implement pilots			
Define and launch initial pilot-projects to be used as demonstration projects			
Implement permanent site level monitoring plots, monitoring plan and methodology			
Define and implement socio-economic monitoring plans and methodology			
Analysis and testing of alternatives that address each deforestation and degradation driver (, illegal mining and construction of roads, slash and burn agriculture)			
Integration of REDD and broad land-use planning into the rural and community development plans			

Responsible Agency: RS & GFC

Indicators of Performance:

1. Forest Carbon stock baseline established
2. Model for Reference scenario developed
3. A systems for updating biomass field estimates developed
4. Methodology for national biomass monitoring system established

Structure for the implementation of pilot activities developed. **Budget**

Component 3 - REDD Strategy	Year 1	Year 2	Year 3	Total (US\$)
Consultancy services	140,000	105,000	140,000	385,000
Office, field equipment, software	10,000	10,000	10,000	30,000
Vehicles, fuel, maintenance	12,000	10,000	10,000	32,000
Field travel and subsistence	36,000	36,000	12,000	84,000
Workshops, meetings and outreach costs	6,000	2,000	6,000	14,000
International study tours, workshops and training	10,000	10,000	10,000	30,000
Training fellowships	10,000	10,000		20,000
Infrastructure construction and maintenance	12,000	12,000	6,000	30,000
Overheads and contingencies (5%)	12,000	10,000	10,000	31,000
TOTAL	248,000	205,000	204,000	656,000

3.2. Attach ToRs for this component as separate Annexes # 3a, 3b, 3c, and 3d.

Annex 3 - Component 3

Terms of Reference

Terms of Reference for 1-2 consultants to facilitate Component 3 are set out below. Note that there is necessarily some preparatory overlap with Components 7 and 8, which provide more detailed TORs relative to the full implementation of those respective functions.

1. For Guyana's main forest types and other land uses compile models for carbon sequestered in woody biomass using methodologies that are IPCC compliant and documented with coefficients and expansion factors according to IPCC Tier 1-3 sources.
2. From existing GFC historical inventory datasets, vegetation and land use maps, remote sensing coverage and other relevant information, compile a baseline assessment of historical carbon emissions from deforestation and degradation in Guyana from 1950 to the present, using the models from 1.
3. Develop future projections of emissions as baselines based on status quo and reductions under various scenarios of improved forest management and incentives to reduce deforestation and degradation.
4. Develop systems for updating biomass field estimates across all land uses including estimates from deforestation and degradation.
5. Establish carbon, biodiversity and social criteria and spatially-explicit data to target incentives to the highest outcome potential.
6. Provide a detailed methodology, technical support and training for a national biomass monitoring system based on permanent plots and remote sensing including project level activities, and establish a capacity-building and monitoring plan, and protocol for the full implementation of this system.
7. Develop an integrated framework for monitoring data at the national level, to maintain and track statistical and spatial information on both deforestation and degradation, and positive protective and recuperative measures.
8. To ensure that all outputs from activities 1-5 are compliant with REDD reporting requirements and technical standards, to maintain open and transparent information on all methodologies, databases and technical coefficients, to produce technical reports as required on these matters.

9. Advise on the identification and implementation of specific areas of engagement through networking and communication, in conducting workshops with other countries and key entities/bodies such as the UNFCCC SBSTA and other key entities/bodies, to build support of Guyana's baseline and methodology.
10. Establish structure for implementation of pilot activities including the development of clear criteria for evaluation of suitable pilot projects, supporting capacity building exercises, and implement site level monitoring of plan and methodology.
11. Evaluate alternatives that address drivers of deforestation and degradation in demonstration sites.
12. Advise on the integration of REDD and land use planning into rural and community development planning.
13. Conduct a preliminary evaluation of establish the potential additional benefits of REDD activities for Guyana
14. Analyze the trade-offs of the potential additional benefits to be derived from REDD activities
15. Conduct a risk assessment of the potential additional benefits of REDD
16. Work along with the GL&SC and follow up with the development of a land use policy

Component 4: REDD Implementation Framework

Requirements for Component 4:

By filling in the outline below, summarize your proposed approach, methods, etc, for addressing REDD implementation framework issues and activities. Summarize the framework ToR, and attach the ToR as an annex.

4.1. Objectives and activities: Summarize your approach on how to plan for and implement work under this component, and the work called for in your framework ToR. Fill this in here, under the headings provided:

Objectives for this component:

The general objective is to develop institutional frameworks and capacity for liaison on land use in the context of REDD, for carbon valuations to be included within impact assessments and cost-benefit studies, and to develop an accessible carbon market.

Expected Outcome:

The expected outcome is that REDD-based and voluntary sector carbon valuations will be incorporated into land use policies and decisions, and development and investment project impact assessments across all sectors, with the necessary institutional mechanisms created or adapted to enable and ensure this process.

While most forest countries have high rates of deforestation with their forest areas on the decline, Guyana has over 80% of its land area covered in forest, approximately 16 million hectares. As a developing country, the GoG can choose to utilize the forests and to extract its resources to obtain revenue which is needed for growth and development as a nation

The Government of Guyana believes that we can protect and maintain our forests in the effort to reduce global carbon emissions and at the same time attract resources for our country to grow and develop. The implementation of a REDD strategy is viewed as an avenue through which this can be achieved.

The resources garnered through this initiative would in turn be used towards the reduction and alleviation of poverty, promotion of sustainable development and achievement of the Millennium Development Goals (MDGs)

National REDD Strategy & International Conventions

The national REDD Strategy and Methodology to be implemented will be done in keeping with the United Nations Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Panel on Climate Change (IPCC) guidelines.

Lessons will be drawn from project initiatives that are coordinated through relevant international discussions at ITTO, UNFCCC, CBD and other fora.

Activities to achieve outcome:

Specific activities proposed are:

- (i) Strengthening the GFC, REDD Secretariat and other agencies including the National Climate Committee and National Climate Unit
- (ii) Develop and implement capacity building plan for government agencies on issues related to climate change and forest carbon
- (iii) Collaborate with Government agencies working to clarify land tenure arrangements
- (iv) Review and clarify carbon ownership across different tenure and management options
- (v) Implementation of national and project-based carbon accounting and registry capabilities
- (vi) Institutional frameworks including carbon marketing and negotiating unit
- (vii) Creation of transparent benefits sharing arrangements for targeted financial incentives for REDD
- (viii) Establish and develop a communication link with Panama to enable the sharing of ideas and lessons learnt

Benefits sharing will be addressed as part of the activities under the RPlan following an inclusive process and following commencement of the project. It is therefore identified as a vital part of the RPlan activities.

The Benefits sharing system will be dependent upon the following:

- a) The price of carbon – it cannot be predicted as to what it will be two or four years from now.
- b) Carbon stocks within various forest types- some forests types store more carbon than others. Studies will have to be done to determine the carbon stocks.
- c) The amount of carbon emissions avoided due to alternative land uses must be determined.

This System will be designed as part of the readiness planning process.

Engaging Stakeholders

Full participation in REDD activities by the local population will necessitate a significant commitment of time and resources both from the national and community perspectives.

The RPlan takes cognizance of these requirements and will implement a strategy that allows for a balanced approach to all components of the RPlan implementation, including capacity building exercises. In this way, capacity building activities at the local level will be coordinated and structured to accommodate this challenge.

Given the fact that the approach taken in RPlan implementation will be one whereby communities will be given a choice on whether or not and when they get engaged in readiness activities, possible barriers to implementation will be reduced. The plan recognizes that various communities will be at various levels of readiness.

Constraints

1. Various natural resources are governed by separate legislation. Whilst these pieces of legislation effectively address the respective natural resource use, in some cases there is need for greater cohesion in implementation to allow for integrated natural resource usage.
2. There is no single regulatory body for natural resources management; as such various agencies are responsible for separate land uses, i.e., GFC for forestry, GGMC for mining and GL&SC for agriculture within state forests. In some cases this had led to constraints in coordinating multiple uses of natural resources.
3. The lack of relevant readiness mechanisms:
 - A baseline for forest carbon stock
 - An assessment of deforestation and forest degradation
 - A Monitoring, Reporting & Verification System
 - An outline of REDD strategies
 - Other relevant mechanisms

Owing to the absence of these mechanisms, natural resources agencies have not been able to previously plan and implement REDD activities. The RPlan aims to address this challenge.

Mobilization of Resources

The Government of Guyana is working through other donors through specific project related and bilateral donors to acquire other funding for the RPlan implementation. At the present the GoG is working with the Norwegian Government through a bilateral agreement to garner some support. This support, among other areas, will assist in the setting up of a MRVS as laid out in the RPlan.

Additionally, through the World Bank Country Assistance Strategy (CAS) for 2009-2012, the forest sector has been identified as one target area to benefit from an international development assistance (IDA) support. It is hoped that

through the Guyana CAS that the relevant aspects of the RPlan will be financed.

Together with these initiatives, the GFC is will submit a proposal to the ITTO Thematic Programme on REDDES (REDD & Enhancing Environmental Services in tropical forests) to secure finances for monitoring deforestation and degradation at the national and community levels. This support is specifically targeted to the areas of monitoring land cover and changes there in and to assess deforestation and degradation impacts and levels. This will add to the resources that are required for components 3, 4 and 8 of the RPlan.

The GoG is committed to continuing to identify and target other donor possibilities to further support the RPlan implementation, which may include facilities such as WWF, GEF, UNDP, FAO, FIP, IDB, CI, KfW etc, along with seeking technical support from agencies such as Clinton Climate Initiative & McKinsey and Company.

Outputs and lessons learnt from existing and donor support programmes were reflected on and fully considered in the compilation of the RPlan and in many cases has influenced the identification of REDD strategies and approaches, as one example, through the outputs of the Guyana Trade & Investment Programme the targeted REDD strategy of increasing added value activity was informed.

Further the outputs of the Agriculture Diversification Programme has largely informed the targeted agroforestry initiative identified under the REDD strategy initiative. Additionally, the existing WWW supported programme with the GGMC targeted at capacity enhancement has informed the identification of the REDD strategies that address capacity building in the mining sector to facilitate greater enforcement.

Partners and organizations involved:

The partner organizations involved are the Guyana Forestry Commission (GFC) as the lead agency in REDD coordination, the REDD Secretariat, statutory bodies involved in land use planning matters including The Environmental Protection Agency (EPA), Ministry of Agriculture (MA), Guyana Lands and Surveys Commission (GLSC), Ministry of Local Government and Regional Development (MLGRD), Ministry of Amerindian Affairs (MAA), Guyana Geology and Mines Commission (GGMC), and the Guyana Energy Agency (GEA). The Ministry of Finance and Bureau of Statistics will assist in the incorporation of carbon valuations into the national accounts and into published statistical data.

Schedule and Sequencing of activities:

The schedule of activities is shown in the table below.

Governance and Financial Structure	Year 1	Year 2	Year 3
Strengthening the GFC and other agencies including the National Climate Committee and National Climate Unit			
Develop and implement capacity building plan for government agencies on issues related to climate change and forest carbon			
Collaborate with government agencies working to clarify land tenure arrangements			
Review and clarify carbon ownership across different tenure and management options			
Implementation of national and project-based carbon accounting and registry capabilities			
Institutional frameworks including carbon marketing and negotiating unit			
Creation of transparent benefits sharing arrangements for targeted financial incentives for REDD			
Establish and develop a communication link with Panama and other countries (as appropriate) to enable the sharing of ideas and lessons learnt			

Responsible Agency: RS & GFC

Summary of Agencies Responsible for REDD Implementation Framework

Activity	Responsible Agencies	Role of other Agencies	Legal Mandate of Responsible Agencies
Strengthening the GFC and other agencies including the National Climate Committee and National Climate Unit	GFC/RS	Support will be given by other natural resources agencies e.g. GL&SC, GGMC, EPA	GFC- forest regulation & management RS- coordination of REDD activities
Develop and implement capacity building plan for government agencies on issues related to climate change and forest carbon	GFC/RS, Climate Unit (OP)	Support will be given by other natural resources agencies & relevant government ministries	GFC & RS Climate Unit- Office of the President- responsible for overseeing the formulation & implementation of the climate change agenda for Guyana, including the Low Carbon Development Strategy
Collaborate with government agencies working to clarify land tenure arrangements	GFC/RS & GL&SC	Ministry of Agriculture, GGMC, Ministry of Amerindian Affairs, Ministry of Housing & Water	GFC & RS GL&SC- Ensure that management of State and government lands is in accordance with legislation and Government policy;
Review and clarify carbon ownership across different tenure and management options	GFC/RS & Climate Unit (OP)	Ministry of Amerindian Affairs, GGMC, Ministry of Agriculture, GL&SC	GFC & RS Climate Unit- Office of the President- responsible for overseeing the formulation & implementation of the climate change agenda for Guyana, including the Low Carbon Development Strategy
Implementation of national and project-based carbon accounting and registry capabilities	GFC/RS	Natural resources agencies (GGMC, GL&SC, MoAA, MOA) and community stakeholders	GFC- forest regulation & management RS- coordination of REDD activities
Institutional frameworks including carbon marketing and	GFC/RS	No support agencies	GFC- forest regulation & management RS- coordination of

negotiating unit			REDD activities
Creation of transparent benefits sharing arrangements for targeted financial incentives for REDD	GFC/RS & Climate Unit (OP)	MoAA, Ministry of Finance & community stakeholders	GFC & RS Climate Unit- Office of the President-responsible for overseeing the formulation & implementation of the climate change agenda for Guyana, including the Low Carbon Development Strategy
Establish and develop a communication link with Panama to enable the sharing of ideas and lessons learnt	GFC/RS	Ministry of Foreign Affairs	GFC- forest regulation & management RS- coordination of REDD activities

Nationally Recognized REDD Bodies

In all cases, the recognized REDD bodies will be the Guyana Forestry Commission and the REDD Secretariat, working in collaboration with the National Climate Committee and under the oversight of the Climate Unit of the Office of the President.

Mechanism for the flow of Funds

All funds for the proposed RPlan activities will be received by the GFC and expended by the GFC and RS. Costs incurred by other agencies involved will be compensated by funds received from the FCPF. This will be done by the GFC.

System for in Government coordination

For Consultation & Outreach, mechanisms proposed in component 2 will apply - which includes Government representatives. For other components of the RPlan implementation including the MRVS, REDD Strategy and Reference Scenario, the GFC and RS and its partners identifies in Component 2a, will execute coordination through the NCC and under the oversight of the Climate Unit of the Office of the President.

Systems for Engaging NGOs

The system that will be used for engaging with private entities, NGOs and local communities will be as laid out in component 2.

Indicators of Performance:

- (i) Carbon valuations for land parcels based on REDD methodology.
- (ii) Capacity building Plan to undertake REDD activities
- (iii) Report on Benefits Sharing options

Budget

Component 4 - REDD Implementation Framework	Year 1	Year 2	Year 3	Total (US\$)
Consultancy services	33,000	33,000	33,000	99,000
Office, field equipment, software	5,000	5,000	5,000	15,000
Vehicles, fuel, maintenance	15,000	15,000	10,000	40,000
Field travel and subsistence	25,000	25,000	25,000	75,000
Workshops, meetings and outreach costs	6,000	6,000	6,000	18,000
International study tours, workshops and training				-
Training fellowships				-
Infrastructure construction and maintenance				-
Overheads and contingencies (5%)	4,000	4,000	4,000	12,000
TOTAL	88,000	88,000	83,000	259,000

4.2. Requirement: Attach your ToRs for this component as a separate Annex # 4.

Annex 4 - Component 4

Terms of Reference

Framework terms of reference for one or more consultants to support the REDD Implementation Framework per Component 4 are proposed as follows:

1. Review requirements for strengthening the GFC and other agencies including the National Climate Committee and National Climate Unit.
2. From (1), develop and implement capacity building plan for government agencies on issues related to climate change and forest carbon.
3. Review responsibilities and processes of government agencies involved in land tenure arrangements, facilitate workshops and consultations to clarify land tenure law and systems, report on any needed rationalisations or legislative recommendations.
4. Review and clarify carbon ownership across different tenure and management options, and recommend any needed organizational or legislative changes.
5. On the basis of (3) and (4) facilitate the implementation of national and project-based carbon accounting and registry capabilities.
6. Relative to (5), review the institutional frameworks including carbon marketing and negotiating units.
7. Review and report on the creation of transparent benefits sharing arrangements for targeted financial incentives for REDD.

Component 5. Assess the social and environmental impacts, and potential additional benefits, of candidate REDD strategy activities

Requirements for Component 5:

By filling in the outline below, summarize how you would evaluate potential implications of your Readiness activities on social and environmental impacts. Summarize the framework ToR and attach the ToR as an annex

5.1. Objectives and activities: Summarize your approach on how to plan for and implement work under this component, and the work called for in your framework ToR. Fill this in here, under the headings provided:

Objectives of Environmental and Social Assessment of readiness Activities:

In designing an approach to readiness activities, a social and environmental impact assessment is viewed as an integral aspect prior to implementation. The following approach will be taken in conducting the ESA:

- Conducting an Environmental Baseline Study
- Conducting the Environmental & Social Assessment
- Producing an Environmental Impact Statement (EIS)

The Environmental Baseline Study (EBS) aims to record the present quality of environment and socioeconomic status within the area of influence prior to project implementation. In keeping with the WB Environmental & Social Safeguard Policies, the project will first be screened to establish the appropriate extent and type of ESA needs to be conducted. It will then establish suitable records of current environmental conditions to assess the potential effects of implementing the proposed REDD Strategy. Further, the information collected will form the baseline for which to monitor future changes. The physical, biological and socioeconomic components of the environment will be assessed.

The Environmental & Social Assessment (ESA) will identify and assess the impacts of implementation of the proposed Strategy on the environment and will consider the alternatives available, if any. Further it will also consider the mitigation measures that can be employed to offset these impacts. It will contain technical details on the impacts of implementation of the Strategy on the environment.

The Environmental Impact Statement is basically a summary of the EBS and the ESA. It will provide all relevant details on the project and its effects on the environment.

In conducting the EBS, the following activities are conducted:

- Screening of all projects to determine the appropriate extent and type of ESA is conducted. Any project that has the potential to involve large scale conversion or degradation to critical forested areas would not be considered.
- Review of local policies that govern forestry in Guyana as well as related policies on resource management and conservation. This will provide for an understanding of laws that govern these above mentioned issues as well as inform about land ownership within forest areas of Guyana. An understanding of these will provide for a more appropriately designed outreach and awareness programme as well as a more comprehensive approach to readiness activities. Consideration will also be given to relevant international government agreements.
- Meeting with all stakeholders is another integral activity. This includes meeting with representatives of sector agencies such as the Guyana Lands & Surveys Commission (GLSC), the Guyana Geology & Mines Commission (GGMC) and the Ministry of Amerindian Affairs (MoAA). Further to this, outreach and awareness activities will be planned for selected communities within which REDD activities will be implemented. Key NGOs will also be consulted. This will allow for stakeholders to be informed of the planned activities, the means by which they can be involved and the potential benefits they will derive from becoming involved. Also, the potential benefits of a REDD strategy to the environment will be an important aspect that will be emphasized. These consultations will be free, prior and informed. In meeting with the local communities, the GFC and the REDD Secretariat aims to consult with communities through the use of such materials as presentations, informational brochures and training for members of the community that are interested in being part of the activities. The main objective of these consultations would be to identify potential issues and main concerns of the communities and to discuss potential mitigation strategies.
- Assess the health of forests within the selected project areas. This will be done through the use of GFC records and by the use of GIS/Remote Sensing.

Within the ESA, the following will be done:

- Assessment of the impacts of REDD strategy activities on environment. This will consider impacts, both negative and positive of the proposed activities on the social, biological and economic environment. The assessment will consider the magnitude and importance of impacts in terms of long, medium and short term impacts as well as whether these impacts will be temporary or permanent. Further, these will be classified into being reversible or irreversible.
- Analysis of the compatibility of the proposed activity with the existing land uses in and around the selected project areas. This will consider future developments, existing uses of the forest, cultural/ historical resources, indigenous peoples and traditional uses of the forest.
- Assess potential economic and social impacts caused by relocation or loss of shelter or involuntary restriction of access to legally designated parks and protected areas
- Consider alternatives to the project in the selected areas as well as the “business as usual” approach.
- Prepare recommendations/ measures to mitigate potential impacts of the proposed project activities as well as propose timelines for the implementation of these activities;

The EIS will be compiled from the information collected from the completion of the above mentioned activities.

OBJECTIVES OF ENVIRONMENTAL AND SOCIAL ASSESSMENT OF READINESS ACTIVITIES

The objectives are as follows:

- a) To review all laws that relate to forestry, land use, biodiversity conservation and natural resources management in Guyana;
- b) To assess the compatibility of the proposed land use with existing land use within selected project areas;
- c) To assess the impacts, long and short term, direct and indirect within the selected project areas;
- d) To consult with and inform all stakeholders involved about the project;
- e) To assess the compatibility of the proposed project with other land uses within the proposed project areas.
- f) To ensure that all activities are conducted in conformation with the WB Safeguard Policies on Environmental Assessment, Forests, Natural Habitats, Indigenous Peoples and Involuntary Resettlement

Expected Outcome:

It is expected that the Environment and Social Assessment will provide a holistic assessment of the current local circumstances, based on reviewing local laws and guidelines as well as through consultations, and provide useful and appropriate recommendations on the way forward for the implementation of the proposed REDD activities. The Assessment will allow for planners to pinpoint areas of capacity building as well as to strengthen the outreach & awareness aspect.

More specifically, it is also expected that the following will be prepared:

- Environmental Management Statement
- Environmental & Social Management Plan

Methods to be used to achieve outcome:

To achieve this outcome, the methods that will be used are as follows:

- o Reviewing existing data
- o Consultations and interviews
- o Biological, physical, and socio economic surveys within project areas

Activities :

- Screening of all projects to determine to scale of the project and the extent of the ESA to be done
- Review of local policies that govern forestry in Guyana
- Meeting with all stakeholders
- Assess the health of forests within the selected project areas.
- Assess the impacts of REDD strategy activities on environment.

- Analysis of the compatibility of the proposed activity with the existing land uses in and around the selected project areas.
- Develop a Monitoring & Verification Plan for project areas.
- Prepare recommendations/ measures to mitigate potential impacts of the proposed project activities

Budget, Schedule and Sequencing of activities:

Activities	Year 1	Year 2	Year 3
1. Screening of all projects			
2. Review of local policies that govern forestry in Guyana			
3. Meeting with all stakeholders			
4. Assess the health of forests within the selected project areas.			
5. Assess the impacts of REDD strategy activities on environment.			
6. Analysis of the compatibility of the proposed activity with the existing land uses in and around the selected project areas.			
7. Prepare recommendations/ measures to mitigate potential impacts of the proposed project activities			

Responsible Agency: RS & GFC

Indicators of Performance

1. A Review of local policies that govern forestry in Guyana
2. 10 Consultation sessions held across the 10 administrative regions of Guyana
3. Assessment Report on forest health and impact of REDD strategy, and analysis of compatibility including measure to mitigate potential impacts of REDD activities
4. Report on the compatibility of the proposed activity with the existing land uses in and around the selected project areas.

Budget

Component 5 - Social and Environmental Assessment	Year 1	Year 2	Year 3	Total (US\$)
Consultancy services	40,000			40,000
Office, field equipment, software	-			-
Vehicles, fuel, maintenance	5,000			5,000
Field travel and subsistence	-			-
Workshops, meetings and outreach costs	15,000			15,000
International study tours, workshops and training				-
Training fellowships				-
Infrastructure construction and maintenance				-
Overheads and contingencies (15%)	3,000	-	-	3,000
TOTAL	63,000	-	-	63,000

5.2. Attach your ToR for this component as a separate Annex # 5.

Terms of Reference

Annex 5 – Component 5

- Development of screening criteria to consider scale and impact of potential projects as well as timelines for the preparation and submission of ESAs.
- Review of local policies that govern forestry in Guyana as well as related policies on resource management and conservation.
- Conduct meetings with all relevant stakeholder groups, especially indigenous communities and forest dependent groups.
- Assess the health of forests within the selected project areas.
- Assess the impacts of REDD strategy activities on environment.
- Analysis of the compatibility of the proposed activity with the existing land uses in and around the selected project areas.
- Consider alternatives to the project in the selected areas as well as the “business as usual” approach.
- Prepare recommendations/ measures to mitigate potential impacts of the proposed project activities as well as propose timelines for the implementation of these activities;
- Ensure that all activities conducted in the ESA are in conformance with the WB Safeguards Policies on Environmental Assessment, Forests, Natural Habitats, Indigenous Peoples and Involuntary Resettlement

Component 6: Assess investment and capacity building requirements

Requirements for Component 6:

By filling in the outline below, summarize your proposed work and the framework ToR under this component, and attach the ToR as an annex.

6.1. Objectives and activities: Summarize your approach on how to plan for and implement work under this component, and the work called for in your framework ToR. Fill this in here, under the headings provided:

Objectives for this component:

Over the last decade, the GFC through consultations have established and implemented a National Forestry Policy among other measures, including various Guidelines such as the Code of Practice for Harvesting Operations. These strategies have resulted in the successful adoption of sustainable forestry practices by the holders of logging concessions (those with access to state forests). This has been a significant step towards reducing deforestation and degradation of state forests. Despite this progress, the Guyana still faces challenges in ensuring the sustainable use of forests and the reduction of deforestation and forest degradation owing to growing economic and social pressures to enhance the livelihood of its people.

Efforts are being made to tackle these issues and to ensure that Guyana and the GFC are ready for the implementation of the REDD-initiative. The most significant of these efforts has been the new Forests Bill, which has been passed by Parliament on 22nd January, 2009. The passing of this bill will allow for a higher level of enhanced practices in forest management and will also ensure that the GFC has the necessary powers to execute its functions efficiently.

The GoG and GFC recognize that over the next three years more investment and capacity building will be necessary to enable Guyana to gain the maximum benefit from any post-Kyoto REDD scheme. Guyana will seek to learn from the experiences of other countries that are preparing for this initiative and will work closely with local and international organizations to facilitate the smooth and successful transition to a state of 'readiness'.

Objectives for this component:

The broad objective of this component is to:

- Assess Guyana's REDD strategy elements and the REDD implementation framework, in terms of capacity requirements, financial support needed, and gaps existing with regard to potentially available resources.

This component specifically aims to:

- Assess the GFC's, EPA's, other government agencies' and relevant authorities', and stakeholders' and

communities' (including indigenous communities), current capacities.

- Identify capacity building activities and investment opportunities that will enable Guyana to implement its REDD strategy.
- Estimate the financial resources required to carry out capacity building, training and development of institutional capabilities.
- Identify potential sources of funding and organizations/institutions that will be able to provide the technical assistance necessary to help Guyana in her efforts to implement REDD strategies.
- Develop a timeline for the implementation of these activities to ensure Guyana achieves 'readiness' by 2012.
- Compare the potential benefits to be had from the capacity and investment needs of alternate strategies for REDD implementation.

Expected Outcome:

In its concerted efforts to achieve readiness, Guyana will work with relevant agencies, stakeholders and other partners to ensure that within three years, the necessary capacities and institutional capabilities to implement REDD strategies will be developed.

By 2012 Guyana would have implemented the REDD plan and therefore have the necessary capacity to engage in a REDD compensation system. In reaching this outcome Guyana expects to:

- Develop the institutional capacity of government agencies so that they are sufficiently able to implement REDD strategies. A necessary outcome is for the REDD Secretariat and the GFC, to have the tools and capacities required to monitor deforestation, forest degradation and assess carbon stocks on a continual basis
- Implement national level policy, governance, enforcement and regulatory frameworks that are capable of ensuring that action to address REDD is real and sustained.
- Establish a national carbon accounting system for the tracking of GHG emissions and carbon stock changes from land use and management on a continuous basis
- Have a complete national level survey/inventory of all forests
- Form partnerships with local and international organizations for the ongoing provision of technical assistance and training to enable local agencies/authorities to implement REDD strategies effectively
- Have an established and independently verified chain of custody for all forest products
- Work closely with partners, communities and other stakeholders to develop their skills and capacities so that

they participate and contribute positively towards the implementation of REDD strategies

- Execute capacity building programmes to help forest dwellers including Amerindians engage in sustainable; forest management activities

Activities to achieve outcome:

In order to achieve the expected outcomes, a variety of activities will be executed over the next three years: Conduct Investment assessment of national and community level needs to engage in REDD activities.

- The promotion, training and education on the interpretation and implementation of SFM guidelines to national level and community stakeholders. The National Log Exporting Policy came into effect on January 1, 2009. This policy aims to reduce the export of logs through the promotion of value added activities. Workshops will be held with all stakeholders to promote this policy and ensure that they fully understand what it embodies. In addition to this, incentives will be given to all stakeholders (through both financial and technical assistance) to encourage a transition to these economically beneficial value added activities. The Forests Bill (passed in January, 2009) provides 'clear and secure rights' and allows for communities to 'manage and benefit from their local forests...'. The GFC will continue to promote the Community Forestry Program (CFP), look to establish new Community Forestry Organizations (CFOs) and work with existing CFOs to foster their further development e.g. training in business, management, planning and other technical skills. Working with CFOs will involve the provision of financial and technical assistance to enable them to carry out complete forest inventories which is vital for the implementation of REDD strategies. Training in reduced impact logging and other sustainable forestry practices will ensure that CFOs meet the requirements of their community forest management agreement. Strides will also be made to ensure that these groups have easy access to credit so that they can make the necessary investments to sustain their organizations.
- Effective monitoring of state forests is essential to reduce illegal activities that contribute to deforestation. The ability of the GFC, EPA and GGMC to monitor all activities taking place in the forests of Guyana must be assessed to determine the investments that will be needed to execute this task effectively. Staff in these sectors will have to be trained in remote sensing techniques and their monitoring divisions must have access to current satellite images of the highest quality necessary to accurately identify illegal activities. In addition to remote sensing, there is also the need to enhance on the ground monitoring capacity through improvements in transportation. Policies for coordinating with law enforcement agencies to deal with illegal activities promptly must also be outlined. The further computerization of the log tagging system to allow for real time tracking of logging activities. This will involve the use of bar codes and hand held scanners and also the wireless networking of forest stations. It is also necessary to encourage and work with concession holders to help them gain independent verification of legality. This will lead to the establishment of a chain of custody, guaranteeing exporters of wood products a higher income. The GFC will also benefit from being able to demonstrate, through verification, that logging practices are sustainable and the deforestation and degradation of state forests are

being avoided.

- Execute training programmes through the Forestry Training Centre Inc. (FTCI), targeted at building capacity for sustainable forest management for operators and communities. Set up training programs specifically for CFOs and Amerindian communities. The FTCI will have to demonstrate to the communities the economic and environmental benefits of using the skills and techniques taught by the centre. FTCI will also have to consider adapting training in reduced impact logging (RIL) and other areas so programs can be taken to communities.
- Provide workshops and training opportunities for stakeholders to improve their efficiency, recovery and quality control procedures. At the same time implement legislation/policy governing this area and provide GFC with training and tools to ensure they have the technical expertise to implement such policies.
- Provide incentives for the private sector to invest in sustainable economic and employment opportunities by establishing pilot projects, providing training, carrying out research (including product and market research) and providing easy finance. Also, to encourage the utilization of lesser used wood species to reduce the pressure on few species, and at the same time, to reduce forest degradation. The Forest Products Development and Marketing Council (FPDMC) will work with other Government agencies, organizations and private stakeholders to conduct product and market research and promote value added forest products, NTFPs, ecotourism and other alternative economic opportunities.
- Consult with forest-dependent Amerindians and other forest dwellers with regards to the design and execution of capacity building and training. Amerindian communities, relevant local and international NGOs or experts will be consulted with to ensure that these programs/projects do not violate Amerindian rights under the Amerindian Act, the UN Declaration on the Rights of Indigenous Peoples and other international human rights agreements and declarations.
- Develop a programme to target investment and capacity building need of communities to reduce deforestation and forest degradation. Assist Amerindian communities in the development of alternative economic activities whilst respecting their rights as indigenous peoples to preserve their traditions and culture. Workshops in forest communities particularly those that are involved in agricultural activities to introduce techniques that may improve productivity and reduce main identified drivers of deforestation (including forest fires, slash and burn agriculture and mining, among other drivers). This will include the promotion of and training in agroforestry techniques.
- Establish accountable funding/benefits sharing mechanisms to ensure that incentives go to the right people
- Execute activities aimed at the dissemination of basic knowledge and information about forestry to the public and civil society on a regular basis, as a means of raising awareness and appreciation.

Below: Table linking Strategy with Capacity Building needs and Indicators of Success

STRATEGY	CAPACITY BUILDING REQUIREMENT	INDICATOR (S) OF SUCCESS
Conduct Investment assessment of national and community level needs to engage in REDD activities.	Develop the institutional capacity of Government agencies and local communities to ensure that they are sufficiently able to plan, execute and monitor REDD strategies.	<ul style="list-style-type: none"> - Investment Assessment report completed - Capacity building programmes developed
The promotion, training and education on the interpretation and implementation of SFM guidelines to national level and community stakeholders.	To train stakeholders in SFM and thereby promote the REDD agenda	<ul style="list-style-type: none"> - Capacity building sessions held in all 10 Administrative Regions of Guyana - Maintenance of a high nstandard of forest management practices by loggers
Effective monitoring of State Forests to reduce illegal activities that contribute to deforestation.	<ul style="list-style-type: none"> - To strengthen the verification of legality of origin of forest produce - To increase the use of GIS in forest monitoring - To improve the efficiency in the use of GFC's tagging system 	<ul style="list-style-type: none"> - Maintenance of a high level of legality of forest harvesting, and trade. - Maintenance of low rates of deforestation and forest degradation - Increased and improved usage of GIS for monitoring
Execute training programmes through the Forestry Training Centre Inc. (FTCI), targeted at building capacity for sustainable forest management for operators and communities.	- To improve the logging practices used by communities and other commercial harvesters as well as to build awareness of REDD	<ul style="list-style-type: none"> - Capacity building sessions held in all 10 administrative regions - # of person & communities trained in SFM practices
Provide workshops and training opportunities for stakeholders to improve their efficiency, recovery and quality control procedures.	<ul style="list-style-type: none"> - Training personnel in improving the rate of recovery of forest products; - Improvement in efficiency of technology and manpower being used; - Encourage use of technology with lower environmental impacts 	<ul style="list-style-type: none"> - Capacity building programme developed - Improved recovery of material -

<p>Provide incentives for the private sector to invest in sustainable economic and employment opportunities by establishing pilot projects, providing training, carrying out research (including product and market research) and providing easy finance.</p>	<ul style="list-style-type: none"> - To develop means & incentives to encourage the private sector to become involved in the development of pilot projects in REDD 	<ul style="list-style-type: none"> - Incentives developed to encourage economic and employment opportunities in forest utilization under a REDD scheme - More private sector involvement in REDD
<p>Consult with forest-dependent Amerindians and other forest dwellers with regards to the design and execution of capacity building and training.</p>	<ul style="list-style-type: none"> - To ensure that key stakeholders are a part of the REDD process - Training of Indigenous groups in REDD and the projects to be executed - Inform stakeholders of potential benefit sharing mechanisms to be developed 	<ul style="list-style-type: none"> - Transparency and accountability during planning, execution & monitoring of the project
<p>Develop a programme to target investment and capacity building need of communities to reduce deforestation and forest degradation.</p>	<p>To involve and build capacity in communities about activities under REDD and development of schemes under which communities can benefit</p>	<ul style="list-style-type: none"> - Programme targeting investment and capacity building developed
<p>Establish accountable funding/benefits sharing mechanisms to ensure that incentives go to the right people</p>	<ul style="list-style-type: none"> - To ensure that a system of benefit sharing is developed that satisfies the needs of both the GoG and the communities involved 	<ul style="list-style-type: none"> - Mechanism developed for benefits sharing
<p>Execute activities aimed at the dissemination of basic knowledge and information about forestry to the public and civil society on a regular basis, as a means of raising awareness and appreciation.</p>	<ul style="list-style-type: none"> - To properly engage the public in the stages of REDD implementation nationally and to ensure that the public remains regularly updated 	<ul style="list-style-type: none"> - Information packages prepared and disseminated to all 10 Administrative regions of Guyana.

Partners and organizations involved:

In order for Guyana to attain 'readiness', there must be collaboration with local and international organizations and agencies. These bodies will provide the technical expertise and funding that is essential to helping Guyana build the capacity needed to implement REDD strategies successfully.

Several donors and international partners have supported or expressed an interest in supporting REDD related activities and these include the World Wildlife Fund (WWF), UNDP, IDB, and CI. The Guiana Shield initiative, funded by IUCN Netherlands, has started work at Iwokrama in Guyana as a pilot site to test compensation mechanisms for provision of environmental services. Efforts are also underway to secure assistance from funds under Guyana's UNFCCC GEF-4 RAF.

Other institutions such as the FAO, IDB, CDB and the ITTO may be approached for possible technical and/or financial assistance in implementing the RPLAN. This assistance may be in the form of technical inputs to carry out forest monitoring and planning work involving remote sensing analyses and technical strengthening of the National Climate Committee and its member institutions, in particular the REDD Secretariat and the GFC, to execute and manage the REDD program.

The GFC which is the main body working to coordinate and execute all FCPF REDD related activities will also work with several other local agencies and organizations to build capacity, including:

- The EPA
- Guyana Lands and Surveys Commission
- Guyana Geology and Mines Commission
- Forest Producers Association
- Indigenous Groups
- FTCI
- Forest Products Development and Marketing Council (FPDMC), Forestry Training Centre Inc.
- Ministry of Agriculture
- Ministry of Tourism, Industry and Commerce

Budget, Schedule and Sequencing of activities:

Activities	Year 1	Year 2	Year 3
Conduct Investment assessment of national and community level needs to engage in REDD activities.			
The promotion, training and education on the interpretation and implementation of laws and SFM guidelines to national level and community stakeholders.			
Effective monitoring of state forests is essential to reduce illegal activities that contribute to deforestation.			
Execute training programmes through the Forestry Training Centre Inc. targeted at building capacity for sustainable forest management for operators and communities.			
Provide workshops and training opportunities for stakeholders to improve their efficiency, recovery and quality control procedures.			
Provide incentives for the private sector to invest in sustainable economic and employment opportunities by establishing pilot projects, providing training, carrying out research (including product and market research) and providing easy finance.			
Consult with forest-dependent Amerindians and other forest dwellers with regards to the design and execution of capacity building and training.			
Develop programme to target investment and capacity building need of communities to reduce deforestation and forest degradation.			
Establish accountable funding/benefits sharing mechanisms to ensure that incentives go to the right people.			
Execute activities aimed at the dissemination of basic knowledge and information about forestry to the public and civil society on a regular basis, as a means of raising awareness and appreciation.			

Responsible Agency: RS & GFC

Indicators of performance for this objective:

1. Investment Assessment report completed
2. Capacity building sessions held in all 10 Administrative Regions of Guyana
3. Decrease in number of occurrences of illegal activities in forest areas
4. Incentives created to encourage economic and employment opportunities in forest utilization under a REDD scheme
5. Capacity building programme developed
6. Mechanism developed for benefits sharing
7. Information packages prepared and disseminated and to at least 25 communities.
8. Improved forest management practices by loggers
9. Maintenance of low rates of deforestation and forest degradation
10. Increased and improved usage of GIS for monitoring
11. # of persons trained in using GIS for monitoring
12. Maintenance of transparency and accountability in log tagging system
13. # of person & communities trained in SFM practices
14. Improved recovery of material
15. Reduced wastage & environmental degradation
16. More private sector involvement in REDD
17. Improved transparency and accountability during planning, execution & monitoring of the project

Budget

Component 6 - Investment and Capacity Building Assessment	Year 1	Year 2	Year 3	Total (US\$)
Consultancy services	25,000	25,000	25,000	75,000
Office, field equipment, software	15,000	15,000	15,000	45,000
Vehicles, fuel, maintenance	30,000	30,000	30,000	90,000
Field travel and subsistence	20,000	20,000	20,000	60,000
Workshops, meetings and outreach costs	45,000	45,000	45,000	135,000
International study tours, workshops and training				
Training fellowships				
Infrastructure construction and maintenance				
Overheads and contingencies (5%)	7,000	7,000	7,000	21,000
TOTAL	142,000	142,000	142,000	426,000

6.2. Requirement: Attach your ToR for this component as a separate Annex # 6.

Annex 6 – Component 6

Terms of Reference

Activities

1. Conduct Investment assessment of national and community level needs to engage in REDD activities.
2. The promotion, training and education on the interpretation and implementation of laws and SFM guidelines to national level and community stakeholders.
3. Effective monitoring of state forests is essential to reduce illegal activities that contribute to deforestation.
4. Execute training programmes through the Forestry Training Centre Inc. targeted at building capacity for sustainable forest management for operators and communities.
5. Provide workshops and training opportunities for stakeholders to improve their efficiency, recovery and quality control procedures.
6. Provide incentives for the private sector to invest in sustainable economic and employment opportunities by establishing pilot projects, providing training, carrying out research (including product and market research) and providing easy finance.
7. Consult with forest-dependent Amerindians and other forest dwellers with regards to the design and execution of capacity building and training.
8. Develop programme to target investment and capacity building need of communities to reduce deforestation and forest degradation.
9. Establish accountable funding/benefits sharing mechanisms to ensure that incentives go to the right people
10. Execute activities aimed at the dissemination of basic knowledge and information about forestry to the public and civil society on a regular basis, as a means of raising awareness and appreciation.

Component 7: Develop a Reference Scenario

Requirements for This Component:

By filling in the outline below, summarize the framework ToR and attach the ToR as an annex.

7.1. Objectives and activities: Summarize your approach on how to plan for and implement work under this component, and the work called for in your framework ToR. Fill this in here, under the headings provided:

Objectives for this component:

The reference scenario will be developed following the IPCC GPGs and will establish the historic emissions level and projected emissions level, using both field data and remote sensing data. Projections will be done according to reference scenarios as defined in this Component.

Expected Outcome:

There are two main outcomes: the establishing of the historic emissions level and secondly, the development of the projected emissions level based on three approaches.

Guyana has assessed the international policy discussions on REDD and reference emissions scenario. This is summarised below³:

- For REDD the reference emissions scenario under discussion is a national-level trend based on or projected from historical trends in emissions from forest change. These trends would be measured over multiple years (5–10) in order to reduce the impact of anomalous years.
- The reference period selected will likely be finalized through negotiations, but a more recent reference period (in the last 5–10 years) may better reflect current land-use trends and be most feasible given constraints in available data.
- Because emission reductions from deforestation and forest degradation would be matched by financial compensation, a credible method for measurement is absolutely essential. Historical reference trends should have the following characteristics:

Accuracy and precision. All reasonable efforts should be made to ensure that estimated changes in forest cover and greenhouse gas fluxes closely reflect what is happening on the ground. The measurement error or uncertainty need to

³ References made to: *A review of Data and Methods*, Oleander, L. et al

be quantified to determine how much confidence can be placed in REDD credits. Uncertainty is unavoidable and will vary by country. The uncertainty could be used to qualify the REDD values—a discounting or grading system could adjust the values for REDD credits accordingly.

Comprehensiveness. The reference scenario should cover all relevant activities. For instance, if all deforestation in the country is to be included, then all sources of deforestation in a country must be represented by the data used to develop the reference scenario estimate. If degradation is to be included, then the data need to have high enough resolution to quantify the amount of area degraded.

Environmental integrity. For the REDD system to work in favor of climate protection, it must ensure that the corresponding greenhouse gas reductions are real. Given the various forms of uncertainty described herein, prudence suggests that reference scenarios be set conservatively (not too high) as a safeguard against rewarding too much REDD credit and diminishing global greenhouse gas mitigation efforts.

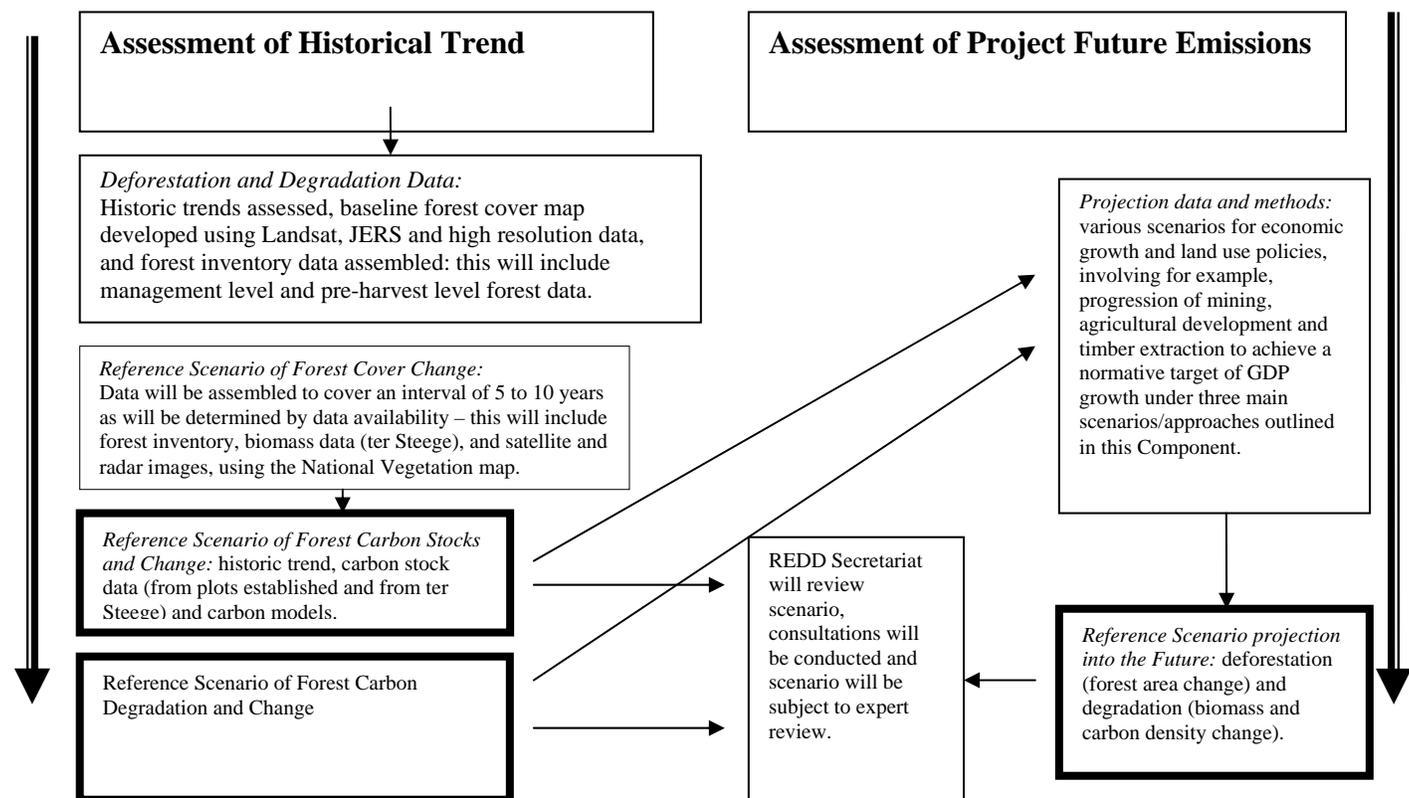
Transparency. Minimum standards of transparency will aid in the verification and ensure fairness and integrity of the REDD system; this includes documentation of data and methods and making them available to third parties.

Flexibility. A wide range of circumstances—including differences in data availability, dominant type of land use, terrain, and the capacity to incorporate remote sensing methods—will apply across and within countries affecting their ability to estimate reference scenarios. A REDD system will need to be flexible in allowing and accounting for variability in methodologies and accuracy.

Feasibility. The proposed approaches for estimating reference scenarios must be possible with a reasonable level of effort and expense or else they will simply not be done well or done at all. Feasibility factors include data availability, analytical capabilities, cost of data collection and analysis, and institutional support for these efforts.

Compatible. The proposed methods to estimate deforestation and forest degradation must be compatible with methods used to estimate forest carbon stocks. Definitions of deforestation and forest degradation must also be measurable using available data and methods.

The Framework which will be used is outlined as follows, and has informed the Activities set out to achieve the outcome:



Definition of Forests:

The definition of Forest for Guyana is outlined in the Forest Act 2009, that was passed by Parliament on 22 January 2009, and is awaiting accented by the President:

- (a) “forest” – means an ecosystem dominated by woody plants, consisting of –
 - (i) closed forest formations, where trees of various stories and undergrowth cover a high proportion of the ground; or
 - (ii) open forest with a continuous vegetation cover in which tree crown cover exceeds 10 percent; and
- (b) includes –
 - (i) mangrove forests and any wetlands or open lands within a forest which form an integral part of the ecosystem;
 - (ii) forest produce in the ecosystem; and

(iii) biological, soil, and water resources of the ecosystem;

Time Period of historic emissions estimated with Justification for selection:

The RPLAN proposed for the historic emission baseline to be established using data from 1950. The justification for doing this and not using a 5 or 10 years period, which would have seemingly be more practical, is owing to the fact that the most comprehensive aerial and forest inventory data dates back to 1950. From that period onwards, there were samples taken in various districts of Guyana in forest inventory. To start from 1990 for example, would exclude the utilization of the two most comprehensive data sets at the national level and would affect the completeness and accuracy of the baseline. It is the view that by using the complete data sets of the 1950, with the data sets of years following on management level inventory along with the recent remote sensing imagery analyses, a strong baseline will be developed for data points of intervals 5 to 10 years. The final determination of the length of the interval will be defined as one of the initial activities of the process. The reason for selection of this time interval (especially opening the possibility of a 10 year interval although recognising that 5 years will be better), is because during 5 year intervals, all requisite data to enable a single complete assessement will not be possible, given the existing nature of historic data on remote sensing and national forest inventory.

For the projected future emission, a period of 5 years will be used as the interval.

Existing Data

1. 1950 forest inventory and aerial photographic interpretation databank, national vegetation map, LANDSAT images for entire land cover over period 2005 to 2009. Selected swaths from Formosat, ALOS, CBERS and Aster image providers.
2. Timber Extraction Data from 1990 to present.
3. Forest areas allocation data from 1990 to present.
4. Macro economic and social data: GDP, employment, growth rates, inflation, per capita income levels, production by GDP economic activity areas (mining, agriculture, manufacturing, etc), housing statistics, population, etc.
5. Forest Inventory data from national inventory of 1950, and areas specific inventory of 1970, 1990 and 2000 to present at management level (sampling at 2% to 5%) and preharvest level (100% inventory of selected species).
6. 45 biomass permanent sampling plots established with data currently being collected and collated.

The quality, specifically in terms of accuracy and consistency of all of the above data, are medium to high in accuracy. Numbers 1 is high in completeness with regards to 1950 forest inventory, API and LANDSAT coverage.

New Data

1. Biomass field estimates across carbon pools collected from permanent biomass monitoring plots currently being established and that will be established. 900 to 1,000 such plots are proposed to be established as part of this readiness process. These plots are fully defined in Component 8.
2. LANDSAT coverage for 2001-2003 (for historic purposes) and 2009 onward (for purposes of projected emissions), to

enable a comparison with the existing dataset of 2007-2009. The following options will be considered and assessed:

Sensor	Resolution (m)	Approx Area Covered (km)	Application
MODIS	250	Guyana	Countrywide monitoring
Landsat	30	185 x 185	Large area detection & monitoring
Landsat			
DMC ⁴	32	660 x 4100	Large area detection & monitoring
CBERS	20	113 x 113	Large area detection & monitoring
IRS	1 to 40	varies	All monitoring levels
Palsar radar	5 to 25	70 x 70 ⁵	Large area detection & monitoring
ASTER	15	60 x 60	Hotspot monitoring
SPOT	2.5-20 m	60 x 60	Hotspot monitoring
ALOS	10	60 x 60	Hotspot monitoring
Formosat	8	60 x 60	Hotspot monitoring
QuickBird	4	16.5 x 16.5	Hotspot monitoring
IKONOS	2.2	11 x 11	Hotspot monitoring

**Hotspots refer to "sampling method" and Large area detection refer to "wall to wall method"*

3. High resolution data sets from a provider that meets the requirements of Guyana: <10% cloud cover, 2m to 15m resolution with preferably 24km to 70km or more swath. (as smaller swaths can be costly to secure for total areas that may be required) To allow for greater accuracy, high resolution data and areial photographs will be needed to supplement medium resolution data.

4. Socio economic and macro economic data including pojected GDP data, natural resources utilization: forestry, mining, agriculture, housing statistics, urban development, per capita income levels, population growth rates, etc.

Carbon Pools to be included

The International Panel for Climate Change (IPCC) in its technical reports, details standards for the calculation of forest biomass (IPCC, 2006). It is recognized that degradation fits within the IPCC GPG "forest remaining forests". Of particular note is the definition of Tier 1-3 coefficients and expansion factors, and the various carbon pools to be considered (see Figure 1 below). It may be noted that for many carbon trading schemes, only above ground bole and crown biomass are normally considered (VCS, 2006; Merger, 2008) but the ultimate standards REDD will adopt are as yet unknown, and all carbon pools need to be allowed for, and their assessment is recommended in GOF-C-GOLD (2008). Tier 1 and 2 coefficients are those based on global or regional average data, accessible through the scientific literature. Specifically, FAO have a provided a manual for forest biomass estimates (Brown, 1997) which includes a range of Tier 1 coefficients (global average coefficients) and some Tier 2 data. Ter Steege (2001) prepared a more detailed schedule of Tier 2 coefficients specifically for Guyana.

The field aspect of carbon storage assessment in monitoring plots will be specifically designed to measure biomass

⁴ DMC proposes to launch a higher resolution 22 m imagery in 2009. Price provided is for tasked imagery.

⁵ Palsar footprints vary by acquisition mode; 5 m data covers 70 x 70 km and 25m data approximately 360 x 280 km.

change in all the major carbon pools, covering all forest types in Guyana including high forest, scrub forest, savannah margins and woodland mosaics, montane forests.

Associated with this monitoring system will be data collection to establish coefficients and allometric functions for the major biomass pools: Tree boles, crowns and roots, lianas and epiphytes, understory shrubs and herbaceous plants, standing and fallen deadwood, litter and soil carbon.

Approaches for projection of emissions, and rationale for selection

The approaches that is tentatively identified to be used are:

- Scenario 1 – Projection based on historic trend prior using the business as usual approach (without REDD)
- Scenario 2 - Development plan, trends and macroeconomic forecasting targets realised
- Scenario 3 – Development plan implemented with Carbon financing mechanism in place (includes REDD)

The reason for this selection is to allow for the implications on emissions using the current trend projected into the future to be realised; secondly, to assess the implications on emissions for Guyana's development trajectories to be realised; and thirdly to assess the implications for Guyana's development plans with an effective carbon financing mechanism in place.

Activities to achieve outcome:

Component 3 includes general activities for the assessment of historical emissions from deforestation and forest degradation. The list below gives a more detailed appraisal of those activities and further actions required for the development of a reference scenario.

1. Assessment of data available on forest area, land cover change and carbon density.
2. Identification of gaps in data and recommendation on sources and resources requirements to fill these.
3. Analysis of historical trends in land cover change and forest carbon density change.
4. Development of historical trend reference scenario for looking at deforestation and forest degradation.
5. Complete reference scenario modeling for: development plan, trends and macroeconomic trends forecasting following compilation of data on these areas.
6. Review, consultation and approval of a national reference scenario by the REDD Secretariat and the National Climate Committee.
7. Review by independent expert.

Partners and organizations involved:

GFC will lead and coordinate this component, using the services of specialist consultants, facilitate workshops and consultations, and provide all datasets relating to the forestry components. The Bureau of National Statistics will be the primary source for data required for non-forestry components. The Ministry of Finance will review and guide economic projections of GDP that will drive consumption components. Other relevant Ministries and agencies will be consulted as required to fill any gaps in data and confirm model assumptions.

Budget, Schedule and Sequencing of activities:

Schedule	Year 1	Year 2	Year 3
Assessment of data available on forest area, land cover change and carbon density.			
Identification of gaps in data and recommendation on sources and resources requirements to fill these.			
Analysis of historical trends in land cover change and forest carbon density change.			
Development of historical trend reference scenario for looking at deforestation and forest degradation.			
Complete reference scenario modeling for: development plan, trends and macroeconomic trends forecasting following compilation of data on these areas.			
Review, consultation and approval of a national reference scenario by the REDD Secretariat and the National Climate Committee.			
Review by independent expert.			

Responsible Agency: RS & GFC

Indicators of performance for this objective:

- 1. Data on forest area, land cover change and carbon density.***
- 2. Data gaps identified***
- 3. Analysis of change in land cover change and carbon density completed***
- 4. Historical reference scenario developed***
- 5. Reference scenarios projection completed***
- 6. Review and consultations completed on Reference Scenario***
- 7. Review completed by independent Expert***

Budget

Component 7 - Develop Reference Scenario	Year 1	Year 2	Year 3	Total (US\$)
Consultancy services	100,000	100,000	30,000	230,000
Office, field equipment, software	10,000	5,000	5,000	20,000
Vehicles, fuel, maintenance	20,000	6,000	6,000	32,000
Field travel and subsistence	50,000	22,000	16,000	88,000
Workshops, meetings and outreach costs	12,000	7,000	12,000	31,000
International study tours, workshops and training	20,000	20,000	10,000	50,000
Training fellowships	22,000			22,000
Infrastructure construction and maintenance	24,000	6,000	6,000	36,000
Overheads and contingencies (5%)	17,000	12,000	10,000	39,000
TOTAL	275,000	178,000	95,000	548,000

7.2. Attach your ToR for this component as a separate Annex # 7.

Annex 7 - Component 7

Terms of Reference

Framework terms of reference to support the development of a reference scenario are as follows:

1. **Assessment of data available on forest area, land cover change and carbon density.** Review existing GIS files, vector and raster data sets for Guyana vegetation maps, forest cover maps, satellite imagery and other forest resource imagery available within GFC and develop from them forest cover maps for 1950-2008 with consistent basic forest types. From this produce tables of forest area by type in each period. Review the various volume models used within GFC, biomass expansion factors published by ter Steege (2003) and other relevant sources, and compile them into a reference report of allometric equations, documented with respect to IPCC Tier 1-3 compliance, and generate computer tools to apply these to tree diameter class data from inventories to estimate volume, biomass, and carbon as CO₂-e for above and below ground tree components. Compile forest stand tables by forest type using FAO and FIDS Inventory datasets, as well as current management inventories.
2. Identification of gaps in data and recommendation on sources and resources requirements to fill these.
3. **Analysis of historical trends in land cover change and forest carbon density change.** Link these to the area coverages and the allometric models to produce (a) maps of forest volume and carbon change for the period 1950 and 2008, and (b) tables of forest areas, volumes and carbon by forest type and by Guyana regions for 1950-2008 with rates of change.
4. **Development of historical trend reference scenario for looking at deforestation and forest degradation.** Using existing growth models and information from post harvest studies, synthesize information to estimate forest degradation in terms of crown cover reduction and mature forest habitat change, and hence supplementary information on changes in carbon losses 1950-2008.
5. **Complete reference scenario modeling for: development plan, trends and macroeconomic trends forecasting following compilation of data on these areas.** Obtain national statistics on population, per capita GDP, and other indicators to estimate rates of national timber use for housing or other indicators, as a function of population and GDP. Determine trends in mining areas, agricultural areas and urban land use, and estimate or compile these by Guyana region. In consultation with Ministry of Finance or other bodies, determine normative projections for population

and GDP growth. Summarize and develop a projection model to determine future rates of CO₂ emission from deforestation and degradation, based on the normative projection. Allow this model to operate with or without constraints for forest extraction, land use change, and reforestation of mined areas, in order to present REDD Baseline (status quo) and with-REDD policies, to estimate net emissions reductions from REDD over a 100-year projection.

6. **Review, consultation and approval of a national reference scenario by the REDD Secretariat and the National Climate Committee.** Document the model and all development phases and background information, with a full bibliography of sources, to the standards of scientific publication, and submit copies for peer-review. On completion of the review, incorporate suggested amendments into the text and model to produce a final accepted version of the Guyana REDD reference scenario and policy evaluation model. During the project period, facilitate and present to working groups and workshops of technical participants and forestry and REDD stakeholders, progress reports and working papers, including the draft (pre-review) and final accepted versions of the model, report, and conclusions, and assist in producing minutes or proceedings, as most appropriate, of these meetings.
7. Review by independent expert.

Component 8: Design and Implement Monitoring, Reporting, and Verification System for REDD

Requirements for Component 8:

By filling in the outline below, summarize your approach to work under this component, the framework ToR, and attach the ToR as an annex.

8.1. Objectives and activities: Summarize your approach on how to plan for and implement work under this component, and the work called for in your framework ToR. Fill this in here, under the headings provided:

Objectives for this component:

The objective of the monitoring system is to provide annual, accurate estimates of changes in forest cover and degradation with national coverage by a transparent, objective and verifiable methodology. The reporting system provides comparisons between monitoring system output summaries and the reference scenario to provide net changes in carbon for REDD accounting. The verification system requires that all procedures and data sources are objective, well-documented, secure and verifiable, and are subject to such peer-review and external audit as may be determined necessary.

Monitoring and Reporting System

Framework

There will be two main aspects of the monitoring and reporting system: field based assessments and remote sensing imagery analyses.

The International Panel for Climate Change (IPCC) in its technical reports details standards for the calculation of forest biomass (IPCC, 2006). Of particular note is the definition of Tier 1-3 coefficients and expansion factors, and the various carbon pools to be considered (see Figure 1 below). It may be noted that for many carbon trading schemes, only above ground bole and crown biomass are normally considered (VCS, 2006; Merger, 2008) but the ultimate standards REDD will adopt are as yet unknown, and all carbon pools need to be allowed for, and their assessment is recommended in GOFC-GOLD (2008). Tier 1 and 2 coefficients are those based on global or regional average data, accessible through the scientific literature. Specifically, FAO have provided a manual for forest biomass estimates (Brown, 1997) which includes a range of Tier 1 coefficients (global average coefficients) and some Tier 2 data. Ter Steege (2001) prepared a more detailed schedule of Tier 2 coefficients specifically for Guyana.

However, for the most accurate and complete results and credible estimates of carbon through biomass estimation, locally derived and current allometric equations and expansion factors are desirable. These are classed by IPCC (2006) as Tier 3 estimates. The present report describes the procedures which should be adopted under the REDD readiness programme to undertake this.

In the same way, monitoring systems may rely on Tier 1-3 estimates of inventory and growing stock. Tier 1 estimates would use rule-of-thumb figures for tropical forest volumes; Tier 2 would be based on regional or outdated inventories, whilst Tier 3 implies a current biomass-oriented national forest inventory. The best estimates currently available for Guyana of total forest biomass are those of ter Steege(2001), which are Tier 2 in this respect, being based on relatively old inventory data (1970-72) to determine mean stockings by forest type, together with Tier 2 biomass coefficients.

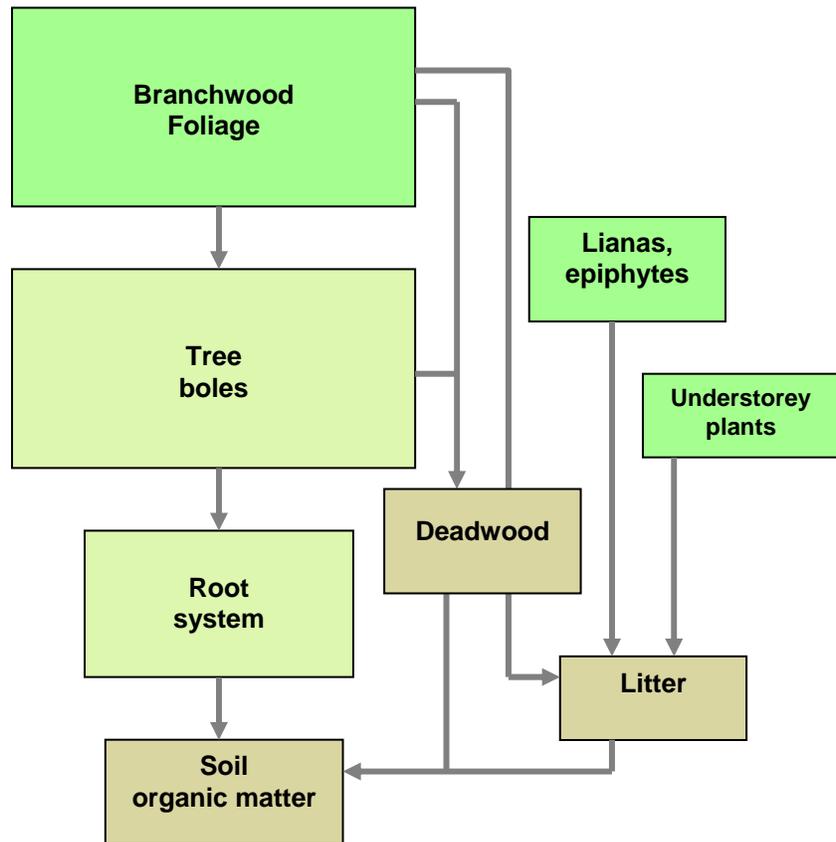


Figure 1 : Carbon pools for forest monitoring

About 85% of ecosystem biomass for tropical high forest is in the tree component (boles, crown and roots - Brown, 1997). Arrows show direction of carbon fluxes.

Requirements of Framework

The proposed monitoring system therefore has to be based on Tier 3 coefficients and data in all respects. It must be sufficiently sensitive to detect relatively low incidences of deforestation and degradation, as is believed to be the case in Guyana at present. Accordingly, the following components will be needed for implementation of the system.

- A network of permanent plots, specifically designed to measure biomass change in all the major carbon pools, covering all forest types in Guyana including high forest, scrub forest, savannah margins and woodland mosaics, montane forests. Focus will be made on the main carbon pools which change has been identified as occurring. Areas that have been identified as undergoing greater change will be subject to more intense sampling.
- Coefficients and allometric equations relating tree biomass components and necromass pools (deadwood,

litter, soil carbon) to easily measured variables such as tree diameter. These models need to be developed as an integral part of setting up the monitoring system through appropriate destructive sampling.

- A remote sensing and GIS framework to determine through ground truthing with the biomass plots and supervised classification an appropriate algorithm to map forest type areas and sensitively monitor pixels for forest cover or type change.
- Integration of the whole into an information system that will routinely provide all necessary reports for REDD forest biomass and cover change monitoring.

Field Based Analysis

Plot Establishment for Biomass Monitoring for Computation of Forest Carbon Storage Potential

Under the Carbon Stock Assessment Project which is currently being undertaken by the GFC, a National Forest Biomass Monitoring System in Guyana has been proposed for establishment. It aims for the following:

A system of permanent monitoring plots is proposed to measure and detect changes in forest biomass. The plots will be circular, of 18 m radius (0.1 ha) with an inner subplot of 8 m radius (0.02 ha). Trees over 20 cm dbh will be measured on the main plot, and over 5 cm dbh on the subplot. Plots will be organized in clusters of 5, based on a cross design with a central plot, and four plots on 100 m arms at right angles. Clusters will themselves be organised into transects of 3 clusters in a line, one km apart.

It is proposed that 900 plots, grouped as 180 clusters and 60 transects be established nationally in all major forest types. This will include non-productive Muri and Dakama scrub forests, and sensitive savannah-hill forest mosaics, as these constitute important areas for biomass sequestration and potential forest loss, in addition to the sampling of productive forest.

Associated with this monitoring system will be data collection to establish coefficients and allometric functions for the major biomass pools: Tree boles, crowns and roots, lianas and epiphytes, understory shrubs and herbaceous plants, standing and fallen deadwood, litter and soil carbon.

This work will comprise two types of sampling units. Associated with monitoring plots will be 4 temporary 3 x 3 m quadrats which will be destructively sampled by weight for fallen deadwood, litter, and small plant biomass. Soil samples will be taken for organic carbon determination. These data will provide data that can be correlated with scores for deadwood and litter depth on the monitoring plots to derive biomass estimates for these carbon pools.

A second type of sample will be the detailed measurement of felled trees and tree roots to establish a data set of 300 plus sample trees for crown, bole and root biomass. Tree root excavations will be facilitated in cooperation with mining

communities using hydraulic hoses. These data will allow the elaboration of local and current Tier 3 allometric functions for Guyana.

The plots, coefficients and allometric functions will give biomass estimates, together with conventional forestry data on volume, species, forest and soil type, that are tightly geo-referenced and sampled over scales of 0.1 ha, 4 ha (clusters) and 2 km (transects). These will be used to supervise classification of landsat imagery to determine areas and area changes of biomass and forest type cover classes. From this the monitoring system will be able to directly report carbon stocks and fluxes for REDD accounting. This is the primary objective of the system. Its secondary objective is to provide a system of continuous national forest inventory providing strategic information on timber volumes and increments, NTFPs, biodiversity and other ecosystem services.

The National Biomass Monitoring System (NBMS) is intended to provide data for REDD project assessments of current forest biomass, and forest biomass change over time in response to REDD-oriented government policies relating to forestry and land use planning.

Satellite remote sensing

Suitable satellite imagery

In optical wavelengths (visible to near infra-red), LANDSAT imagery has been recommended by most sources as most suitable for monitoring purposes. The GOF-C-GOLD(2008) sourcebook tabulates various platforms with availability and cost and concludes "*In summary, LANDSAT-type data around years 1990, 2000 and 2005 will most suitable to assess historical rates and patterns of deforestation.*" (op.cit, p19). Pöyry (2008) have provided a detailed report to GFC on the use of SRS to monitor logging activities, and provide detailed algorithms and procedures based on LANDSAT imagery, which they similarly conclude provides the best current option based on cost, coverage availability over Guyana, and resolution.

LANDSAT has a resolution of 30 m. This is sufficient to register logging roads and log landings, as well as clearings for farms, powerlines, roads, housing, etc. It is affected by cloud cover, like any optical sensor, but the frequency of imagery means that selection of cloud free coverage has not proven to be an insurmountable problem.

However, other optical platforms offer different scale resolutions and may have strengths in appropriate contexts. CBERS, designed primarily for Brazil's needs, has a resolution of around 250 m, giving a more synoptic level of classification than LANDSAT. It also has sensors at higher resolutions, down to 20 m. Alternatively, IKONOS resolves to 5 m, giving fine detail over smaller area, but is prohibitively expensive to use at Guyana's national scale.

In the microwave spectrum, radar imagery is effective in providing synoptic coverage and distinguishing broad biomass

classes. Radar imagery has the advantage of not being inhibited by cloud cover, but interpretation beyond simple cover classes is difficult, as there is nothing equivalent to the differential spectral band responses that are available from optical sensors. JERS radar imagery was used as the basis for the Guyana 2001 National Vegetation Map, in combination with a variety of other sources. JERS is no longer functional, but the more advanced ALOS satellite with its PALSAR sensor provides a replacement. However, access to this imagery is much less open than LANDSAT, and is probably restricted to specific project arrangements.

Detection of Forest Disturbance

Successful detection of forest disturbance and roading activities are related to both image quality and the type and interpretation of changes.

The Landsat dataset assembled provides a broad overview of change. Overall the data should be viewed as answering the question “Where are the changes occurring?” A rule of thumb for the relation of the pixel size and the map scale is 0.05 up to 0.1mm pixel size in the map scale (meaning 30 m resolution) equals an equivalent map scale of 1: 300 000. This scale is suitable for high level detection and provides an excellent base layer for targeting and mobilising resources.

By way of example, the same natural forest area is used (Mindanao, Phillipines) to show how the level of detail increases, moving from recognition⁶ where uncertainty still exists as to the boundary and cause of the land use change (as in Phase I) to identification where the boundary is more certain (Phase II dataset). From the left are examples of interpretation levels using Landsat ETM+ (30 m), 2.5 m SPOT data.

E	Photo	Image Phase 1	Image Phase 2
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⁶ The interpretation of an object is organised in 4 hierarchical levels:

1. **Detection** is the discovery of an object without recognition.
example: there is a white linear feature in this corner of the image.
2. **Recognition** is the ability to fix the identity of an object within a group type.
example: this green feature is a block of trees
3. **Identification** is the ability to place the identity of an object as a precise type.
example: this block of trees has gaps



Recognition



Identification



Edges and gaps are better defined as the spatial resolution increases. Also, different spectral band combinations enhance certain features; i.e. red areas on Landsat and IKONOS identify recent harvesting activity.

Practical Indicators of Change

Using medium resolution data like Landsat (30 m resolution) then temporal changes ≥ 1 ha should be detected if the activity is a clear-cut or mining. Smaller or lower intensity activities may be detected but will be difficult to confirm with certainty. In these cases local knowledge, forest inspection or higher resolution will reduce this uncertainty.

Following the wall to wall cover at medium resolution, high resolution image analyses, to detect change at levels lower than 1 hectare, will be utilized and analysed. These data sets include Formosat, Spot, Ikonos, and ALOS, etc. This can be done for identified 'hot spots' or for larger areas depending on cost and logistics factors (including cloud cover in the case of optical images)

Roading activities are also possible to detect. Skid tracks are often constructed off of existing road or river networks, so it is important to maintain an accurate GIS base map of existing roads to ensure new tracks are detected.

Several spectral bands are well suited for enhancing spectral characteristics associated with roading and harvesting activities. A three band image composite comprising green, near infrared and shortwave infrared provides the best contrast.

A series of examples that show road construction and the different land clearing operations identified from the Landsat satellite data follow.

Road Detection:

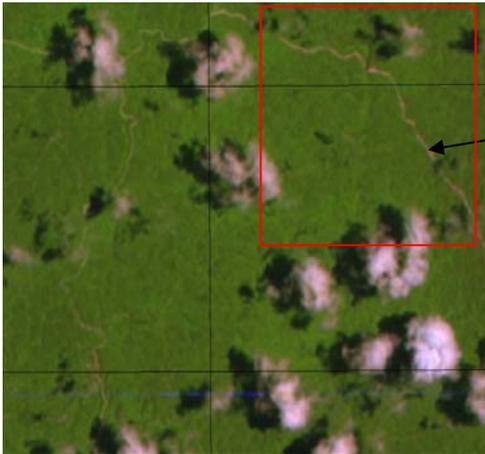
New road appearing between 2005 and 2008 is shown below for Guyana.

2005 image



No road

2008 image



New road

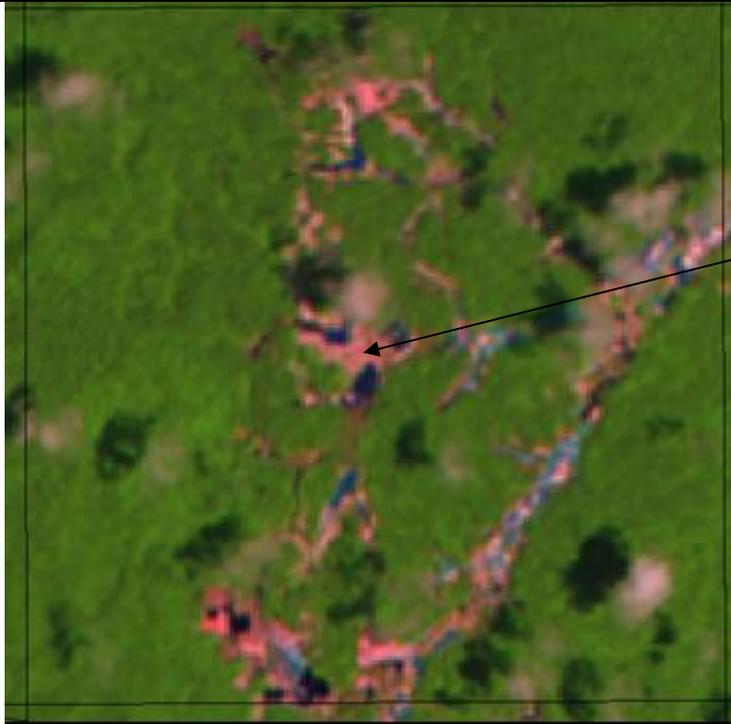
Forest Clearing

Recent forest clearing will look red in colour (bare soil) in Guyana.



Mining

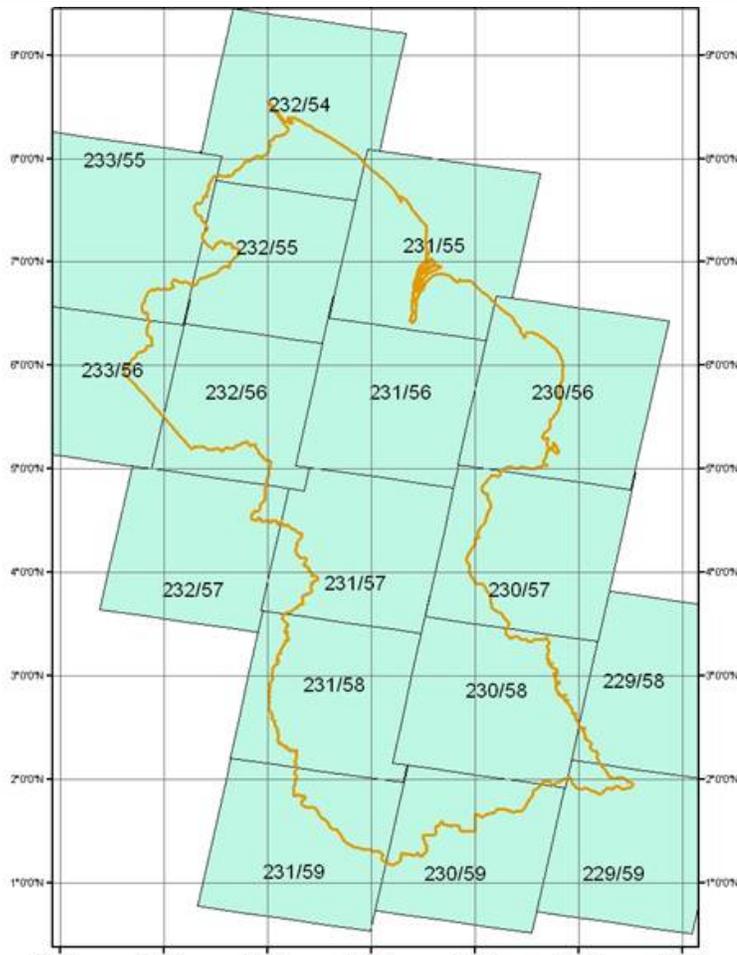
Mining activities will look red/grey or blue in colour. Activities will often be located close to rivers and streams. Blue areas depict water, and red bare soil.



Mining activity

Datasets and Analysis A temporal coverage spanning two time periods 2005 and 2006-2008 has been provided for Guyana. This is a total of 34 Landsat scenes (17 for each time period). Figure 1:

Landsat Coverage over Guyana



Results

Extension and Geography of Deforested and Degraded Forest Areas

A total of 54, 210 ha of degraded forest area and 2626 km of forest roads were mapped during the period 2007-2008, as shown in Map 1 below. Of this total, it is estimated that approximately 34, 044 ha of degraded forests are found within the State Forest Estate (SFE). Total State Forest Area is 13.8 million hectares while total forest cover is 18.6M million hectares. Based on this Quick Assessment, the rate of deforestation in the SFE is 0.25% while the rate in Guyana forest cover is 0.29%.

Mining seems to be the single most major cause of degradation within the SFE. Approximately 24, 428 ha of forests was cleared due to mining activities and another 21, 903 ha of forests was cleared for agriculture. The most degraded forests areas are found in the North-West region of the country, which is traditionally known to have the highest concentration of mining concessions.

Up to 2008, the total extension of forest roads was 2,626 km, with 2,329 km alone found within the SFE. The occurrence of roads is significant in the central and north-west regions of Guyana. About 80% of official forest roads are concentrated in these areas, particularly in the large concession lease areas.

Analysis of the satellite images show that while the deforestation rate of Guyana is significantly low as compared to other countries with high forest cover, mining seems to be the most prominent cause of deforestation. This supports the current understanding that the deforestation rate of Guyana is extremely low which can be attributed largely to the sound management practices and effective monitoring by the Guyana Forestry Commission.

This project was done at the national level and has direct potential to be sustainable in the future.

Verification

External audits will be conducted for all aspects of the MRVS. All components of the MRVS are expected to be in compliance with the Good Practice Guidelines (GPG). This compliance will be strictly enforced. The MRVS will be reviewed by an external expert party.

Expected Outcome:

The systems will provide national maps of forest cover change, forest logging extent, authorised and unauthorised land use changes such as mining, agriculture, occurrence of forest fires, and any other event that impacts on forest area and quality. These will be supported by corresponding tables of forest area and quality by Guyana regions, with comparisons to the reference scenario, and net changes in sequestered carbon.

Supporting these outputs will be manuals of procedure and archived documents, satellite imagery, field forms, databases, as well as a network of sample plots on the ground all subject to audit inspection or as needed for verification purposes.

Activities to achieve outcome:

The following activities will be undertaken during the development phase of the monitoring system:

- i. Development of a software tool to routinely process and compare LANDSAT images and produce vectorised maps and tables of forest cover and cover change.
- ii. Establishment of a network of permanent biomass monitoring plots, together with data systems and procedures and a cadre of trained measurement staff.

- iii. Field work and analysis to refine biomass allometric models and functions and provide as far as possible IPCC Tier 3 functions for all Guyana biomass and carbon models.
- iv. Linkages and modifications to the GFC Production database, GEMFORM forest planning database, and forest plan maps so that forestry activities (areas, volumes logged, carbon impacts) are automatically summarised and reported within the system
- v. Consultations and liaison with other agencies involved in use of satellite imagery and land use planning to agree best practice and exchange technical information.
- vi. International study tours and training to acquire best practice in satellite image interpretation and biomass monitoring.
- vii. Stakeholder consultations and workshops, to build consensus and understanding of the system and obtain feedback relative to its development.
- viii. Conduct uncertainty analysis on monitoring results generated by the system.
- viii. Documentation and peer-review of procedures and systems to the standard required for verification.

The following further activities would continue routinely once the system is operational:

- ix. Annual acquisition and processing of LANDSAT or other required remote sensing coverages.
- x. Annual remeasurement of a subset of the biomass plots – approximately 1/5 would be measured each year, but plots in areas showing cover or land use changes would also be measured.
- xi. Linkage to GFC Production and Forest Plans (GEMFORM) data to update forest operation areas and extraction volumes.
- xii. Running of the integrated software to produce all maps and output tables required, including net changes in sequestered carbon considering forest growth, harvesting, degradation, deforestation and reforestation and their submission via the REDD Secretariat.
- xiii. Facilitate external audits as required, responding to CARs and recommendations through appropriate actions.

As part of the Framework terms of reference to support the development of a Monitoring, Reporting and Verification System, the following conditions will be added:

- a) Conduct assessment of the possibility of including Payment for Ecosystem Services (PES) and biodiversity into MRVS;
- b) Outline recommendations for whether these can be incorporated into current MRV methodology and relevant implications (resource).

c) Based on recommendations, decisions will be taken at the National level.

Based on the findings of these activities, the recommendations made will be considered for implementation.

Monitoring the social impact of REDD will include feedback from communities and other stakeholders on land area change which will feed into the reporting and verification aspects.

Partners and organizations involved:

GFC and the REDD Secretariat will be responsible for developmental and operational phases of the monitoring system, in consultation with other government agencies as required. Local communities would be involved in maintenance of monitoring plots.

Dissemination of Information

Through the various mechanisms outlined under Component 2, all information will be disseminated.

Budget, Schedule and Sequencing of activities:

The table below shows activity i-viii sequencing in the development phase. Once operational, activities ix-xii would be done annually, with periodic audits (activity xiii) as dictated by FCPF. Dotted lines show intermittent activities over a period, solid lines are continuous until completed.

Develop Monitoring System	Development phase												Operational phase			
	Year 1				Year 2				Year 3				Year 4+			
Activity	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
i Develop RS image processing application	—————▶															
ii Establish network of biomass plots			●	—————▶												
iii Field sampling for Tier 3 allometric carbon models	●	—————▶														
iv Linkages to GFC FMIS (Production, GEMFORM)			●	—————▶												
v Inter-agency consultations on methodologies	●	—————▶														
vi International study tours and training	●	-----▶														
vii Stakeholder consultations and workshops	●	-----▶														
viii System Manual of Procedures and Documentation							●	—————▶								
ix Annual acquisition of satellite imagery		●	-----▶													
x Annual re-measurements of subset of plots							●	—————▶								
xi Data acquisition/reconciliation with GFC FMIS			●	-----▶												
xii Software run to generate monitoring report		●	-----▶													
xiii Verification audits													●	-----▶		

Responsible Agency: RS & GFC

Indicators of performance for this objective:

Indicators of performance would be:

- Number of biomass plots established, measured, data processed and validated.

- Number of biomass plots re-measured, data processed and validated.
- Coverages of satellite imagery acquired and synthesised to annual cloud-free rectified image.
- Integrated forest monitoring software application completed.
- Annual forest monitoring output tables generated.
- Documentation completed and peer-reviewed.
- Clean system verification audit completed.

Budget

Component 8 - Develop Monitoring System	Year 1	Year 2	Year 3	Total (US\$)
Consultancy services	135,000	135,000	135,000	405,000
Office, field equipment, software	10,000	10,000	5,000	25,000
Vehicles, fuel, maintenance	72,000	18,000	18,000	108,000
Field travel and subsistence	150,000	150,000	150,000	450,000
Workshops, meetings and outreach costs	12,000	6,000	12,000	30,000
International study tours, workshops and training	10,000	10,000	10,000	30,000
Training fellowships	50,000			50,000
Infrastructure construction and maintenance	24,000	6,000	6,000	36,000
Overheads and contingencies (5%)	23,000	17,000	17,000	57,000
TOTAL	486,000	352,000	353,000	1,191,000

8.2. Attach your ToR for this component as a separate Annex # 8

Annex 8 - Component 8

Terms of Reference

Framework terms of reference to support the development of a Monitoring, Reporting and Verification System (MRVS) are as follows (numbers correspond to development activities in Component 8).

1. Develop a software toolkit using off-the-shelf satellite image processing and GIS manipulation routines to compare and select from a number of images for cloud free cover, classify according to a spectral signature for biomass, compare with another selected biomass map (eg an earlier image), and map changes. Undertake testing, documentation and staff training to achieve use of this toolkit on a routine basis.
2. Design, plan and document procedures and logistics for a network of permanent biomass monitoring plots. Supervise the initial establishment of plots, with staff training in measurement procedures, and manage an ongoing program of establishment of plots of the order of 200-300 per year (2 field teams) over 3 years. Develop software to process and manage the plot data.
3. Identify gaps and requirements to develop IPCC Tier 3 compliant expansion factors, coefficients and allometric models to relate tree total above ground and large root biomass to tree diameter for common species in major forest types. If needed based on foregoing gap analysis, design and supervise a sampling and analysis programme for coarse and fine litter and soil biomass in major forest types.
4. Develop a software package which extracts summary data from the GFC Production and GEMFORM databases on areas allocated and logged, and using growth models within GEMFORM, estimate accrued biomass and removals in forestry operations. Link this with outputs from the biomass mapping (1) and monitoring plots (2) to tabulate changes in forest biomass from deforestation and degradation by regions, and produce outputs that are compliant with REDD reporting standards.
5. Facilitate meetings and workshops with other institutions and organisations in Guyana concerned with satellite image processing and land use planning to exchange information, avoid technical duplication, share methodologies, and develop a strong framework for cooperation.
6. Identify suitable host bodies and organise international study tours and staff training to learn best practice in REDD biomass monitoring and related methodologies.

7. Facilitate and present to stakeholder workshops and consultations relative to the REDD MRVS, collate feedback, and provide responses relative to issues and concerns raised.
8. Ensure the full documentation of all aspects of the MRVS methodology and procedures and arrange for the external review of the documentation and systems to standards acceptable to FCPF. Conduct uncertainty analysis on monitoring results.
9. Conduct assessment of the possibility of including Payment for Ecosystem Services (PES) and biodiversity into MRVS;
10. Outline recommendations for whether these can be incorporated into current MRV methodology and relevant implications (resource).
11. Based on recommendations, decisions will be taken at the National level.

Component 9: Design a System of Management, Implementation, and Evaluation of Readiness Preparation Activities

9.1. Requirement: We recommend you begin to develop a means to synthesize and manage the REDD program, including evaluation of progress at regular intervals. No ToR are required at this time—but we strongly encourage you to develop a management and evaluation system.

The GFC, as lead organization in the REDD programme for Guyana, has established a REDD Secretariat to coordinate and manage REDD activities.

All REDD activities and funds will be appropriately coded in the financial system, to enable quarterly and annual progress and financial reports to be produced in accordance with national accounting standards.

The REDD Secretariat will coordinate the preparation of monitoring and progress reports according to the requirements of FCPF. All activity centres will submit monthly or quarterly (as appropriate) and annual reports, which will form the basis for compilation of quarterly and annual programme reports.

Component	Deliverable
<p><i>Component 1</i> - Land use, forest policy and governance quick assessment</p>	<ul style="list-style-type: none"> ❖ Completed selection of areas selected to be targeted for REDD activities ❖ Completed Assessment of Land Use options, alternatives and benefits, and potential impacts in areas targeted for REDD activities. ❖ Completed Consultation & Outreach programme on REDD activities
<p><i>Component 2</i> - Management of Readiness</p> <p>Convene a national REDD working group to coordinate REDD activities, and how REDD will be integrated into the existing land use policy dialogue</p> <p>Prepare a REDD Consultation and Outreach Plan</p>	<p>(2a)</p> <ul style="list-style-type: none"> ❖ Completed selection of areas selected to be targeted for REDD activities ❖ Completed Assessment of Land Use options, alternatives and benefits, and potential impacts in areas targeted for REDD activities. ❖ Completed Consultation & Outreach programme on REDD activities

	<ul style="list-style-type: none"> ❖ Establishment of REDD Consultation & Outreach Committee (RCOC) <p>(2b)</p> <ul style="list-style-type: none"> ❖ Execution of At least 50 Outreach meeting held throughout the 10 Administrative Regions of Guyana to include Indigenous Communities with at least 30 participants at each meeting. ❖ Three national workshops held to discuss progress of REDD activities. ❖ Four Regional Workshops held to discuss progress of REDD activities.
<i>Component 3 - Design the REDD strategy</i>	<ul style="list-style-type: none"> ❖ Forest Carbon stock baseline established ❖ Model for Reference scenario developed ❖ A systems for updating biomass field estimates developed ❖ Methodology for national biomass monitoring system established ❖ Structure for the implementation of pilot activities developed.
<i>Component 4 - REDD Implementation Framework</i>	<ul style="list-style-type: none"> ❖ Carbon valuations for land parcels based on REDD methodology. ❖ Capacity building Plan to undertake REDD activities ❖ Report on Benefits Sharing options
<i>Component 5 - Assess the social and environmental impacts, and potential additional benefits, of candidate REDD strategy activities</i>	<ul style="list-style-type: none"> ❖ Development of screening criteria to consider scale and impact of potential projects as well as timelines for the preparation and submission of ESAs. ❖ A Review of local policies that govern forestry in Guyana ❖ 10 Consultation sessions held across the 10 administrative regions of Guyana ❖ Assessment Report on forest health and impact

	<p>of REDD strategy, and analysis of compatibility including measure to mitigate potential impacts of REDD activities</p> <ul style="list-style-type: none"> ❖ Report on the compatibility of the proposed activity with the existing land uses in and around the selected project areas.
<p><i>Component 6 - Assess investment and capacity building requirements</i></p>	<ul style="list-style-type: none"> ❖ Investment Assessment report completed ❖ Number of capacity building sessions held ❖ Decrease in number of occurrences of illegal activities in forest areas ❖ Incentives created to encourage economic and employment opportunities in forest utilization under a REDD scheme ❖ Capacity building programme developed ❖ Mechanism developed for benefits sharing ❖ Number of Information packages prepared and disseminated and to how many communities. ❖ Improved forest management practices by loggers ❖ Maintenance of low rates of deforestation and forest degradation ❖ Increased and improved usage of GIS for monitoring ❖ # of persons trained in using GIS for monitoring ❖ Maintenance of transparency and accountability in log tagging system ❖ # of person & communities trained in SFM practices ❖ Improved recovery of material ❖ Reduced wastage & environmental degradation ❖ More private sector involvement in REDD ❖ Improved transparency and accountability during planning, execution & monitoring of the project
<p><i>Component 7 - Develop a Reference Scenario</i></p>	<ul style="list-style-type: none"> ❖ Data on forest area, land cover change and carbon density. ❖ Data gaps identified

	<ul style="list-style-type: none"> ❖ Analysis of change in land cover change and carbon density completed ❖ Historical reference scenario developed ❖ Reference scenarios projection completed ❖ Review and consultations completed on Reference Scenario ❖ Review completed by independent Expert
<p><i>Component 8 - Design and Implement Monitoring, Reporting, and Verification System for REDD</i></p>	<ul style="list-style-type: none"> ❖ Number of biomass plots established, measured, data processed and validated. ❖ Number of biomass plots re-measured, data processed and validated. ❖ Coverages of satellite imagery acquired and synthesised to annual cloud-free rectified image. ❖ Integrated forest monitoring software application completed. ❖ Annual forest monitoring output tables generated. ❖ Documentation completed and peer-reviewed. ❖ Clean system verification audit completed.

9.2. Requirement for component 9:

The external budget includes the following provisionally estimated requirements for:

	<i>Programme Year</i>			<i>Total</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>US\$</i>
Programme Summary - All Components				
Consultancy services	503,000	403,000	438,000	1,344,000
Office, field equipment, software	80,000	40,000	55,000	175,000
Vehicles, fuel, maintenance	203,000	79,000	89,000	371,000
Field travel and subsistence	328,000	308,000	248,000	884,000
Workshops, meetings and outreach costs	156,000	71,000	96,000	323,000
International study tours, workshops and training	40,000	40,000	30,000	110,000
Training fellowships	110,000	10,000	-	120,000
Infrastructure construction and maintenance	60,000	24,000	18,000	102,000
Overheads and contingencies (5%)	74,000	49,000	49,000	171,000
TOTAL	1,554,000	1,024,000	1,023,000	3,600,000

Fill in the provided spreadsheet in Excel, including the three sheets listed below:

Annex 10 (Required) - Excel spreadsheet: (see template for this provided on FCPF website)
Sheet 1) Summary of R-PLAN Implementation, Across Donors

Sheet 2) Detailed Budget, using the template.
Sheet 3) Summary Budget.

Excel Sheet also Attached

Appendices

Appendix 1 - Quick Assessment Report (in separate file)

Appendix 2 – National Forest Policy (in separate file)

Appendix 3 – Land Use Plan (Draft) (Regional) (in separate file)

Appendix 4 – Reports of Consultation Sessions with Community Groups and other Stakeholders (in separate file)