

INTERNATIONAL TROPICAL TIMBER ORGANIZATION (ITTO)

Reducing Deforestation and Forest Degradation and Enhancing Environmental Services in Tropical Forests (REDDES)

PROJECT DOCUMENT

TITLE	STRENGTHENING GUYANA'S CAPACITY TO MANAGE FOREST RESOURCES AND ENVIRONMENTAL SERVICES THROUGH RESOURCES ASSESSMENT AND MONITORING CHANGES IN DEFORESTATION AND DEGRADATION
SERIAL NUMBER	RED-PD 005/09 Rev.2 (F)
SUBMITTED BY	GOVERNMENT OF GUYANA
ORIGINAL LANGUAGE	ENGLISH

SUMMARY

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 Guyana Forestry Commission being the State Agency to plan and manage the State Forest Estate, has made efforts in the past to enhance sustainable forest management and to strengthen important areas such as legality, forest industry and training in harvesting practices. There is currently a lack of national level data to assess forest resources and environmental services in Guyana. This inhibits effective evaluation and planning for natural resources utilization in Guyana. Additionally, the lack of capacity and resources, in some cases, at the community level affects the ability of implement sustainable forest management and reduce deforestation and degradation. This project seeks to address two main areas: conducting, at a demonstration level, an assessment of forest resources and environmental services including the completion of a feasibility of targeting remuneration systems for environmental services; and secondly, by supporting sustainable forest management and resources utilization at the community level to maintain forest resources and prevent deforestation and degradation.

The outcome of the project will be the strengthening of Guyana's capacity to manage forest resources and environmental services through resources assessment and monitoring changes in deforestation and degradation. This will allow for planning and management of these resources to be significantly enhanced as will management of deforestation and forest degradation. Also, capacity building exercise will see improved management of forest and environmental resources by target communities and stronger compliance with sustainable forest management practices. These immediate benefits of these will be enhanced ability at the national and community level to manage forest and environmental services in Guyana.

EXECUTING AGENCY

The Guyana Forestry Commission (GFC)

COOPERATING

GOVERNMENTS (*)

DURATION

12 MONTHS

APPROXIMATE STARTING DATE

Upon approval and financing

BUDGET AND PROPOSED SOURCES OF FINANCE

Source	Contribution in US\$	Local Currency Equivalent
ITTO	400,680	
GFC	140,200	
TOTAL	540,880	

Project Brief

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.

Guyana's low deforestation rate is assured of continuity by clear land-tenure and ownership, low population density, commitment to biodiversity conservation, and established forest policy and sustainable forest management guidelines and practices. Guyana's situation of high forest cover, and lower than average historical deforestation rates has been due to deliberate policies to promote conservation and strategically manage forest utilization. Regulation of forest management has been rapidly evolving in Guyana and the Guyana Forestry Commission (GFC) takes an active and vigilant role in monitoring and promoting sustainable forest management practices.

Guyana has been taking significant steps to target a forest carbon financing mechanism with the strong emphasis on maintenance of forest carbon stock given that the historic rate of deforestation is relatively low and reported at 0.1% to 0.3%. An important aspect of managing such a mechanism requires an assessment of forest resources and environmental services to be done. Additionally, assessing the possibility of Guyana to engage in an incentives system for environmental services will form an essential part of a future natural resources development in Guyana.

The Project will draw on the previous project financed by ITTO as well as projects which are currently implemented by ITTO and other institutions such as the World Bank. The initiatives have in many ways assisted in advancing the work done on specific degradation factors, such as forest fires, overall planning and approach to rehabilitations using the forest landscape restoration approach, management of legality through remote sensing, training in reduced impact harvesting practices and engaging in a readiness preparedness programme to target a carbon finance mechanism. The experiences gained and lessons learned from those projects will be drawn on in this project; these are all very relevant to the overall objective of the initiative and the approach to be taken.

The outcome of the project will be the strengthening of Guyana's capacity to manage forest resources and environmental services through resources assessment and monitoring changes in deforestation and degradation. This will allow for planning and management of these resources to be significantly enhanced as will management of rates of deforestation and forest degradation. Also, capacity building exercises will see improved management of forest and environmental resources by targeted communities and stronger compliance with sustainable forest management practices. The immediate

benefits of these will be the enhanced ability at the national and community level to manage forest and environmental services in Guyana.

For the successful implementation of the project the budgeted amount requested is as follows:

Funding source	ITTO
Amount requested	<u>US\$400,680</u>
% allocated to Personnel	<u>6.24%</u>
% allocated to capital items	<u>29.95%</u>

List of abbreviations and acronyms

- FCPF- Forest Carbon Partnership Facility
- GFC - Guyana Forestry Commission
- ITTO - International Tropical Timber Organization
- LCDS- Low Carbon Development Strategy
- REDD- Reducing Emissions from Deforestation & Forest Degradation
- RPP- Readiness Preparation Proposal

PART 1: PROJECT CONTEXT

1.1 Origin

- Where applicable, describe how the proposal derives from a recommendation of an ITTO pre-project or a completed project phase, a particular study, etc.
- Identify the organizations that supported the implementation of the earlier activity that has led to the current proposal.
- If the proposal stems from an ITTO pre-project, provide a short summary of the relevant findings and show how the project will build on the outcomes.

Guyana, the only English speaking country in South America, is located on the Atlantic seaboard of north-eastern South America. It extends 800 km south from latitude 8° N on the Atlantic coast to latitude 1° N, and some 480 km east to west between longitudes 57° and 61° W. It has an area of about 215,000 km² and a population of approximately 750,000. Tropical high forests cover some 16.4 million ha or about 76% of the total land area.

State Forests administered by the Guyana Forestry Commission (GFC) account for about 13.6 million ha (63% of the land area). By 2004, 52% of state forest had been allocated for timber harvesting. In addition to state forests, a portion of the national forests are under titled Amerindian lands. Land titles were issued to Amerindians in 1976 onwards and currently approximately 13% of the total land area of the country is under titled Amerindian land (an estimated 1.4m million ha of which is covered by forest).

The Project was formulated in compliance with the ITTO's Thematic Programme on Reducing Deforestation and Forest Degradation and Enhancing Environmental Services (REDDES) in tropical forests. This proposed project works in tandem with the core problem which this thematic programme addresses, that of inadequate capacity of ITTO member countries to maintain and enhance environmental services of tropical forests by preventing and reducing deforestation and degradation.

This planned activities and approach of this project are guided by the current thrust of the climate change agenda of the Government of Guyana and sustainable forest management thrust of the forestry sector development plans. The Government of Guyana has advanced its efforts to target a carbon financing mechanism that focuses on maintenance of forest carbon stock whilst allowing sustainable natural resources utilization to continue (including agriculture, mining and forestry). The Low Carbon Development Strategy sets out a development growth path of economically rational scenarios that have a low carbon characteristic and that support development of livelihoods and welfare.

Additionally, over the past 7 years, several interventions have been made in Guyana, many of which have been supported by the ITTO, in areas of forest landscape restoration, forest fire management, forest law enforcement, governance and trade, and reduced impact logging. These projects provided important recommendations and results that have been drawn upon in this proposed initiative.

A Project involving field testing of the ITTO Field Manual on Forest Landscape Restoration (FLR) emphasized the importance of using a landscape approach involving communities in the process of natural resources management; the project on forest fire management pointed to a main recommendation of a comprehensive system to quantify, manage and report on the occurrences of this degradation factor; a current project in the stage of completion established a legality indicators system for detecting infractions using remote sensing imagery analyses and provided a dedicated GIS as a medium through which such work is conducted; training in reduced impact logging supported by ITTO has led to the establishment of a Training Centre in Guyana and has impacted positively on the level of sustainable forest management practices implemented at both the national and community levels; the recent work through the World Bank's Forest Carbon Partnership Facility has enabled Guyana to advance its efforts towards creating a readiness mechanism to target a carbon financing initiative.

The results of these activities have led to the conceptualization of this proposed initiative. These results have informed the integrated approach to be taken which will draw on the existing work done by the Forestry Training Centre Inc. especially work done at the community level, the results on the extent and impact of forest fires in Guyana as a degradation factor, the dedicated GIS framework established at the GFC for remote sensing imagery analyses and land cover monitoring, and will draw on the overall Readiness Preparation Proposal submitted by Guyana to the Forest Carbon Partnership Facility of the World Bank, which has been formally approved by the Participants' Committee in June of 2009.

This project is closely linked to the work that Guyana has commenced under the World Bank's Forest Carbon Partnership Facility. Guyana's Readiness Preparation Proposal submitted under the FCPF outlines a series of readiness preparation initiatives that will be undertaken over a three year period to enable Guyana to access a forest carbon financing mechanism. Readiness preparation in Guyana submission to the FCPF, is based on a REDD+ mechanism that includes sustainable forest management as the key elements. Planning for resources utilization through assessment of forest and environmental services will lead to this desired goal of the Guyana's readiness activities, which is the overall sustainable development of forest resources. This is one of the key elements of the FCPF which is based in reducing or maintaining a low rate of deforestation and forest degradation. One of the elements of this Proposal involves work on forest area assessment that is necessary to inform a system for monitoring and reporting of changes in forest area and associated carbon stock. The outputs that are proposed under this project will link closely with the monitoring aspect as it will enable one important aspect of forest carbon stock to be measured. Additionally, the Road Map which has been developed for Guyana's MRVS, identifies for initiatives to be undertaken that focus on ecosystem services integration into the readiness planning framework. The outputs of this project, specifically with regards to the assessment of forest and environmental services, will contribute to informing this activity in a significant way.

1.2 Relevance

1.2.1 Conformity with ITTO's objectives and priorities

- Explain briefly how the project is related to the objectives of the ITTA, 2006, as defined in its Article 1.
- Explain how the proposal is related to the priorities and operational activities set out in the current ITTO action plan and in relevant ITTO decisions.

The general objective of the Thematic Programme is to help improve livelihoods by reducing deforestation and forest degradation and enhancing environmental services through the sustainable management of tropical forests, forest restoration, afforestation, reforestation and other related activities. The ITTO Reducing Deforestation and Forest Degradation and Enhancing Environmental Services in Tropical Forests (REDDES) Programme has a strategic focus on reducing deforestation and degradation through sustainable forest management of primary forests and the restoration and rehabilitation of secondary forests and degraded areas with the view of enhancing all the environmental services provided by tropical forests.

This project seeks to strengthen the GFC's ability to monitor and report on the rates of deforestation and degradation occurring within the State Forest, whilst strengthening Guyana's capacity to manage forest resources and environmental services in general. This will essentially provide an improved basis for reporting on deforestation and forest degradation and assessing resource capacity. This project conforms to Guyana's National Forest Policy, National Forest Plan, which govern the operations of the forest sector in Guyana as well as crucial elements of Guyana's Low Carbon Development Strategy and Readiness Preparation Proposal (RPP).

As one of the few high forest cover, low deforestation rate countries, Guyana has working towards increasing global recognition of forest carbon storage of standing forest, especially in the replacement to the Kyoto Protocol. This project will assist Guyana in developing critical baseline information on land cover, for example, extent of forest cover, extent of area affected by land change (forest area remaining forest area), using the main activity data (mining, agriculture, forestry) as well as degradation causal factors (e.g forest fires), that will be informed by remote sensing technology and inform sustainable forest management in Guyana.

One of the major outputs of the project is that of demonstrations in conducting assessments of forest resources and environmental services - in order to adequately enhance environmental services and prevent deforestation and forest degradation and make informed decisions in this regards, Guyana must first be aware of what currently exists in its tropical forests.

Activities in this project will provide for an inventory which in the future will help to demarcate sensitive areas. It is expected that through the use of the Remote Sensing images, the GFC would not only be

able to access its forest resources, but also to improve its monitoring, enforcement and management of its natural resources.

This project is being implemented under the **ITTA 2006 of Article 1 paragraphs (c), (g), and (q)** which state:

(c) Contributing to sustainable development and to poverty alleviation;

The Project will allow for enhanced sustainable management and development of forest resources by engaging in a demonstration activity on conducting an assessment of valuation and facilitating the multiple use value of the forest to be advanced through examination of the feasibility of environmental services in Guyana. It aims to improve capacity in forest dependent communities through training in sustainable forest management practices, which will in turn contribute to poverty alleviation within these communities as economic opportunities can be targeted. Implementation of SFM practices by the communities will also ensure that the forests are harvested in a sustainable manner. This will lead to a reduction in deforestation and forest degradation.

(g) Developing and contributing towards mechanisms for the provision of new and additional financial resources with a view to promoting the adequacy and predictability of funding and expertise needed to enhance the capacity of producer members to attain the objectives of this Agreement;

The Project will advance the process of identifying possibilities of targeting and attracting financial resources both through a demonstration of an assessment of forest resource capacity and a feasibility assessment for environmental services compensation.

(q) Promoting better understanding of the contribution of non-timber forest products and environmental services to the sustainable management of tropical forests with the aim of enhancing the capacity of members to develop strategies to strengthen such contributions in the context of sustainable forest management, and cooperating with relevant institutions and processes to this end;

The planned demonstration of a forest resources assessment, capacity building initiative as well as feasibility assessment of compensations mechanism for environmental services, support this objective.

In conducting the assessment of the forest resources and environmental services, Guyana would be able to collect and assess data for areas where no data is currently available and therefore develop management plans for these as well as all other forested areas.

1.2.2 Relevance to the submitting country's policies

- Briefly describe how the project conforms to the host country's forest policies.
- Indicate other existing relevant sectoral policies.

This project conforms to the National Forest Policy, National Forest Plan which govern the operations of the forest sector and the Readiness Preparation Proposal of Guyana which focuses on the preparedness and capacity building for Guyana on REDD. The National Forest Policy, published in 1997, is designed to serve and protect Guyana's forests, ensuring that harvesting is carried out in a responsible, efficient and environmentally sustainable manner. The Policy required the development of a new forest legislation, a National Forest Plan and a Code of Practice, which are all currently in place to guide and regulate forest management.

The overarching aim of the National Forest Policy is the conservation, protection, management and utilization of the nation's forest resources while ensuring that the productive capacity of the forest for both goods and services is maintained or enhanced. The primary objectives of Guyana's National Forest Policy are to:

- Ensure sustainable forestry management so that benefits derived, will be assured long into the future.
- Develop the highest possible standards for efficient use of the forest resources.
- Make the maximum responsible and sustainable use of the economic and social benefits offered by the development of our forest resources.

The National Forest Plan reflects the obligations imposed by Guyana's National Forest Policy and provides a practical framework for the industry to comply with the law. It provides the framework and identifies programs and activities that need to be accomplished to ensure implementation of the policy. The National Forest Plan also identifies responsibilities for monitoring and providing feedback to the policy and planning process.

The Low Carbon Development Strategy (LCDS) launched on 8th June, 2009 in Guyana identified a development growth trajectory for Guyana along a series of low carbon initiatives whilst at the same time enabling sustainable forest resources utilization.

The Readiness Preparation Proposal (RPP) which is one of components of the LCDS was prepared in accordance with the guidelines of the World Bank's Forest Carbon Partnership Facility (FCPF) and outlines the work to be implemented over a three year period. The RPP is seen as the national framework for implementation of REDD in Guyana and the objectives of this proposal are in accordance with those of the RPP and is designed in conformance with achieving the objectives of the RPP.

The Project is designed to work in conformity with the above mentioned policies and frameworks to achieve its objectives. The main tenants of the Policies of Guyana Forest sector as outlined above can be summarized as including: sustainable forest management, encouraging multiple use functions of the forest as well as effective utilization of forest resource. These have been targeted as priority areas under the proposed project.

1.3 Target area

1.3.1 Geographic location

- Briefly describe the location of the proposed project, referring to the location map.
- If relevant, provide a short description of the area's major physical features and ecological characteristics as they pertain to the project.

The demonstration activity of this project will be conducted using 11,000,000 hectares which represents 80% of the State Forest Estate. Medium resolution images (20m to 32m) will be used to conduct demonstration assessments at this level while high resolution images (2m to 10m) of between **1,000,000 to** 1,500,000 hectares. Available satellite/radar data at 15m, from the Brazilian CBERS Satellite provider will also be considered. The area indicated below in green is proposed to be the area covered by medium resolution images, whilst the areas identified in black borders will be covered by high resolution images. All assessments and analysis will be done at the Guyana Forestry Commission's head office in Georgetown. However, several sessions of ground truthing and aerial surveys will also be conducted to verify results of remotely sensed data.

In Guyana, a number of forest based communities have formed Community Forestry Organizations to access State Forest, utilize and execute forestry activities in a collaborative manner allowing for sharing of resources and skills.

Summary of Communities to be Affected Directly by the Project

The project also will have a focus on community demonstration assessments and training with the following communities identified for this project:

Community Forest Associations	Size of Area (ha)	Population of Community (Approximate number)
Orealla/Siparuta	7,963	1,300
Aroaima Forest Association	10,753	500
Ituni Small Loggers Association	48,391	600 – 1,000
Kuru Kuru Wai a Kabra	5,868	675
Region 10, Forest Producers Association	31,750	35,000 – 40,000
Upper Berbice Forest Producers Association	35,714	3,000 – 5,000

These communities account for approximately 70% of total State Forest Area issued to forestry associations. The geographic location of these communities is shown below:

These communities have been chosen based on level of involvement in forestry activities, population and area size (being of larger areas size than other smaller communities). The benefits that will be derived will include enhanced sustainable management of forest resources which will enable these communities to be assured of a sustained stream of income based on sustainable utilization of resources.

Location's Physical Features and Ecological Characteristics

The areas identified in the State Forest Estate consist of the following main vegetation types:

- 1 Mixed Forest
- 2 Wallaba/Dakama/Muri Shrub Forest
- 3 Swamp/Marsh Forest
- 4 Mangrove Forest
- 5 Lowland grass/shrub savannah
- 6 Upland shrub/grass savannah
- 7 Montane and Sub montane Pakaraimas
- 8 Submontane forest south Guyana

Some areas of the State Forest Estate are accessible by road and water ways. Most of the accessible areas are within the allocated State Forest estate. The Forest area contains a wide range of timber species, non-timber forest products as well as environmental services such as potential for watershed management, carbon sequestration, and biodiversity value. Forest inventory data are available for some areas and will be used in this assessment.

1.3.2 Social, cultural, economic and environmental aspects

- Describe the social, cultural, economic and environmental background of the project area at the time of project identification.
- Provide appropriate demographic and social data for the people living in the project area.

Environmental Issues – Sustainable forest management has been recognized as essential to enhancing the growth and development of Guyana's forest resources as well as to promote the successful implementation and continuation of REDD in Guyana. It is through this process that Guyana has been able to maintain its forest cover and low rate of deforestation, and will enable this currently existing low rate of deforestation and forest degradation to be maintained. Education, awareness and training are viewed as integral to maintaining environmental balance and sustainability within forest ecosystems.

With regards to environmental services, while Guyana is aware of the potential of the intact forest to allow for Guyana to enter markets regarding to such, Guyana is now exploring the feasibility of this option. It is therefore necessary for assessments in this regard to be conducted. Such information will allow for better land use planning and management by the natural resources management agencies of Guyana.

For this project a combination of remotely sensed data and ground surveys will be used to assist GFC in formulating appropriate management strategies to assess the impact of various land uses and drivers of deforestation and degradation, including mining, forestry and agricultural activities. Once the resource assessment of forest and environmental services, location and the extent of these areas are known, GFC and other agencies will be in a better position to manage the expansion of such activities and formulate policies to mitigate negative impacts whilst maintaining sustainable forest management.

Confirmed Forest Clearance Activity from the Over flight

The project will also provide guidance on the targeting of remuneration systems for compensating environmental services. This will be done through an assessment of the potential and feasibility of available systems in Guyana's context.

Socio Economic – much focus has been placed on the harvesting practices at the concession level. However, more and more it is becoming evident that a significant number of persons are being employed in the value added processing aspect of the forest industry, especially with regards to Indigenous and other forest dependent communities. Training and sensitization in the relevant forestry

areas, which will enhance their understanding of key concepts of the implementation of sustainable forest management and REDD.

With the assessment of environmental services on titled indigenous lands, the introduction of payments for environmental services would be a means through which community incomes would be supplemented without having more persons entering the forestry sector. This would thus serve as a means by which rates of deforestation and forest degradation can be reduced.

Currently more and more persons and communities are entering the forestry sector for employment but lack the required training or skills needed for the implementation of SFM practices. It is therefore essential that training and sensitization be done in the relevant forestry areas so that the current low rate of reforestation and degradation is maintained.

Institutional Issues – the GFC is the governmental agency that is responsible for managing the State Forest. Enhancing capacity at the level of the Commission will better enable staff to carry out the mandate of the GFC in a more effective manner, both in appropriate forestry practices as well as in the principles and implementation of REDD.

With Guyana being a global example of having to apply a new methodology for countries that have relatively low historical deforestation and degradation rates in an effort to quantify the forest carbon stock, it is imperative that training be done at the level of the Commission. This will ensure that the Stakeholders are provided with the best possible support and advice that can be offered, supporting the successful implementation of REDD and investigation into the value of environmental services.

1.4 Expected outcomes at project completion

Describe the main outcomes that the project will achieve at or before completion. The description should address the following questions:

- What are the intended immediate effects of the project?
- What are the benefits, and for whom?
- What improvements or changes will the project bring about?
- What will the target groups be doing after project completion as a consequence of the project?

The main outputs of the project are:

1. A demonstration in conducting an assessment of forest resources and environmental services
2. Community capacity enhanced in sustainable forest management with a focus at community level operations.

On completion of the Project the following outcomes are expected:

- An archive of remote sensing images for monitoring and referencing of forest activities within specific areas. Through this, the GFC as well as other natural resources management agencies can monitor and measure changes within the forests from forest related activities such as logging, mining and agriculture.
- Increased capacity for monitoring and management of the State Forest by the GFC, using remote sensing imagery. The GFC can utilize these images to increase the capacity of the GIS Unit to plan for and monitor the activities on the ground, as well as to better enforce legislation relevant to the forestry sector to ensure the deforestation and degradation remain at low rates.
- Demonstration of the approach to conducting resource assessment of forest and environmental services in identified project area. It is expected that assessments conducted will provide the GFC, as well as the GoG, with knowledge of how to conduct a resources assessment of forest and environmental services, as well as how markets can be accessed for payments for ecosystem services.
- Improved SFM practices by communities. This is a core concept to the forestry sector in Guyana. Through the execution of this project, it is expected that communities and logging associations will be trained in SFM.

The benefits to be derived from the project are:

- Allowing the communities and the GFC to also better manage forest resources.
- Enhancing the ability to understand and plan for accessing to markets for ecosystem services
- Better enabling the low rate of deforestation and forest degradation to be maintained and further, to be effectively monitored and reported. It is expected that the project will lead to even better forestry practices which in the long term will lead to maintaining the current levels of deforestation and degradation as well as leading to reducing this level in the future.

PART 2: PROJECT RATIONALE AND OBJECTIVES

2.1 Rationale

2.1.1 Institutional set-up and organizational issues

Describe the following:

- Appropriate partners for project implementation and the degree of coordination between them
- The likely relevance of the project to institutional and organizational needs
- The specific roles and responsibilities of different agencies
- The capacities of different institutions and agencies to participate in project implementation
- The design of appropriate capacity-building elements in the project and thus the formulation of a feasible implementation strategy.

Partners to Project, Degree of Coordination and Role

The Guyana Forestry Commission is the key agency responsible for the management of the State Forest Estate. In 2008, the REDD Secretariat was established to execute activities focused on conducting a forest carbon stock assessment and advise on issues relating to deforestation and degradation in Guyana. The GFC will collaborate closely with the REDD Secretariat, the key natural resources regulatory agencies including the Guyana Geology and Mines Commission and the Ministry of Agriculture in coordinating the execution of activities of this Project. Additionally, the GFC will work closely with forest based communities to extend and integrate the benefits and results of the project at the community level. In this way communities will be an integral partner in this initiative.

The GFC will be the executing agency for this project. The REDD Secretariat; other natural resources agencies, and forest based communities will be partners to the GFC under Project.

Relevance of Project to Institutional and Organisational Needs

The GFC's mandate is focused on ensuring sustainable forestry practices in the State Forest Estate. It executes this function through planning, managing and monitoring forest resources utilization, and includes a focus as well on maintenance of forest ecosystems as a whole. This Project will better enable the GFC to plan forest resources utilization and ecosystem management by being able to conduct resources assessment, as demonstrated by this project. This will allow for a stronger level of sustainable forest management and an overall maintenance of a low rate of deforestation and degradation owing to more effective planning and management of resources.

At the community level, the GFC works with community forestry associations in implementing sustainable forest management practices which assists in maintaining deforestation and degradation at a low rate. Additionally, the outputs of the assessment of forest resources and environmental services will be done for identified communities.

This initiative is therefore very relevant to the GFC's work in areas of community forestry, sustainable forest management and planning.

Capacities of different institutions and agencies, and Capacity Building Elements

The GFC's existing GIS system was strengthened into an integrated remote sensing and GIS system as a result of outputs from ITTO Project PD 440/07 (M,I) executed in Guyana. This system will provide the information framework for assessments to be conducted under the proposed initiative. **The focus of this project was on the use of GIS and Remote sensing technology along with bar code tracking to strengthen the prevention and detection of illegality in forest production, transport and trade. The deliverables from this project enabled the GFC to now have in place: an integrated GIS that allows for effective storage and archiving of data and images for remote sensing application; a core knowledge base at the level of GFC in using remote sensing images for managing change detection and implementing a decision making framework of detecting such changes and for this to be cross checked against approved forest management plans and guideline; and also the integration of results of remote sensing imagery analyses into the planning and management of legality in forest areas. This Project that is being proposed will build on this in the following ways: it will utilize the framework and knowledge based already in place to advance and extend the work in remote sensing assessment to include assessment of forest resources and environmental services and to integrate this into the forest planning and management framework as legality has been done in PD 440; this Project will seek to link findings to PD 440 by extending the work done in legality monitoring to legality linked to deforestation and forest degradation as this important dimensions is of increasing significance to Guyana given its focus on REDD+ readiness activities and the establishment of a Monitoring Reporting and Verification System for forest carbon stock that is being set up; and the results of PD 440, specifically with regards to the data and system which would have been acquired and established, will be used to create a time series of remote sensing images for added work to be done by the GFC even after the REDDES initiative would have been completed in the Outputs of the project. The two initiatives: PD 440/07 and the REDDES Project, have been developed for two separate goals: the first for legality monitoring and the latter for forest resources assessment and integrated deforestation and degradation analyses. However, the latter project, builds on the framework set up by PD 440/07 and widens the scope of GIS/RS use, to a broader planning framework that is linked to Guyana's overall national work on REDD+, of which legality is one aspect.**

Sustainable forest management training is already a part of the GFC's training programme and this will be extended to communities through this project. Capacity building is therefore a key output of this project and integrates the dissemination of the results to communities. This would allow for a feasible implementation mechanism to be used at the community level while at the national level, the staff of the GFC's GIS unit as well as the GFC's Forest Management, Planning and Monitoring Units will be integrally involved in project activities execution. Training will also be done with staff at the GFC to conduct resources assessment in the future. This demonstration initiative will therefore allow for capacity to be built within the GFC to conduct such resources assessment in the future and at the national level. The GFC and REDD Secretariat will be better able to integrate the results of such assessment in monitoring forest remaining forest as well as to track activity data and inform a data bank

for an IPCC Approach 3 type system. This in the future is expected to be linked to the work planned activities under the World Bank's FCPF and Guyana's RPP with regards to readiness preparation for a forest carbon financing mechanism. This will allow for the future sustainability of the project.

Although external consultants will be conducting several aspects of the project, the GFC will liaise closely with these experts to be able to continue such work, after the project would have been completed. Additionally, the results generated by the project will feed into other work that the GFC and REDD Secretariat are engaged in.

The work of the REDD Secretariat and other natural resources agencies in their individual focal areas will also ensure that the proposed initiative will have the necessary inputs from relevant agencies whilst at the same time building capacity at each level.

The Guyana Forestry Commission will execute the project and will use lessons learned from executing previous ITTO funded project.

2.1.2 Stakeholder analysis

The proposal should describe the characteristics and size of the target and beneficiary groups (eg by age, gender and ethnic composition). The following key guiding questions should be addressed:

- What is the level of consensus for the project?
- Are the stakeholders convinced of the need for change?
- What steps are needed to ensure the participation of stakeholders, including local communities, in the implementation of the project?
- Who are the target and beneficiary groups and how will they benefit from the project?

Level of Consensus and Need for Change

There has been a growing recognition for effective planning at national and local levels of forestry resources management. Building capacity in this area is therefore essential. This has been recognised as imperative for sustainable forest management and the impact that this has on maintaining a low rate of deforestation and forest degradation. It has been likewise recognised by stakeholders that a resources assessment is necessary to enable effective planning. Owing to the common needs of stakeholders, at the national and community levels, there is consensus and a recognised need for the outputs identified.

Participation of Stakeholders

National as well as community stakeholders are both important partners in this project. Communities will be involved in project activities execution and will be consulted through the GFC's existing community forest programme. Output 3 is aimed at providing training to communities to assist them in

reducing deforestation and forest degradation. This output impacts and involve direct communities and stakeholders. Additionally, communities will be involved in ground truthing and other data collection activities required. The results of the other outputs of the project will be shared as outlined in the section below.

In Guyana, a number of forest based communities have formed Community Forestry Organizations to access State Forest, utilize and execute forestry activities in a collaborative manner allowing for sharing of resources and skills. The project also will have a focus on community demonstration assessments with the following communities identified for this project:

Community Forest Associations	Size of Area (ha)	Population of Community (Approximate number)
<u>Orealla/Siparuta</u>	<u>7,963</u>	<u>1,300</u>
<u>Aroaima Forest Association</u>	<u>10,753</u>	<u>500</u>
<u>Ituni Small Loggers Association</u>	<u>48,391</u>	<u>600 – 1,000</u>
<u>Kuru Kuru Wai a Kabra</u>	<u>5,868</u>	<u>675</u>
<u>Region 10, Forest Producers Association</u>	<u>31,750</u>	<u>35,000 – 40,000</u>
<u>Upper Berbice Forest Producers Association</u>	<u>35,714</u>	<u>3,000 – 5,000</u>

These communities account for approximately 70% of total State Forest Area issued to forestry associations.

As part of GFC's community forestry programme, several sessions were conducted in 2009 which have informed the development of this Proposal. As part of GFC's routine outreach programme, the needs of communities are assessed and the GFC looks to relevant programmes where these can be met along with support from GFC's budget. As such, this proposal was informed by stakeholder consultation which has moulded the approach and activities targeted under this project.

Target Beneficiary

This is summarised below:

Stakeholder Analysis of ITTO REDDES Project: Strengthening Guyana's capacity to manage forest resources and environmental services through resources assessment and monitoring changes in deforestation and degradation.				
Stakeholder Group	Characteristics	Problems, needs, Interest	Potentials	Involvement in the Project
Primary Stakeholders				
Guyana Forestry Commission	Semi – autonomous agency mandated to manage and control 13.6 million ha of State Forests	Interested in strengthening the planning, and management of forest resources of the State Forest to reduce levels of deforestation & forest degradation. There is currently a lack of capacity to	The GFC has in place the existing infrastructure to execute this project in the case of the GIS system and outputs of ITTO Project PD 440/07 (M.I) Also, the institutional	Implementing agency and Beneficiary

		conduct assessment of forest and environmental services which inhibits effective planning and management of these resources. The need exists for this to be done.	framework of the GFC's Community Forestry Programme will enable the GFC to effectively execute this project by facilitating the community forestry aspects.	
Community Forestry Associations	These are associations formed within forest based communities for the mutual benefit of community members. These Associations benefits from shared resources, capacity and planning and coordination.	Communities as well as national level stakeholders do not currently have this information to enable planning and management of forest resources and relevant training has not been received by some communities in SFM.	Training can be provided through the project and can be facilitated by the Community Forestry programme of the GFC.	Beneficiary
Natural Resources Agencies in Guyana	Plan and manage natural resources utilization including mining and agriculture.	There is currently a lack of capacity to conduct assessment of forest and environmental services which inhibits effective planning and management of these resources. These will assist other natural resources agencies in planning and managing their various sectors.	The results of assessment conducted will be shared with key natural resources agencies to assist them in planning and managing initiatives in the various sectors.	Partner
Secondary Stakeholders				
Forest Products Association (FPA)	Work in collaboration with the GFC and benefit from results of assessment and feasibility study.	Information on resources in forest areas is lacking.	The results of this project will allow for more effective planning of forest utilization activities.	Partner
Other NGOs such as WWF.	Work in collaboration with the GFC and Provides assistance in the process.	The results of this project will provide a strong support to future activities.	Information acquired through this project will support other work being done by NGOs in sustainable forest management.	Advisory support.

Stakeholder Consultations and Involvement

Stakeholder engagement is an integral part of the process. Stakeholder engagements will take the forms of workshops, formal and informal discussions, and training and community planning groups. There will be sub-national consultations to sensitize as well as receive feedback from all stakeholders. The outcome of these consultations will be taken into account in preparing the REDD implementation agenda.

2.1.3 Problem analysis

- Describe the key problem identified and its causes and effects.
- Show how these affect society and explain how the needs of the target group are a direct consequence of the key problem.
- Explain how addressing the causes will lead to the eradication of the key problem. The description should be clear, concise and convincing.

Discussion of the Key Problems, Causes and Effects

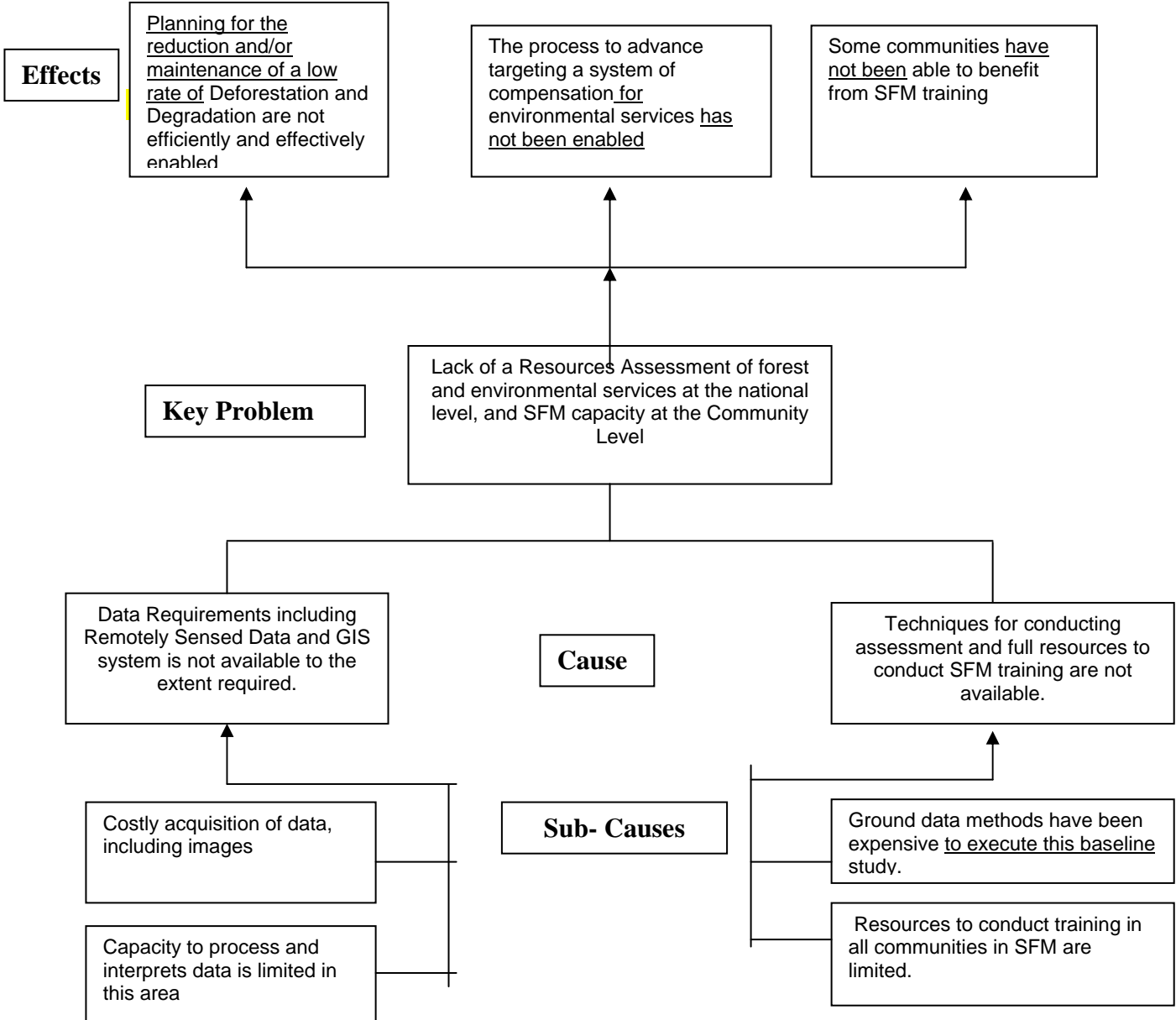
There is currently a lack of a resources assessment of forest and environmental services at the national level and SFM capacity at the community level. This problem is brought about by key data requirements, assessments and technical capacities not being in place to enable this to be done, including ground based assessments, GIS analyses, and human resources capability in communities to execute SFM practices. This in turn inhibits effective evaluation and planning for natural resources utilization in Guyana. This leads to a host of challenges including that of Guyana not being able to engage effectively in possible schemes of securing environmental services benefits. Additionally, the lack of capacity and resources, in some cases, especially at the community level, affects the ability of implement sustainable forest management and reduce deforestation and degradation.

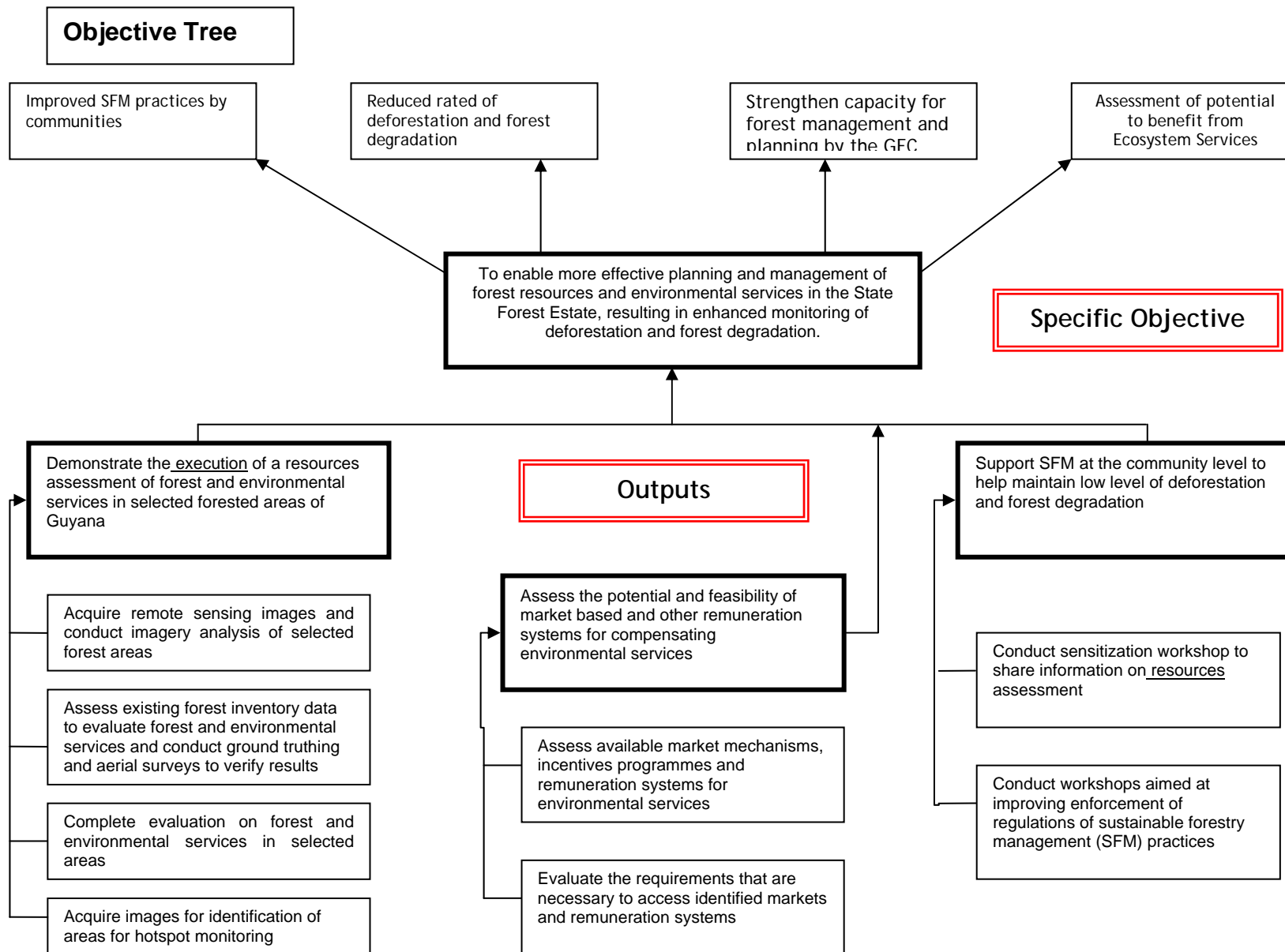
This project seeks to address two main areas: conducting, at a demonstration level, an assessment of forest resources and environmental services including the completion of a feasibility of targeting remuneration systems for environmental services; and secondly, by supporting sustainable forest management and resources utilization at the community level to maintain forest resources and prevent deforestation and degradation.

Addressing the Problem

The outcome of the project will be the strengthening of Guyana's capacity to manage forest resources and environmental services through resources assessment and monitoring changes in deforestation and degradation. This will allow for planning and management of these resources to be significantly enhanced as will management of deforestation and forest degradation. Also, capacity building exercise will see improved management of forest and environmental resources by target communities and stronger compliance with sustainable forest management practices. These immediate benefits of these will be enhanced ability at the national and community level to manage forest and environmental services in Guyana.

Problem Analysis





2.1.4. Logical framework matrix

- Insert the logical framework matrix, which should indicate that: when the inputs are provided and activities of the project implemented, the outputs will be produced; the completion of outputs will lead to the achievement of outcomes and the reaching of the development objective; and this will lead to the achievement of the development objective.
- The logical framework matrix must also show the indicators, the means of verification, and the assumptions that must be met to ensure the success of the project.

Logical Framework Matrix

Strategy of Intervention	Verifiable Indicators	Means of Verification	Key Assumptions
<p>Development objective: To strengthen the Guyana Forestry Commission's ability to maintain the current levels of deforestation and forest degradation, through sustainable forest management and develop Guyana's capacity to engage in ecosystem services.</p>	<p>Impact indicator:</p> <p>1. GFC's ability to maintain current low levels of deforestation and forest degradation in the State Forest Estate.</p> <p><u>2. Roadmap developed to access ecosystem services payments with clear timelines and deliverables.</u></p> <p><u>4. Pilot assessment completed with at least 6 communities, to enable access to environmental services benefits with an aim of reducing poverty in these communities.</u></p> <p><u>5. Action Plan developed for at least 6 communities as pilots, identifying approach to accessing benefits.</u></p>	<ul style="list-style-type: none"> ○ Deforestation rates maintained at current low level. <u>This will be verified by routine annual or bi-annual assessment of national forest area of Guyana with an aim at maintaining deforestation below 30,000 (0.3% of Forest Areas) hectares annually. GFC's capacity to enable this will be strengthened.</u> ○ Planned activities at national level to advance efforts to target payments for ecosystem services. <u>This will entail inclusion of roadmap activities into the workplan of the GFC in key areas of planning and forest resources management.</u> 	<p>There is full commitment on the part of the GoG & the GFC to maintain deforestation and degradation at a low rate.</p> <p><u>Forest conservation and sustainable forest management are recognised in the replacement to the Kyoto Protocol for carbon storage and offset.</u></p>
<p>Specific objective: To enable more effective planning and management of forest resources and environmental services in the State Forest Estate, resulting in enhanced monitoring of deforestation and forest degradation.</p>	<p>1. Forest planning and management improved at the national and community levels.</p> <p>2. Forest practices at the community level are in keeping with SFM and planning techniques.</p>	<ul style="list-style-type: none"> ○ Report on Demonstration Activity. ○ Assessment Reports on communities' compliance with SFM practices. 	<ul style="list-style-type: none"> ○ Communities respond positively to the awareness and outreach campaign ○ <u>The approach and activities are applicable</u>

			to other REDDES Scheme
<p>Output 1: Demonstrate the execution of a resources assessment of forest and environmental services in selected forested areas of Guyana</p>	<p>Output indicators:</p> <ul style="list-style-type: none"> ○ Number of Remote Sensing images acquired by the end of the project ○ <u>Completion of the following tasks for all images acquired: geo referencing, geo rectifying, masking, identification of areas subject to change, identify of driver of change, digitizing of area of change, merging of assessment at national level and generation of final national level data.</u> ○ Resources Assessment at demonstration level completed ○ <u>Ground truthing done in each identified driver of change: forestry, mining, infrastructure, forest fires, and other identified drivers.</u> ○ <u>6 communities involved in pilot exercise, totaling 139,939 hectares.</u> ○ <u>Continued commitment of the GFC Budget to Community Forestry Activities which links to work on reducing deforestation and forest degradation.</u> 	<ul style="list-style-type: none"> ○ Resources Assessment Report on Demonstration Activity. 	<ul style="list-style-type: none"> ○ Remote sensing data is available and meet the cloud cover requirement. ○ <u>Ground truthing is possible for identified areas based on access and terrain.</u>
<p>Output 2: Assess the potential and feasibility of market based and other remuneration systems for compensating environmental services</p>	<p>Output indicators:</p> <ul style="list-style-type: none"> ○ Evaluation conducted of potential of Guyana to target environmental services compensation scheme. 	<ul style="list-style-type: none"> ○ Feasibility Assessment Report 	<ul style="list-style-type: none"> ○ Relevant expert in this area can be contracted. ○ <u>Relevant and appropriate scheme is not available for Guyana, or limited possibility only exists.</u>
<p>Output 3: Support SFM at the community level to help maintain low level of deforestation and forest degradation</p>	<p>Output indicators:</p> <ul style="list-style-type: none"> ○ Training sessions held within all selected communities at the end of the project period. ○ Increased sustainable 	<ul style="list-style-type: none"> ○ Workshops & training reports 	<ul style="list-style-type: none"> ○ Full participation from selected project communities

	<p><u>income generation activities in communities.</u></p> <ul style="list-style-type: none">○ <u>Improved sustainable livelihood activities for communities.</u>		
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2.2 Objectives

2.2.1 Development objective and impact indicators

Development objective and impact indicators

Objective

To strengthen the Guyana Forestry Commission's ability to maintain the current levels of deforestation and forest degradation, through sustainable forest management and develop Guyana's capacity to engage in ecosystem services.

Impact Indicator

1. GFC's ability to maintain current low levels of deforestation and forest degradation in the State Forest Estate.

2.2.2 Specific objective and outcome indicators

Specific objective and outcome indicator

To enable more effective planning and management of forest resources and environmental services in the State Forest Estate, resulting in enhanced monitoring of deforestation and forest degradation.

Impact Indicator

1. Forest planning and management improved at the national and community levels using outputs such as feasibility assessment and resources assessment.

2. Forest practices at the community level are in keeping with SFM and planning techniques.

PART 3: DESCRIPTION OF PROJECT INTERVENTIONS

3.1 Outputs and activities

3.1.1 Outputs – Resources Assessment Completed for forest and environmental services

Output 1- Demonstrate the execution of a resources assessment of forest and environmental services in selected forested areas of Guyana

Output 2- Assess the potential and feasibility of market based and other remuneration systems for compensating environmental services

Output 3- Support SFM at the community level to help maintain low level of deforestation and forest degradation

In Guyana, there are various segments of stakeholders, most of which have a role and impact on forest resources utilization and therefore on the possible deforestation and forest degradation: national stakeholders as well as community stakeholders. Additionally, the forests in Guyana have been historically used for extractive timber purposes. This in some cases, has caused added pressure on this aspect of the resource base as compared to what would have obtained had other services and goods of the forest also being put to use by stakeholders to generate income and to support livelihoods.

The relationship therefore, between the three main outputs is linked to the main project output which has been identified as being the strengthening of capacity to manage forest resources and environmental services. This project addresses three main aspects of what is involved in achieving this objective: at the national level, enable the GFC to have adequate baseline information on resources; to address the issue of degradation and deforestation by not only addressing traditional timber resources but by placing particular emphasis on possibility of securing payment for environmental services (an area in which little work has started in Guyana and for which both the Guyana's Readiness Preparation Proposal and Low Carbon Development Strategy identify as important for maintaining low rates of deforestation); and importantly at the community level, operators and stakeholders will be better trained to apply sustainable forest management principles and guidelines.

In essence, these three aspects are integrally linked whereby the forest resources in Guyana are being assessed not only for traditional timber values but securing benefits therein, but also to broaden the scope of utilization which may create additional economic benefits whilst at the same time decrease the pressure on some aspects of forest resources; and additionally, it proposes to address the issue not only at the national level but also at the community level which is important in a project that seeks to address the issue of strengthening capacity in Guyana to manage forest resources and environmental services.

3.1.2 Activities

Output 1- Demonstrate the execution of a resources assessment of forest and environmental services in selected forested areas of Guyana

- 1.1 Acquire remote sensing images and conduct imagery analysis of selected forest areas
- 1.2 Assess existing forest inventory data to evaluate forest and environmental services and conduct ground truthing and aerial surveys to verify results of remote sensing and forest inventory data
- 1.3 Complete evaluation on forest and environmental services in selected areas
- 1.4 Acquire images for identification of areas for hotspot monitoring and assess compliance with legality and deforestation & degradation from analysis of images

The resources assessment is geared at conducting an assessment of resources and has been guided by the identified need in Guyana to execute such a programme to assist in reducing deforestation and forest degradation and has been informed by the Manual on ITTO Thematic Programmes on REDDES section 6, on Activities – Assessment and Diagnosis (pg. 15). In Guyana's case, it is planned for this to be done to inform the assessment of impact of various drivers of deforestation and degradation as well, such as forest, mining, agriculture, infrastructure, forest fires, and other identified causes.

Ecosystem services will be assessed based on results of assessment of resource and by using available data at natural resources agencies in Guyana. Relevant ecosystem services will be identified to be assessed and this will be executed in selected areas.

Output 2- Assess the potential and feasibility of market based and other remuneration systems for compensating environmental services

- 2.1 Assess available market mechanisms, incentives programmes and remuneration systems for environmental services
- 2.2 Evaluate the requirements that are necessary to access identified markets and remuneration systems

Output 3- Support SFM at the community level to help maintain low level of deforestation and forest degradation

- 3.1 Conduct sensitization workshop to share information on resources assessment.
- 3.2 Conduct workshops aimed at improving enforcement of regulations of sustainable forestry management (SFM) practices.

3.2 Implementation approaches and methods

This project seeks to utilize remote sensing images to demonstrate the execution of a resources assessment with the aim to strengthen capacity to improve sustainable forest management and planning thereby maintain deforestation and degradation at a low rates. It will incorporate wide stakeholder participation into the process through training sessions aimed at improvement in sustainable forestry management practices will directly benefit the primary stakeholders (GFC and community members). A Feasibility Assessment will be done to evaluate forest and environmental services as well as means through which Guyana can access these markets.

The demonstration activity of this project will be conducted using 11,000,000 hectares which represents 80% of the State Forest Estate. Medium resolution images (20m to 32m) will be used to conduct demonstration assessments at this level while high resolution images (2m to 10m) of the 1,000,000 to 1,500,000 hectares. Available satellite/radar data at 15m, from the Brazilian CBERS Satellite provider will also be considered. The area outlined in section 1.3.1, will be the area covered by medium resolution images, whilst the areas identified in black borders in this section, will be covered by high resolution images. All assessments and analysis will be done at the Guyana Forestry Commission's head office in Georgetown. However, several sessions of ground truthing and aerial surveys will also be conducted to verify results of remotely sensed data.

For this project a combination of remotely sensed data and ground surveys will be used to assist GFC in formulating appropriate management strategies to assess the impact of various land uses and drivers of deforestation and degradation, including mining, forestry and agricultural activities. Once the resource assessment of forest and environmental services, location and the extent of these areas are known, GFC and other agencies will be in a better position to manage the expansion of such activities and formulate policies to mitigate negative impacts whilst maintaining sustainable forest management.

Ground surveys will be done to identify each identified cause of deforestation and forest degradation. Vegetation type will also be used in the selection of areas for verification. **Each vegetation type in the area covered by the medium resolution assessment, will be verified through at least 5 hectares of ground truthing. This level of verification may be increased if findings from satellite images show varied results from ground based assessments. For areas that will be included in high resolution data coverage, 1 hectare per vegetation type will be subject to ground truthing. This will be supported by aerial surveys with an aim of verifying results. Ground based assessment may need to be repeated following refining of analysis of remote sensing images.**

Ground truthing will be carried out by field assessments, with teams of 5 persons including a GIS officer, tree spotter, forest ranger, and forest planning officer. The following list of activities will be carried out in this process:

- **Identify main data classes based on remote sensing assessment for vegetation types, species classes (to the extent of details possible), and driver of deforestation and forest degradation.**
- **Cross check classification based on field assessment with results generated from remotely sensed data.**
- **Revise and update remote sensing classification to reflect findings and field assessment.**
- **Document classification variations based on finding from remote sensing data as opposed to field assessments. Outline ways of addressing this in future assessments.**
- **Generate 1 Field Assessment report for each ground based assessments done, and 1 Final Report on Remote Sensing imagery analysis of data classification. There will be at least 10 field assessment reports.**

Each field team assessment activity will last between 7 to 14 days.

The illustration below displays one foreseen output of the forest resources valuation:

Given that assessing environmental services is a new area for Guyana, this study will look to similar work done in various tropical countries, in compiling the assessment. Information coming out of the resource valuation will also inform this assessment. It is hoped that at a later stage, this project will inform changes in GhG emissions when detailed studies are completed under the World Bank Forest Carbon Partnership Facility, Readiness Preparation Proposal in terms of biomass estimation by various forest strata in Guyana.

For output 3, forest based communities will be identified for training in key areas of SFM that are vital for maintaining a low rate and even reducing deforestation and forest degradation. Training will be executed as informed by identified needs of communities.

The main method that will be used to conduct training will be by direct interaction with community members and the GFC's technical staff. The main areas that will be addressed are as follows:

1. **The interrelation with SFM guidelines and maintaining a low rate of deforestation and forest degradation.**
2. **Main SFM guidelines and how these can be applied in forest planning and utilization**
3. **Main purpose and benefits of forest resources assessment in planning for forest resources utilization**
4. **Presentation of results of forest resources assessment**
5. **Discussion on results and outline on how these can be put to use in practical circumstances**
6. **Identification of main areas of environmental services that communities can benefit from.**
7. **Discussion of way in which this effort can be advanced.**

3.3 Work plan

Table : Work plan

Outputs/activities	Responsible Party	Months											
		1	2	3	4	5	6	7	8	9	10	11	12
Output 1 – Demonstrate the execution of a resources assessment of forest and environmental services in selected forested areas of Guyana													
1.1 Acquire remote sensing images and conduct imagery analysis of selected forest areas	GFC, Consultant (Intel. RS/GIS)	█	█	█	█	█	█						
1.2 Assess existing forest inventory data to evaluate forest and environmental services and conduct ground truthing and aerial surveys to verify results of remote sensing and forest inventory data	GFC, Consultant (Intel. RS/GIS)				█	█	█	█	█	█	█	█	
1.3 Complete evaluation on forest and environmental services in selected areas	GFC, Consultant (Intel. RS/GIS)									█	█	█	█
1.4 Acquire images for identification of areas for hotspot monitoring and assess compliance with legality and deforestation & degradation from analysis of images	GFC, Consultant (Intel. RS/GIS)							█	█	█	█		
Output 2 - Assess the potential and feasibility of market based and other remuneration systems for compensating environmental services													
<u>2.1</u> Assess available market mechanisms, incentives programmes and remuneration systems for environmental services	Consultant (Env. Serv. Specialist), GFC							█	█	█	█		
<u>2.2</u> Evaluate the requirements that are necessary to access identified markets and remuneration systems	Consultant (Env. Serv. Specialist), GFC									█	█	█	
Output 3 - Support SFM at the community level to help maintain low level of deforestation and forest degradation													
<u>3.1</u> Conduct sensitization workshop to share information on <u>resources</u> assessment.	GFC										█	█	█
<u>3.2</u> Conduct workshops aimed at improving enforcement of regulations of sustainable forestry management (SFM) practices.	GFC							█	█			█	█

Note to the Work Plan

Given that the ground truthing will be done by staff of the Guyana Forestry Commission, this process can be executed in keeping with time outline above.

3.4 Budget

3.4.1 Overall budget by activity (breakdown)

<u>Output/ Activities</u>	<u>Description</u>	<u>Budget Component</u>	<u>Quantity</u>	<u>Units</u>	<u>Unit Cost US\$</u>	<u>Total Cost US\$</u>	<u>ITTO (US\$)</u>	<u>Executing Agency (US\$)</u>
Output 1	<u>Demonstrate the execution of a resources assessment of forest and environmental services in selected forested areas of Guyana</u>							
A 1.1	<u>Acquire remote sensing images and conduct imagery analysis of selected forest areas</u>							
	<u>Coordinate Project Activities (1 Coordinator)</u>	<u>11</u>	<u>2</u>	<u>Months</u>	<u>1,000</u>	<u>2,000</u>	<u>-</u>	<u>2,000</u>
	<u>Remote Sensing Images at Medium Resolution</u>	<u>51</u>	<u>11,000,000</u>	<u>hectares</u>		<u>60,000</u>	<u>60,000</u>	
A 1.2	<u>Assess existing forest inventory data to evaluate forest and environmental services and conduct ground truthing and aerial surveys to verify results of remote sensing and forest inventory data</u>							
	<u>Coordinate Project Activities (1 Coordinator)</u>	<u>11</u>	<u>2</u>	<u>Months</u>	<u>1,000</u>	<u>2,000</u>	<u>-</u>	<u>2,000</u>
	<u>National Consultant</u>	<u>12</u>	<u>5</u>	<u>Months</u>	<u>3,000</u>	<u>15,000</u>		<u>15,000</u>
	<u>GIS/Remote Sensing Consultancy</u>	<u>16</u>	<u>120</u>	<u>Man Days</u>	<u>500</u>	<u>60,000</u>	<u>60,000</u>	
	<u>Daily Subsistence Allowance</u>	<u>31</u>	<u>120</u>	<u>Man Days</u>	<u>41.67</u>	<u>5,000</u>	<u>5,000</u>	
	<u>International Travel</u>	<u>32</u>	<u>1</u>	<u>Flight</u>	<u>5,000</u>	<u>5,000</u>	<u>5,000</u>	
	<u>Software</u>	<u>41</u>	<u>1</u>	<u>Software package</u>	<u>10,000</u>	<u>10,000</u>	<u>10,000</u>	
	<u>Computers and Equipment</u>	<u>44</u>	<u>3</u>	<u>Units</u>	<u>5,000</u>	<u>15,000</u>	<u>15,000</u>	
	<u>Local Travel - Ground Thuthing and Aerial Survey (5 hectares for each vegetation type for an assumed 10</u>	<u>33</u>	<u>50/10</u>	<u>Hectares/Field Trips</u>	<u>300</u>	<u>15,000</u>	<u>15,000</u>	

	<u>vegetation types requiring 10 field trips)</u>							
A 1.3	<u>Complete evaluation on forest and environmental services in selected areas</u>							
	Coordinate Project Activities (1 Coordinator)	11	1	Months	1,000	1,000	-	1,000
	National Consultant	12	1	Months	3,000	3,000	-	3,000
	Environmental Services Specialist	16	20	Man days	500	10,000	10,000	
	Daily Subsistence Allowance	31	20	Man Days	41.67	833	833	
	International Travel	32	1	Flight	5,000	5,000	5,000	
A 1.4	<u>Acquire images for identification of areas for hotspot monitoring and assess compliance with legality and deforestation & degradation from analysis of images</u>							
	Coordinate Project Activities (1 Coordinator)	11	2	Months	1,000	2,000	-	2,000
	National Consultant	12	2	Months	3,000	6,000		6,000
	GIS/Remote Sensing Consultancy	16	60	Man Days	500	30,000	30,000	
	Daily Subsistence Allowance	31	60	Man Days	41.67	2,500	2,500	
	International Travel	32	1	Flight	5,000	5,000	5,000	
	Remote Sensing Images at High Resolution	51	<u>1,000,000 to 1,500,000</u>	hectares		70,000	70,000	
	Local Travel - Ground Thuthing and Aerial Survey (5 hectares for each vegetation type for an assumed 10 vegetation types requiring 10 Field trips)	33	50/10	Hectares/Field trips	300	15,000		15,000
Output 2	<u>Assess the Potential and Feasibility of Market based and other remuneration systems for compensating environmental services</u>							
A 2.1	<u>Assess available market mechanisms, incentives programmes and remuneration systems for environmental services</u>							
	Coordinate Project Activities (1 Coordinator)	11	2	Months			-	

					<u>1,000</u>	<u>2,000</u>		<u>2,000</u>
	<u>National Consultant</u>	<u>12</u>	<u>1</u>	<u>Months</u>	<u>3,000</u>	<u>3,000</u>		<u>3,000</u>
	<u>Environmental Services Specialist</u>	<u>16</u>	<u>20</u>	<u>Man days</u>	<u>500</u>	<u>10,000</u>	<u>10,000</u>	
	<u>Daily Subsistence Allowance</u>	<u>31</u>	<u>20</u>	<u>Man Days</u>	<u>41.68</u>	<u>834</u>	<u>834</u>	
	<u>International Travel</u>	<u>32</u>	<u>1</u>	<u>Flight</u>	<u>5,000</u>	<u>5,000</u>	<u>5,000</u>	
A 2.2	<u>Evaluate the requirements that are necessary to access identified markets and remuneration systems</u>							
	<u>Coordinate Project Activities (1 Coordinator)</u>	<u>11</u>	<u>1</u>	<u>Months</u>	<u>1,000</u>	<u>1,000</u>	<u>-</u>	<u>1,000</u>
	<u>National Consultant</u>	<u>12</u>	<u>1</u>	<u>Months</u>	<u>3,000</u>	<u>3,000</u>		<u>3,000</u>
	<u>Environmental Services Specialist</u>	<u>16</u>	<u>20</u>	<u>Man days</u>	<u>500</u>	<u>10,000</u>	<u>10,000</u>	
	<u>Daily Subsistence Allowance</u>	<u>31</u>	<u>20</u>	<u>Man Days</u>	<u>41.67</u>	<u>832</u>	<u>833</u>	
Output 3	<u>Support SFM at the community level to help maintain low level of deforestation and forest degradation</u>							
A3.1	<u>Conduct sensitization workshop to share information on resources assessment.</u>							
	<u>Coordinate Project Activities (1 Coordinator)</u>	<u>11</u>	<u>1</u>	<u>Months</u>	<u>1,000</u>	<u>1,000</u>	<u>-</u>	<u>1,000</u>
	<u>National Consultant</u>	<u>12</u>	<u>1</u>	<u>Months</u>	<u>3,000</u>	<u>3,000</u>		<u>3,000</u>
	<u>Office Supplies</u>	<u>55</u>	<u>250</u>	<u>Participants</u>	<u>20</u>	<u>5,000</u>	<u>5,000</u>	
	<u>Consumables</u>	<u>56</u>	<u>250</u>	<u>Participants</u>	<u>42</u>	<u>10,500</u>	<u>10,500</u>	
A3.2	<u>Conduct workshops aimed at improving enforcement of regulations of sustainable forestry management (SFM) practices.</u>							
	<u>Coordinate Project Activities (1 Coordinator)</u>	<u>11</u>	<u>1</u>	<u>Months</u>	<u>1,000</u>	<u>1,000</u>	<u>-</u>	<u>1,000</u>
	<u>National Consultant</u>	<u>12</u>	<u>1</u>	<u>Months</u>				

					<u>3,000</u>	<u>3,000</u>		<u>3,000</u>
	<u>Office Supplies</u>	<u>55</u>	<u>250</u>	<u>Participants</u>	<u>20</u>	<u>5,000</u>	<u>5,000</u>	
	<u>Consumables</u>	<u>56</u>	<u>250</u>	<u>Participants</u>	<u>42</u>	<u>10,500</u>	<u>10,500</u>	
<u>Total</u>						<u>414,000</u>	<u>414,000</u>	<u>63,000</u>

Note: Local staff trained under ITTO PD 440/07 will function in the role of National Consultant, the cost for which will be covered under the Guyana counterpart contribution. The areas of forest resources assessment using GIS/RS and also the area of environmental services is new to Guyana and as such it was determined that an international consultant will be required.

3.4.2 Consolidated budget by component

Category	Description	Total	Year 1
10	Project Personnel	(US\$)	(US\$)
11	Project coordinator (US\$1,000 per month X 12 months)	12,000	12,000
12	National Consultant		
	GFC Staff (US\$3,000 per month X 12 months)	36,000	36,000
16	International Consultants		
	Remote Sensing and GIS Specialist	90,000	90,000
	Environmental Services Specialist	30,000	30,000
19	Subtotal	168,000	168,000
30	Duty travel		
31	Daily Subsistence Allowance	10,000	10,000
32	International Travel	20,000	20,000
33	Local Travel	30,000	30,000
39	Subtotal	60,000	60,000
40	Capital items		
41	Software	10,000	10,000
44	Computer and Equipment	15,000	15,000
49	Subtotal	25,000	25,000
50	Consumable items		
51	Raw Materials (medium and high resolution images)	130,000	130,000
55	Office Supplies	10,000	10,000
56	Other Consumables	21,000	21,000
49	Subtotal	161,000	161,000
60	Miscellaneous		
61	Contingencies	10,000	10,000
69	Subtotal	10,000	10,000
	Subtotal 1	424,000	424,000
70	National Management Cost	64,200	64,200
	Subtotal 2	488,200	488,200
80			
81	ITTO monitoring & review	10,000	
82	ITTO mid-term evaluation	0	
84	ITTO ex-post evaluation	10,000	
	Subtotal (11–82)	508,200	
85	ITTO programme support (8% of 1–82)	29,680	
	Project Audit	3,000	
89	Subtotal	540,880	
100	GRAND TOTAL	540,880	

Note to Budget

It is proposed for the experts to be involved to be highly trained GIS and RS experts. These specialists are not available locally in Guyana and are vital to the success of the project.

Given that a large spatial coverage (11,000,000 hectares) will be done at medium resolution along with some areas covered with high resolution images, the cost is reflected as shown above. CBERS will also be used as indicated in the outline. Further, LANDSAT has been explored in the past, and cloud cover sometimes poses a challenge, especially for Guyana. With freely available images, a client is often forced to accept what is available. Other options such as DMC are being considered which would involve tasking a satellite. This may enable Guyana to secure higher quality images. The accuracy of images that are free of cloud is significantly higher than images affected by cloud cover.

Explanation of Office Supplies Budget

This cost will be mainly used to conduct training sessions and information dissemination regionally and will be used to procure stationery and office supplies items, photocopying, binding and printing, and for the production of materials for training sessions, including training manuals.

3.4.3 ITTO budget by component

Category	Description	Total (US\$)	Year 1 (US\$)
10	Project Personnel		
11	Project coordinator (US\$1,000 per month X 12 months)	-	-
12	<i>National Consultant</i>		
	GFC Staff (US\$3,000 per month X 12 months)	-	-
16	<i>International Consultants</i>		
	Remote Sensing and GIS Specialist	90,000	90,000
	Environmental Services Specialist	30,000	30,000
19	Subtotal	120,000	120,000
30	Duty travel		
31	Daily Subsistence Allowance	10,000	10,000
32	International Travel	20,000	20,000
33	Local Travel	15,000	15,000
39	Subtotal	45,000	45,000
40	Capital items		
41	Software	10,000	10,000
44	Computer and Equipment	15,000	15,000
49	Subtotal	25,000	25,000
50	Consumable items		
51	Raw Materials (medium and high resolution images)	130,000	130,000
55	Office Supplies	10,000	10,000
56	Other Consumables	21,000	21,000
49	Subtotal	161,000	161,000
60	Miscellaneous		
61	Contingencies	-	-
69	Subtotal		
	Subtotal 1	351,000	351,000
70	National Management Cost		
	Subtotal 2	351,000	351,000
80			
81	ITTO monitoring & review	10,000	
82	ITTO mid-term evaluation	0	
84	ITTO ex-post evaluation	10,000	
	Subtotal (11–82)	371,000	
85	ITTO programme support (8% of 1–82)	29,680	
89	Subtotal	400,680	
100	GRAND TOTAL	400,680	

Note: Staff salaries: GFC Staff and Project Coordinator are not part of the ITTO Contribution but part of counterpart GFC contribution

3.4.4 Executing agency budget by component

Category	Description	Total (US\$)	Year 1 (US\$)
10	Project Personnel		
11	Project coordinator (US\$1,000 per month X 12 months)	12,000	12,000
12	<i>National Consultant</i>		
	GFC Staff (US\$3,000 per month X 12 months)	36,000	36,000
16	<i>International Consultants</i>		
	Remote Sensing and GIS Specialist	-	-
	Environmental Services Specialist	-	-
19	Subtotal	48,000	48,000
30	Duty travel		
31	Daily Subsistence Allowance	-	-
32	International Travel	-	-
33	Local Travel	15,000	15,000
39	Subtotal	15,000	15,000
40	Capital items		
41	Software	-	-
44	Computer and Equipment	-	-
49	Subtotal		
50	Consumable items		
51	Raw Materials (medium and high resolution images)	-	-
55	Office Supplies	-	-
56	Other Consumables	-	-
49	Subtotal		
60	Miscellaneous		
61	Contingencies	10,000	10,000
69	Subtotal	10,000	10,000
	Subtotal 1		
70	National Management Cost	64,200	64,200
	Subtotal 2	137,200	137,200
80			
81	ITTO monitoring & review	-	-
82	ITTO mid-term evaluation	-	-
84	ITTO ex-post evaluation	-	-
	Subtotal (11–82)		
85	ITTO programme support (8% of 1–82)	-	-
	Audit	3,000	
89	Subtotal	140,200	
100	GRAND TOTAL	140,200	

Note: Staff salaries: GFC Staff and Project Coordinator are not part of the ITTO Contribution but part of counterpart GFC contribution

These staff will be employed to perform the duties of overall project coordination and reporting, ground truthing, field work, liaising with the international consultant, and conducting training and consultation sessions with communities.

Budget Breakdown

1. International Travel

Total ITTO Budget:	US\$20,000
Total GFC Budget:	0
Total:	US\$20,000

Activities A1.2, A1.3, A1.4 and A2.1 are the ones that require international travel. 4 International flights at US\$5,000 for each flight. Two flights for the GIS/RS Specialists and 2 flights for the Environmental Services Experts.

2. Local Travel

Total ITTO Budget:	US\$15,000
Total GFC Budget:	US\$15,000
Total:	US\$30,000

Activities A1.2 and A.14 will include an aspect on ground truthing assessments. This will take up the local travel budget and will entail approximately 50 hectares being subject to ground truthing and will be done in 10 field trips with 5 hectares assessed in each field trip at a cost of US\$300 for each hectare for each activity. As such: US\$300 X 2 activities X 50 hectares = US\$30,000.

3. Other Consumables

Total ITTO Budget:	US\$21,000
Total GFC Budget:	0
Total:	US\$21,000

Activities A3.1 and A3.2 account for the entire consumables budget of US\$21,000. This will include training costs as broken down below for 250 community participants across 6 communities at an average cost per participant of US\$84.

Training Materials: US\$5,000

Venue Rental: US\$6,000

Meals and refreshments for participants: US\$10,000 (US\$20 per participant X 250 participants X 2 days)

3.5 Assumptions, risks and sustainability

3.5.1 Assumptions and risks

Assumption	Risk	Mitigation Measure
There is full commitment on the part of the GoG & the GFC to mitigate against the impacts of climate change	The priorities of the government and the regulatory agencies may change	The regulatory agency in Guyana (GFC) is in full support of the project as the proposed activities are consistent with policies, plans and programmes that promote the mitigation activities against climate change. Further, there is no indication that there will be a change in priorities in the immediate future.
<u>Forest conservation and sustainable forest management are recognised in the replacement to the Kyoto Protocol for carbon storage and offset.</u>	<u>Forests are not recognized as a storage and offset mechanism in the replacement Protocol.</u>	<u>Guyana has been representing and will continue to represent for the recognition of standing timber to be part of the new offset/carbon storage mechanism.</u>
<u>The approach and activities are applicable to other REDDES Scheme</u>	<u>If the approach taken is not applicable to other REDDES scheme this may lead to inconsistencies.</u>	<u>Other existing REDDES schemes should be reflected in executing the project and the approaches used so as to prevent possible inconsistencies.</u>
<u>Ground truthing is possible for identified areas based on assess and terrain.</u>	<u>Verification many not be possible if terrain and access prevents ground truthing from occurring.</u>	<u>Background checks will be done using GFC's roads and rivers map to identify areas suitable for ground truthing.</u> <u>Communities will be involved in selecting areas for ground truthing as they are most familiar with hinterland areas.</u>
<u>Relevant and appropriate scheme is not available for Guyana, or limited possibility only exists.</u>	<u>Guyana is not able to benefits from environmental services given available options.</u>	<u>Guyana will consider all possibilities and even consider a model approach which many not have been tried before.</u>
Communities respond positively to the awareness and outreach campaign	Low level of interest and participation by local communities	The benefits of the project will be adequately and appropriately presented to the communities in order to stimulate their interest and participation.
Selected communities are interested in collaborating with the GFC	Inadequate collaboration between communities & the GFC	There already exists a good working relationship between the GFC and the selected communities. Projects such as this serve only to strengthen the ties between the two.
Full participation from selected project areas	Low level of interest and participation by local communities	The benefits of the project will be adequately and appropriately presented to the communities in order to stimulate their interest and participation.

3.5.2 Sustainability

Sustainability of the Project will be ensured by the following:

- Full support of the project by the GFC & the GoG, as the proposed activities are consistent with policies, plans and programmes that promote the mitigation activities against climate change.
- Strengthening of capacity of Guyana Forestry Commission to improve the monitoring and enforcement of regulations and its GIS capabilities;
- Build capacity of the Guyana Forestry Commission in REDD and environmental services
- Ensuring that sufficient awareness and capacity is built into communities through adequate outreach/training activities;

PART 4: IMPLEMENTATION ARRANGEMENTS

4.1 Organizational structure and stakeholder involvement mechanisms

- Describe the organizational set-up of the project.
- Specify the executing agency and collaborating agencies (if any), the composition of the project management team, the mechanisms for stakeholder participation, and the roles and responsibilities of the different entities involved (eg project management team, project steering committee, consultative committee and user groups).
- Include, in the text or as an annex, an organizational chart.

The Project will be fully executed by the Guyana Forestry Commission.

The Guyana Forestry Commission's mission is "To provide excellence in forestry management services to our stakeholders through the application of professional skills to contribute to our nation's development." It is the Government Agency that is responsible for the management of Guyana's forest resources in accordance with the National Forest Policy, which was approved by Cabinet in 1997.

The GFC is mandated by law to:

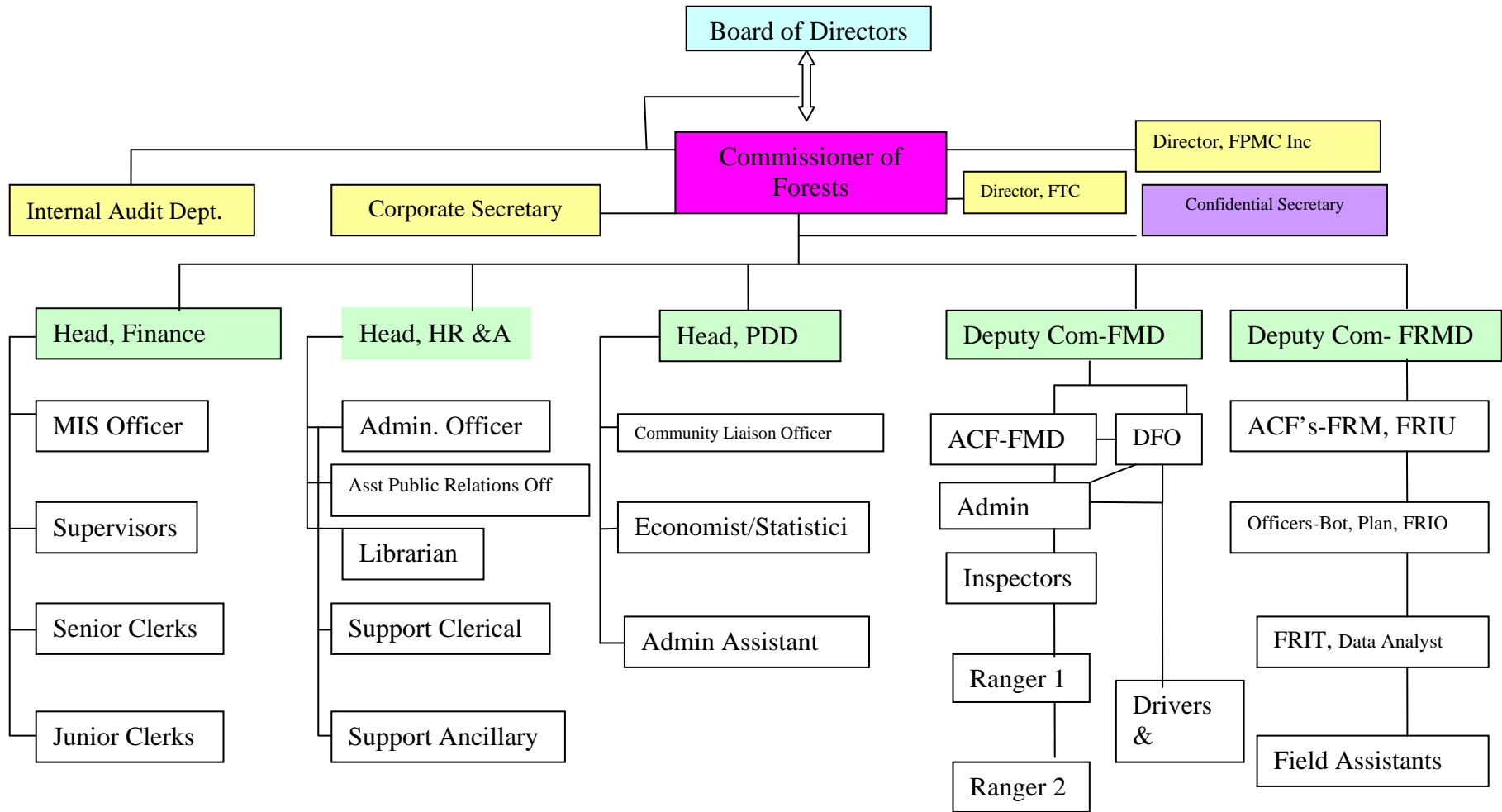
- Advise the Government on, and implement the National Forest Policy;
- Be responsible for the management and control of the utilization of the forests to ensure an optimum yield of forest produce and the maintenance or improvement of the environment.

The GFC is governed by a Board of Directors appointed by the President. The Commissioner of Forests is the Chief Executive Officer and an ex-officio member of this Board.

The GFC is structured with the following Divisions to address its policy mandate:

1. Planning and Development: responsible for the co-ordination and preparation of forest sector plans and reports and GFC reports and publications, for conducting special studies, for providing a drafting project proposals to donor agencies and for implementing projects.
2. Forest Resources Management Division: responsible for, inter alia, data collection on national forest resource, conducting surveys and inventories, researching and making recommendations on forest dynamics and silviculture, planning and recommending the allocation of concession areas.
3. Forest Monitoring Division: responsible for the enforcement of Forest Laws and regulations, monitoring and control of environmental and social impacts of operations within the forest estate and collection of revenue.
4. Human Resources Division: responsible for staff management and development, production and implementation of Human resources policies and procedures, education, training, including in-service training and liaison with relevant teaching and training institutions.
5. Finance Division: responsible for financial and board matters.

The GFC is also equipped with a library, which provides library services to staff at the GFC and to the public.



4.1.1. Executing agency and partners

- Nominate an agency or organization as the project's executing agency. Describe its capabilities by referring to its previous record. Explain why it is an appropriate choice and describe its relationship with the target group, its constituency, and the kinds of expertise it can provide. If other partners are to be involved as collaborating agencies, describe their capacity. Set out the key obligations of the executing agency for the successful implementation of the project (eg 'nominating the coordinator and other team members', 'providing office facilities'). List the key project personnel, showing their roles in the implementation of the project. Curricula vitae and other additional information should be provided in annexes.

The main projects and studies that were completed/initiated within the last three years include the following:

- Revision of the National Forest Legislation
- Preparation of a Draft National Forest Plan
- Classification of State Forest by predominant use (in consultation with other land use agencies)
- Preparation of Forest Area management plans
- Initiation of a National Forest Inventory
- Development of procedures for allocation of forest concessions
- Introduction of log tagging systems and improved forest monitoring to combat illegal forest operations
- The development of national standards for forest certification
- FOR EXPO 2000 – A national exhibition to showcase products that originate from Guyana's Forests.
- Promotion of and participation in the University of Guyana's and the Guyana School of Agriculture's training programs (MSc; BSc; Diploma; Certificate).
- The use of GIS as a tool to inform Forest Management planning and processes.
- Preparation of several manuals/documents which include
 - Guidelines for the preparation of forest management plans
 - Code of practice for forest operations (operational standards)
 - Forestry in Guyana (fact sheet)
 - Manual of procedures for forest concession allocation
 - Quarterly market reports
 - Timber grading rules for Guyana

Funding to undertake the activities mentioned above was provided principally by the Government of Guyana and the UK Department of International Development. Some activities were partially funded by the Canadian International Development Agency, UNDP Global Program on Forests, and World Wide Fund for Nature.

Previous projects submitted to ITTO by Guyana are:

FUNDED: A Sustainable Management Model in the Iwokrama Rain Forest {ITTO 10/97 Rev.1 (F)}

NOT FUNDED: Forest Industry Training Project (1997)

NOT FUNDED: Design and Implementation of an Information System within the GFC (1997)

FUNDED: Training in Reduced Impact Logging in Guyana. (PD068/01 Rev. 2 [I]),

FUNDED: Development and delivery of a vocational training programme in reduced impact logging and sustainable forest management practices in Guyana: Funded by ITTO (PDD 333/05 (1))

NOT FUNDED To strengthen the capacity to effectively market the exports of forest product from Guyana.

FUNDED: Implementation of the sustainable forest management programme of the Iwokrama International Centre. (PD 297/04 Rev.1 (F)).

FUNDED: Utilization of Lesser Used Wood Species in Guyana. (PD 344/05 Rev.2 (I))

FUNDED: Improving the Detection and Prevention of Illegal Logging and Illegality in Shipment and Trade of Wood Products in Guyana. (PD 440/07 Rev.1 (M))

FUNDED: Value Adding and Kiln Drying of Commercial Timbers by Small Scale Community saw millers in Guyana. (PD 401/06 Rev.2 (I)

FUNDED: Enhancing the capacity of the wood processing sector to improve efficiency and add value in Guyana. (PD 513/08 (I))

Project Funded through ITTO Administrative Programmes:

1. Conducting of a Workshop on National Workshop on ITTO Guidelines for the Restoration, Management and Rehabilitation of Degraded and Secondary Tropical Forests. (2006)
2. Project on Legality with a focus of an Audit of Guyana's National Log Tracking System. (2006)
3. Development of a Strategy for Guyana to Prevent, Manage and Monitor Forest Fires. (2008)
4. Workshop on ITTO Criteria and Indicators for the Sustainable Management of Tropical Forests (2008).

4.1.2 Project management team

The Project Management Team will be as follows:

8. Pradeepa Bholanath – Project Coordinator
9. **Jagdish Singh – Forest Resources Management and GIS Specialist**
10. **Gavin Agard – Forest Monitoring Specialist**
11. Nasheta Dewnath – Representative of REDD Secretariat

4.1.3 Project steering committee

1. James Singh – **Chairperson**
2. **Ministry of Agriculture Representative**
3. **Representative of Community Forestry Association**
4. Edward Goberdhan – **Financial Oversight Personnel**
5. ITTO

4.1.4 Stakeholder involvement mechanisms

Establish a consultative committee comprising, for example, representatives of local and regional authorities and organizations, local communities, research and educational institutions, citizens' groups and NGOs, as well as independent experts, members of parliament and other stakeholders

Consultation Committee

This Committee will meet at least quarterly and more often when training sessions are being planned and executed and will have the following members:

1. James Singh – Project Leader
2. Pradeepa Bholanath – Project Coordinator
3. Nasheta Dewnath – Representative of REDD Secretariat
4. Community Representatives
5. Forest Products Association

Consultations with Stakeholders

Community forestry associations will be integrally involved in the project. The GFC will work along with these community associations to not only train them in SFM practices but also to be trained to be actively involved in schemes that will be established for payments for environmental services.

The associations would be consulted with on a regular basis by the GFC in association with the REDD Secretariat.

Over the period 2009, the GFC as part of its community forestry programme and initial consultation and awareness sessions under the World Bank's Forest Carbon Partnership Facility, the GFC conducted the following main sessions across a number of forest based communities in Guyana. These are summarized as follows:

Summary of Consultations

<u>Date</u>	<u>Venue</u>	<u>Name Of Community/Communities</u>	<u>Number of Attendees</u>
<u>8/1/2009</u>	<u>Great Falls Community</u>	<u>Great Falls</u>	<u>51</u>
<u>8/1/2009</u>	<u>47 Miles Community</u>	<u>47 Miles</u>	<u>20</u>
<u>10/1/2009</u>	<u>Kwakwani</u>	<u>Kwakwani</u>	<u>39</u>
<u>10/1/2009</u>	<u>Ituni</u>	<u>Ituni</u>	<u>44</u>
<u>10/1/2009</u>	<u>Linden</u>	<u>Linden</u>	<u>36</u>
<u>13/1/2009</u>	<u>GFC Lower Board Room, Georgetown</u>	<u>Georgetown; Linden; Parika</u>	<u>90</u>
<u>15/1/2009</u>	<u>Albion Sports Complex</u>	<u>Communities surrounding New Amsterdam</u>	<u>28</u>
<u>15/1/2009</u>	<u>Guysuco Training Centre, Skeldon</u>	<u>Communities surrounding Skeldon</u>	<u>16</u>
<u>16/1/2009</u>	<u>Orealla</u>	<u>Orealla; Siparuta</u>	<u>185</u>

<u>17/1/2009</u>	<u>Mabaruma</u>	<u>Mabaruma</u>	<u>11</u>
<u>17/1/2009</u>	<u>Port Kaituma</u>	<u>Port Kaituma</u>	
<u>18/1/2009</u>	<u>Kwebana</u>	<u>Kwebana</u>	<u>120</u>
<u>20/1/2009</u>	<u>Anna Regina</u>	<u>Communities surrounding Anna Regina</u>	<u>35</u>
<u>23/1/2009</u>	<u>Annai</u>	<u>Communities of North Rupununi</u>	<u>81</u>
<u>23/1/2009</u>	<u>Lethem</u>	<u>Communities surrounding Lethem</u>	<u>26</u>
<u>24/1/2009</u>	<u>Nappi</u>	<u>Nappi</u>	<u>39</u>
<u>24/1/2009</u>	<u>Moca Moca</u>	<u>Moca Moca</u>	<u>22</u>
<u>24/1/2009</u>	<u>Lethem, RDC</u>	<u>Communities surrounding Lethem</u>	
<u>28/1/2009</u>	<u>Santa Mission</u>	<u>Santa Mission</u>	<u>44</u>
<u>30/1/2009</u>	<u>Bartica</u>	<u>Communities surrounding Bartica</u>	<u>37</u>
<u>30/1/2009</u>	<u>Muritaro</u>	<u>Muritaro</u>	<u>68</u>
<u>3/2/2009</u>	<u>GFC Lower Board Room, Georgetown</u>	<u>Batavia; Caria Caria; Kwebana; Orealla; Siparuta; Three Friends Maria Elizabeth</u>	<u>51</u>

The main areas discussed were as follows:

- A brief background into forestry in Guyana, pointing out that forest in Amerindian reservations is private forests. These communities have free reign over these resources but needs to be mindful of how this resource is used in order to guarantee a future livelihood for themselves and future generations.
- Benefits of forests, economic, social and ecological
- GFC's SFM practices
- The impacts of deforestation & degradation on the environment
- That fact that whilst logging communities may have the potential to supply forest products markets in excess of what is allowable, under SFM this is not recommended. AEO should be identified to take the place of these "lost" financial opportunities. These AEO would be decided upon by the community members.
- Emphases on the need for communities members consulted with to consider alternative economic opportunities which they would consider feasible for them to implement once REDD activities were implemented.
- Encouragement to communities that their support was integral to the success of this initiative and that the communities and GFC must work in partnership for the implementation and maintenance of this project.
- Regardless of any REDD scheme, the implementation of SFM will ultimately benefit the entire community

General Comments made by Stakeholders relevant to this Project

These are summarized as follows:

1. **Community members from several of the communities all indicated that they would require training in SFM in order to implement and practice such.**
2. **Communities showed genuine interest in the concept of the alternative economic opportunities which the GFC was advocating.**
3. **Community members from various locations were enquiring as to how these alternative economic opportunities would be funded as well as facilitated.**

4.2 Reporting, review, monitoring and evaluation

- Provide a schedule for reporting on project progress and finances according to the ITTO Manual on Project Standard Operating Procedures.
- Indicate how, where and when the project team will conduct activities to monitor the progress of the project.
- Describe the role of stakeholders in the monitoring and evaluation process and how monitoring reports will be distributed.

Bi-annual (mid-year and end-of-year) progress reports will be prepared and submitted to ITTO at mutually agreed dates. These financial and operational progress reports will be submitted to GFC for analysis and approval; if approved, GFC will forward them to ITTO.

In addition, assessment reports, workshop reports, and other similar documents will be printed and made available to ITTO and other interested parties as appropriate. This will facilitate the national monitoring process and increase interactions with stakeholders and assist in developing and maintaining support for the project.

The project completion report will be completed and submitted to ITTO and GFC within 3 months of project completion.

The project will be subject to monitoring by ITTO representatives. The project will also be subject to GFC monitoring on behalf of the Government of Guyana. ITTO will monitor project outputs (reports etc) during the project which, once satisfactory, should remove the need for mid-term review.

Stakeholders will be able to make input at the level of the Steering Committee and Consultation Committee. All results and outputs of the project will be made available to Stakeholders through implementation (in the case of stakeholders which are beneficiaries, such as communities in the training exercises), and at the end of the project as appropriate.

4.3 Dissemination and mainstreaming of project learning

4.3.1 Dissemination of project results

- Describe the communication strategy and methods of the project team and how the project results and learning will be made useful to users through conferences, articles, use of the internet, books, guided visits, etc.

The Results and outputs of this project will be disseminated to communities through the GFC's Community Forestry Unit, to Forest Producers through the Forest Products Association, to other natural resources agencies through the GFC and the REDD Secretariat, and to other tropical timber producers through the ITTO.

The results will form an integral part of the GFC's GIS system and as such will be available for use by other natural resources agencies that are involved in similar work in planning and managing other natural resources. Further, the work in climate change that is being executed in Guyana will draw on the findings and results of this project. This includes the work that will be done under the World Bank's Forest Carbon Partnership Facility.

4.3.2 Mainstreaming project learning

- Show convincingly how the project has wider value and describe how its results will be mainstreamed into national policies and plans.

The outcome of the project will be the demonstration of a national assessment of forest resources and environmental services that will allow for planning and management of these resources to be significantly enhanced. Also, capacity building exercise will see improved management of forest and environmental resources by target communities and stronger compliance with sustainable forest management practices. These immediate benefits of these will be enhanced ability at the national and community level to manage forest and environmental services in Guyana.

These results will be instrumental to the work that is being done to enhance sustainable forest management in Guyana both at the national and community levels and at the same time contribute to the maintenance of a low rate of deforestation and degradations, and in some specific areas, even a lowering of deforestation.

Additionally, the work that is planned for under the Forest Carbon Partnership Facility will draw on the results of this project in terms of establishing a system for assessing forest resources assessment. The aspects of reporting and monitoring under the readiness preparation phase will use the results of this project to assess changes in land use, forest cover and will assist in ascertaining important elements of forest land remaining forest land.

In terms of the National Forest Plan and National Forest policy, identified areas such as engaging in advancing work on environmental services will also be enabled through the identified assessments.

ANNEXES

Annex 1: Profile of the executing agency

- 1) **Background**, including:
 - Name and location of headquarters and a description of mission
 - Year of establishment
 - Fields of expertise
 - Organizational chart
 - List of the main projects or studies conducted in the previous three years, indicating, if applicable, donor agencies
 - List of projects and pre-projects submitted to ITTO, indicating whether they were funded and, if so, their status
- 2) **Infrastructure** (as far as relevant):
 - Facilities for carrying out the work related to the proposal, such as laboratories, experimental facilities, training facilities, etc
- 3) **Budget**:
 - To the extent that is relevant to the project, the financial status and resources and the overall budgets for the previous three years
- 4) **Personnel**:
 - Total number of personnel in relevant fields, showing:
 - number of personnel with postgraduate degrees
 - number of personnel with graduate degrees
 - number of middle-level technicians
 - number of administrative personnel.

The Guyana Forestry Commission started as a Department of Forestry under the Ministry of Agriculture and Natural Resources in 1925; in 1979 through an Act of Parliament the Guyana Forestry Commission (GFC) was formed. While still being part of the government system it is considered semi- autonomous and thus its day to day activities are independent. Activities relating to the forestry sector started as early as in 1925 and these functions were absorbed by the GFC when it was formed in 1979.

The main activities of the Guyana Forestry Commission are:

- a. Promote sustainable and efficient activities which utilize the broad range of forest resources and contribute to national development.
- b. Conduct surveys and inventories and making recommendations on forest dynamics and silviculture.
- c. Prescribing standards for forest management and provide support for forestry extensions.
- d. Planning and allocation of forest concessions.
- e. Monitoring of forest concessions to ensure, all legislative, social and environmental regulations and procedures are adhered to.
- f. Preparing operational guidelines for forest management and operational plans
- g. Responsible for overseeing community forest activities, and the activities of the Forest Products Marketing Council of Guyana and the Forestry Training Centre Inc.

The Guyana Forestry Commission is self financing, meaning that it generates its own income through collection of royalties, fees and export commission. Fees relate to income from licensing and lease fees

and are sufficient to cover the operational activities of the Commission, which is payment of salaries, administrative and operational expenses and purchase of capital items.

Infrastructure

The GFC has in place a GIS Lab that has certain remote sensing capabilities. The Forestry Training Centre and the Forest Products Marketing and Development Council will also support this project. The GFC's Community Forestry Unit will be the key mean through which contact is made with communities. Through the GFC's 21 forest stations, contact will be made with stakeholders in this process.

Staffing

The total existing staff compliment of the GFC is approximately two hundred and fifty (250) full time staff comprising a mixture of technical forestry experts and non technical support staff. Technical staffs are both at the senior, middle, and lower level management and also forest technicians. The technical skills of the Commission is very diverse comprising of wood technologist, inventory and mapping specialist, project managers, botanist, forest planners, geographical information systems specialist (GIS), surveyors, cartographer, forest technicians, rangers, monitoring officers, and environmentalist among others. The non technical support or administrative staffs are also very diverse comprising, accountants, computer programmers, marketing specialists, economist, statistician, human resources specialists, management personnel, and legal and public relations officers. Most of the senior and middle level staff has at least an under-graduate degree. The table presents the breakdown of full time staff.

Budget

Budget (US\$)

Budget Component	2006	2007	2008
Personnel	715,000	720,000	730,000
Subsistence	195,000	200,000	215,000
Capital Items	215,000	220,000	235,000
Consumables	570,000	575,000	590,000
Other	180,000	185,000	200,000
Total	1,875,000	1,900,000	1,970,000

(1US\$=G\$200)

Personnel

The Staff possess a blend of skills and most have the necessary qualification and experience for their job responsibilities. Below shows the skill levels for the technical and non technical staff.

Skill Levels	Number of Staff
Technical Staff with Post Graduate Degrees	15
Technical Staff with Graduate Degrees, Diploma and Certificates	173
Non Technical Staff with Post Graduate Degrees	6
Non Technical Staff with Graduate Degrees, Diploma and Certificates	56

Annex 2: Curricula vitae of personnel provided by executing agency

JAMES SINGH

Name James Nirmal Singh
Date of birth September 6, 1962
Country of birth Guyana
Nationality Guyanese

EDUCATION

Degree	Name / Specialization	Institution	Year
BSc	Biology (Chemistry Minor)	University of Guyana	1986
MSc	Forest Products Technology	University of Andes, Venezuela	1991
MBA	General Management	University of West Indies	2004

EMPLOYMENT RECORD

1999-present Commissioner of Forest, Guyana Forestry Commission
1998-1999 Deputy Commissioner of Forests, Guyana Forestry Commission (GFC)
1997-1998 Manager, Center for Biological Diversity, University of Guyana (UG)
1996-1997 Forester, Iwokrama International Centre, Guyana
1991-1996 Head, Forestry Unit, UG
1991-1993 Lecturer I, Forestry Unit ,UG
1986-1991 Assistant Lecturer, UG

RELEVANT WORK OVER THE PAST THREE YEARS

- 1 Overall management of the Guyana Forestry Commission to promote the achievement of yearly work plans and greater cooperation and collaboration with the forestry sector/industry. Overall coordination of all Forestry donor funded projects.
- 2 Assisting in the formulation of appropriate policies to encourage development and growth in the forestry sector of Guyana. This involves participation in several Governmental Boards and sub-committees.
- 3 Attendance at overseas meetings/seminars/conferences on behalf of the GFC and the Government of Guyana (Forestry and Natural Resource issues).
- 4 Providing support to the Guyana Forestry educational and training facilities (Forestry Training Centre; University of Guyana; Guyana School of Agriculture)

PRADEEPA BHOLANATH

Name Pradeepa Bholanath (Ms)
Date of birth August 31, 1982
Country of birth Guyana
Nationality Guyanese

EDUCATION

Degree	Name / Specialization	Institution	Year
MBA	Business Management	Edinburgh Business School	2008
MSc	Environmental Economics	University of York, U.K.	2004
BSc	Accountancy	University of Guyana	2002

EMPLOYMENT RECORD

2005 to present Head, Planning and Development Division, GFC
2004 – 2005 Special Projects Coordinator, (GFC)
2002-2003 Economist, (GFC)
2002-2003 Management Trainee , (GFC)

RELEVANT WORK OVER THE PAST THREE YEARS

1. Coordinate the drafting of project proposals and the sourcing of funding for same.
2. Coordinate the compilation of economic analyses for the forest sector
3. Coordinate the compilation of the statistical (economic) bulletin for the forest sector
4. Coordinate dissemination of information on forest sector statistics to the relevant agencies and organizations.
5. Produce special reports as requested by the Board of Directors – GFC
6. Administrative coordination of community forestry activities of the GFC.
7. Overall coordination of the PDD
8. Advise the Commissioner on policy issues affecting the forest sector

EDWARD GOBERHDAN

Name Edward Goberdhan (Mr.)
Date of birth September 15, 1974
Country of birth Guyana
Nationality Guyanese

EDUCATION

Degree	Name / Specialization	Institution	Year
FCCA	Accountancy and Finance	Association of Certified Chartered Accountant	2002
BSc	Accountancy	University of Guyana	1996

EMPLOYMENT RECORD

2001 to Present Head of Finance Division, Guyana Forestry Commission
2000 - 2001 Financial Analyst, Banks DIH Ltd

RELEVANT WORK OVER THE PAST THREE YEARS

1. Coordinate revenue collection of the Guyana Forestry Commission
2. Prepare budgets and reports for the GFC
3. Prepare financial and management accounts of the GFC
4. Establish and monitor effective and efficient accounting standards and practices within the Finance Division of the GFC
5. Coordinate the Management Information Systems Unit within the GFC
6. Coordinate information flow and database management within the GFC
7. Prepare and manage project accounts and budget for externally funded projects of the GFC
8. Prepare GFC final account for external audit

NASHETA DEWNATH

Nasheta Dewnath (Ms)

Date of birth January 20, 1983
Country of birth Guyana
Nationality Guyanese

EDUCATION

Degree	Name / Specialization	Institution	Year
Post Graduate Diploma	Development Studies	University of Guyana	2008
BSc	Environmental Studies	University of Guyana	2004

EMPLOYMENT RECORD

2008 to Present Programme Officer, REDD Secretariat, Guyana Forestry Commission
June 2008- November 2008 Secretary, National Climate Committee
2005-2007 Environmental Officer, Environmental Protection Agency

RELEVANT WORK OVER THE PAST THREE YEARS

1. Performing duties as Secretary to the National Climate Committee;
2. Coordination and implementation of special projects, and initiatives being implemented by the National Climate Committee;
3. Preparation of National Position Papers for presentation to international fora such as the United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (CoP);
4. Participating in field activities and other office activities as required by the Chair of the NCC
5. Assessment of suitability of new development projects, in the process of granting Environmental Authorizations within the forestry & mining sectors;
6. Review of Environmental Impact Assessments (EIAs) and Environmental Management Plans (EMPs) as well as monitoring reports submitted to the EPA;
7. Research & Development involved the developing guidelines for the improvement of processes in the above mentioned sectors.
8. Investigation of complaints in the above mentioned sectors and seeking solutions to these issues as well as enforcing recommendations made by the Agency in accordance with the Environmental Protection Act 1996.

JAGDESH SINGH

Name Jagdesch Singh
Date of birth 28th December, 1978
Country of birth Guyana
Nationality Guyanese

EDUCATION

<u>Degree</u>	<u>Name / Specialization</u>	<u>Institution</u>	<u>Year</u>
<u>BSc</u>	<u>Forestry</u>	<u>University of Guyana</u>	<u>2000</u>
<u>MSc</u>	<u>Geographic Information Systems/Remote Sensing</u>	<u>University of Edinburgh, Scotland</u>	<u>2004</u>

EMPLOYMENT RECORD

2008-Present Deputy Commissioner of Forests, Guyana Forestry Commission (GFC)
June – Dec 2007 Head, Forest Resources Information Unit, GFC
2004-2007 Head, Geographic Information Systems Unit, Environmental Protection Agency
2002-2003 Assistant Commissioner of Forests, GFC
2001-2002 Monitoring Inspector, GFC
2000-2001 Management Trainee, GFC

Duties and responsibilities

1. Preparing work plans and budgets for the Forest Resources Management Division (FRMD) and monitoring implementation.
2. Overseeing the preparation of Manuals of Procedures for all Division activities.
3. Overseeing the development and maintenance of a forest resource information system.
4. Overseeing the preparation of standards for all forest operations and procedures for monitoring compliance with standards.
5. Developing and implementing plans for forest resource classification and allocation.
6. Developing and maintaining a database of concessions and communities including management and monitoring information.
7. Supporting the development of management plans for permit areas and community forestry initiatives.
8. Supervising the evaluation and approval of forest management plans and operational plans for concession holders and for permit areas and communities.

9. Ensuring that social issues are addressed in resource allocation, management planning and the preparation of operational standards.
10. Oversee and manage the GFC's GIS Unit

GAVIN AGARD

Name Gavin Agard
Date of birth 8th January, 1980
Country of birth Guyana
Nationality Guyanese

EDUCATION

<u>Degree</u>	<u>Name / Specialization</u>	<u>Institution</u>	<u>Year</u>
<u>BSc</u>	<u>Environmental Studies</u>	<u>University of Guyana</u>	<u>2004</u>
<u>Post Graduate Certificate</u>	<u>Supervisory Management</u>		<u>2008</u>

EMPLOYMENT RECORD

2009 - Present Deputy Commissioner, Forest Monitoring Division (aq.), Guyana Forestry Commission (GFC)
2008-2009 Assistant Commissioner of Forests (GFC)
2007-2008 Divisional Forest Officer (GFC)
2006-2007 Monitoring Inspector (GFC)
2004-2006 Management Trainee (GFC)

Duties and responsibilities

Duties and responsibilities

1. Preparing work plans and budgets for the Department and monitoring implementation.
2. Overseeing the preparation of Manuals of Procedure for the Department.
3. Developing and implementing systems and procedures for the enforcement of forest laws and regulations
4. Coordinating the recording of forest production and calculation and collection of forest revenue.
5. Monitoring compliance with forest management plans, operational plans and operational standards.
6. Developing and monitoring a database of licences and permit operations.
7. Supervising a programme of outreach activities to forest communities.
8. Providing guidance to the staff of the department on procedural matters and offences and monitoring the database of offences, offenders and prosecutions.
9. Managing staff of the department to ensure the effectiveness and integrity of monitoring and revenue systems.
10. Conducting routine visits to forest stations to ensure work plans and objectives are proceeding according to schedules

Annex 3: Terms of reference of key personnel and consultants to be funded by ITTO

- Provide a summary of the tasks to be executed by the individual and the number of work months involved.
- Describe the responsibilities of the individual(s) to be engaged. For what process, activity or output will the person be responsible? In cases of shared responsibility, name the person(s) with whom the responsibility is to be shared.
- Describe the required competence of the person(s) to be engaged in the fulfillment of the assignment.

Terms of Reference for Key Staff positions to be financed by ITTO

Function: **Consultant (Work Months Involved: 12)**

Title: *International Remote Sensing and Geographic Information Systems Specialist*

Experience: The specialist will have a minimum of 10 years experience in remote sensing with a first degree (BSc) in an environmental or natural resource-based subject and a higher degree (MSc and/or PhD) in an appropriate field. S/he will have been closely involved in similar exercises in conducting resources assessment of forest and environmental services and in detecting forestry activities using satellite imagery, preferably in tropical situations. S/he will ideally have experience with ITTO projects and have lived and worked in one or more developing countries.

Duties

1. Coordinate the acquisition, in collaboration with the GFC, of medium and high resolution images.
2. Conduct comprehensive satellite image processing and interpretation including detection, for both medium and high resolution images
3. Analyze satellite images at medium and high resolution, involving geo-referencing and enhancement of image data, to conduct the resources assessment of forest and environmental services.
4. Oversee the verification of results of imagery analyses by airborne or ground inspection.
5. Coordinate the integration of satellite image analysis into a dedicated GIS.
6. Advise the GFC on all systems requirement needs including equipment, software and database management.
7. Complete assessment and evaluation of forest resources and environmental services in areas of State Forest at national and community levels.
8. Assess existing forest inventory data to evaluate forest resources and environmental services.
9. Compile report comprising of results of assessment in (6) to include valuation summary tables.
10. Analyze and evaluate the extent of deforestation and forest degradation (to the extent possible) by land uses, and compile report.
11. Train personnel to conduct resources assessment and analyze/interpret results.

Function: **Consultant (Work Months Involved: 6)**

Title: Environmental Services Expert

Experience: The specialist will have a minimum of 5 years experience in work relating to environmental services management with a first degree (BSc) in an environmental or natural resource-based subject and a higher degree (MSc and/or PhD) in an appropriate field. S/he will have been closely involved in similar exercises in assessing the potential of compensation schemes for environmental services, in tropical forest areas. S/he will ideally have experience with ITTO projects and have lived and worked in one or more developing countries.

Duties

1. Collate information on available market mechanisms for environmental services.
2. Assess the suitability of existing mechanisms to Guyana's context
3. Evaluate the requirements necessary to access identified markets
4. Compile a report on available market mechanisms, incentives programmes and remuneration systems for environmental services.
5. Provide training to relevant personnel, including the GFC, on the process to target identified mechanisms in (4).
6. Produce communication and training materials necessary to execute (5).