

# INTERNATIONAL TROPICAL TIMBER ORGANIZATION

## ITTO

### PROJECT DOCUMENT

TITLE	DEVELOPMENT AND DELIVERY OF A VOCATIONAL TRAINING PROGRAMME IN REDUCED IMPACT LOGGING AND SUSTAINABLE FOREST MANAGEMENT PRACTICES IN GUYANA
SERIAL NUMBER	PD 333/05 Rev.2 (I)
COMMITTEE	FOREST INDUSTRY
SUBMITTED BY	GOVERNMENT OF GUYANA
ORIGINAL	ENGLISH

#### SUMMARY

This project proposes to continue and expand vocational training in sustainable forest management and reduced-impact logging practices in Guyana. The project will build on the experience, successes, partnerships, and assets base of the Forestry Training Centre Incorporated, which was established through ITTO Project PD 68/01 Rev 2 (I).

The single most critical requirement for the adoption of sustainable forest management remains the availability of skilled personnel at all levels. Unskilled workforces, poor supervisory capacity, and an insufficient understanding of the basics of forest management in general and reduced impact logging in particular remain key issues impeding the adoption of good forest management practices in Guyana. After the completion of ITTO Project PD 68/01 Rev 2 (I), 120 persons will have participated in workshops and courses in RIL. In view of a further demand for SFM/RIL training and the existing capacity in terms of human resources and facilities to deliver such training, a continuation and broadening of this programme is proposed.

This project will develop the human resources in the forest sector in Guyana with a three-part strategy. Part one of the strategy is to continue the RIL training programme consisting of 27 practical training courses targeting 234 forestry professionals at all levels. The second component of the strategy aims to develop a RIL system and special training programme tailored to the needs of small-scale and community based forest enterprises. 36 persons are expected to benefit from this programme. The third part of the project strategy is to broaden the vocational sustainable forest management training programme beyond RIL practices by developing four additional training courses: forest management planning and code of practice standards, forest surveying and mapping, tree species identification, and auditing practices for (ITTO's) Criteria and Indicators, from which courses 96 persons are expected to benefit.

EXECUTING AGENCY FORESTRY TRAINING CENTRE INCORPORATED

DURATION 24 MONTHS

APPROXIMATE STARTING DATE UPON APPROVAL

PROPOSED BUDGET AND OTHER FUNDING SOURCES

Source	Contribution in US\$
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ITTO	361,897
Gov't of Guyana	441,431
Forestry Training Centre Inc.	80,155
Forest Enterprises	136,130
TFF / Caterpillar Inc.	135,000

<b>TOTAL</b>	<b>1,154,613</b>
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## CONTENTS

<b>PART I: CONTEXT</b>	<b>3</b>
1 Origin	3
2 Sectoral Policies	5
3 Programs and Operational Activities	5
<b>PART II: THE PROJECT</b>	<b>7</b>
1 Project Objectives	7
1.1 Development Objective	7
1.2 Specific Objective	7
2 Justification	7
2.1 Problem to be addressed	7
2.2 Intended situation after Project completion	9
2.3 Project Strategy	11
2.4 Target beneficiaries	12
2.5 Technical and scientific aspects	12
2.6 Economic aspects	13
2.7 Environmental aspects	14
2.8 Social aspects	14
2.9 Risks	15
3 Outputs	16
3.1 Specific Objective: Increase the adoption of sustainable forest management and reduced-impact logging practices by forest operators and core stakeholders in the forest sector through practical training	16
4 Activities	16
4.1 Output 1: RIL training programme for medium / large scale operators organised and delivered and RIL demonstration forests established	16
4.2 Output 2: RIL system for small-scale / community forestry operations designed	16
4.3 Output 3: Capacity to provide RIL training programme for small-scale / community forest operations established	17
4.4 Output 4: RIL training programme for small-scale / community forestry operations organised and delivered	17
4.5 Output 5: Capacity to provide training programme on other aspects of sustainable forest management established	17
4.6 Output 6: Training courses in other aspects of SFM organised and delivered	17
4.7 Output 7: Long term sustainability of vocational SFM/RIL training in Guyana secured	18
5 Logical Framework	19
6 Work Plan	32
7 Budget	34
7.1 Overall Project Budget by Activity	34
7.2 Yearly Project Budgets by Source	37
7.3 Consolidated Yearly Project Budget	39
<b>PART III. OPERATIONAL ARRANGEMENTS</b>	<b>47</b>
1 Management structure	47
2 Monitoring, Reporting and Evaluation	47
3 Future Operation and Maintenance	49
<b>PART IV. THE TROPICAL TIMBER FRAMEWORK</b>	<b>51</b>
1 Compliance with ITTA Objectives	52
2 Compliance with ITTO Action Plan	52
<b>ANNEX A - PROFILES OF THE COORDINATING AND IMPLEMENTING AGENCIES</b>	<b>54</b>

<b>1</b>	<b>Profile of the Implementing Agency</b>	<b>54</b>
1.1	The Expertise of the Implementing Agency	54
1.2	The Infrastructure of the Implementing Agency	55
1.3	Budget	55
1.4	Personnel	56
<b>2</b>	<b>Profile of the Coordinating Agency</b>	<b>57</b>
2.1	The Expertise of the Coordinating Agency	57
2.2	The Infrastructure of the Coordinating Agency	58
2.3	Budget	59
2.4	Personnel	59
<b>ANNEX B - CURRICULA VITAE OF THE KEY STAFF</b>		<b>60</b>
<b>ANNEX C- Recommendations of the 29<sup>th</sup> Panel and listing of the modifications made</b>		<b>71</b>

## PART I: CONTEXT

### 1 Origin

Guyana has an area of 21.5 million hectares and a population of about 750,000 persons. Forests cover some 16.5 million hectares (76% of the total land area) and forests allocated for timber production cover 13.6 million hectares (63% of the total land area). Forestry activities employ about 15,000 persons and contribute some 4.5% of Gross Domestic Product. Generally, local policy makers are of the view that the forest based industries could make a more significant contribution to national development. One recurring thread in all major sectorised studies has been the need for skilled technicians to improve the quality of forest practices and the viability of forest enterprises. Poor skills levels not only affects productivity but also results in additional costs when equipment is poorly used and maintained (Ramprich & Associates, 2002<sup>1</sup>).

The University of Guyana offers a BSc degree as well as a Diploma in Forestry and the Guyana School of Agriculture offers a one year certificate course in forestry. Surveys by FTCl reveal that many of the current requirements of forest enterprises are not addressed directly by the academic programmes offered due primarily to insufficient practical work. Isolated instances of vocational training by the Forest Products Association of Guyana, though useful, have not had the intensity or breadth to ensure that the requirements of forest enterprises, in the face of national requirements and forest certification, were addressed.

In 1999, twelve persons from the public, private and non-Governmental agencies visited the Tropical Forest Foundation training camp in the State of Para, Brazil and were impressed with the forest practices taught at that facility, but many were of the view that conditions there were not necessarily the same as forest conditions in Guyana. However, the visit did help bring into sharp focus, the local studies on reduced impact logging (Van der Hout, 1999<sup>2</sup>) as well as local training needs surveys (Welch, 1996<sup>3</sup>; Bram, 2000<sup>4</sup>)

In September 2000, a stakeholder consultation meeting on vocational training concluded that the development of an on-site RIL training programme would address many of the perceived weaknesses in the industry. In November 2001, ITTO approved the project "Training in reduced impact logging in Guyana" (PD 68/01 Rev 2 (I)). Work on the project activities commenced in May 2002 **and since then the project has created significant impact on the forestry sector.**

**The project initiated intensive discussions in the sector, targeting not only logging enterprises, but also the academic institutions, community based forest enterprises, and vendors of logging equipment. All stakeholders found the project useful for focusing their energies on the development of capacity within timber companies and the improvement in forest practice. All stakeholders welcomed the setting up of a vocational centre for the forestry sector (along similar lines to those in the bauxite, agricultural and aviation sectors). The project served to utilise fully the experiences gained from research work on RIL in Guyana the Guyana-Tropenbos Programme. The project helped sensitise the forestry sector to issues of occupational safety and health in timber harvesting operations and played a significant role in the drafting of OSH legislation by the (local) Ministry of Labour and an ILO consultant. The project offered new opportunities for field operatives to receive training at a low cost under conditions with which they are familiar.**

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<sup>1</sup> Vijay Ramprich & Associates. 2002. Analysis of the Forest Industry in Guyana. FPA/CPEC. 50 pp.

<sup>2</sup> Van der Hout, P. 1999: Reduced Impact logging in the tropical rain forest of Guyana. Ecological, economic and silvicultural consequences. Tropenbos-Guyana Series 6. GFC/Tropenbos. 335 pp.

<sup>3</sup> Welch, I. 1996: Technical and vocational training for the Forest Industry. GFC/GFCSP.

<sup>4</sup> Reduced Impact logging in Guyana. Training Needs. Tropenbos-Guyana Programme

**Regarding the specific project outputs, several developments occurred.** An intensive round of consultations with stakeholders, staff recruitment, the sourcing of basic assets, training of trainers' activities, the development of training modules and manuals, and the search for a suitable location for the primary field facility occupied much of the first year of the Project. A major setback for the project was the delay in the acquisition of forestry machines; the delay in the arrival of the machines delayed the development of the primary field site.

Prior to the establishment of its primary training facility, FTCl organised two courses—one in Suriname and one workshop *ex-situ*, in which 55 persons participated. Participants included company chief executives (3), officials of forest administrations of Guyana, Suriname, French Guiana, and Belize (10), educational & research institutions and donor community (all Suriname – 4), forest operations managers (6), field supervisors / foremen (14), forest inventory technicians (12), felling teams (3) and skidding teams (3). The courses and workshop were well received and led to a growing acceptance and awareness of RIL and a demand for training in RIL in the region. FTCl has also done a consultancy **on "Practical Forest Mapping"** for the GFC's CPEC project.

At its primary training facility, a total of 27 persons have been trained to date (from August to December, 2004) while during the same period, another 15 were trained *ex-situ* for Barama Company Limited, a company seeking FSC certification for a part of its forest concession.

During consultations with the 12 largest concessionaires and the educational institutions in Guyana in May 2004, it became clear that the demand for training is far from satisfied. Companies indicated a solid demand of 200 persons to be trained at various skill-levels, while the educational institutions indicated 35 students for training on an annual basis. The twelve largest companies employ approximately 1,000 field operatives and operate approximately 400 pieces of logging equipment. **It is not unlikely that once a number of company staffs have been involved in RIL training, the demand may increase by a factor of two or more.**

Besides the larger companies with a considerable economic lay-out in terms of equipment and concession size, there are some 300 active smaller operations (operating on a State Forest Permit basis). In addition, the number of associations of small-scale loggers has been growing at a steady pace in recent years, while community-based timber production (mainly from Amerindian private land) has also been on the increase. The current RIL model is tailored to the larger companies, who use bulldozers, wheel skidders and tractor-and-trailer hauling units. Training the small-scale / community loggers in this system would not *necessarily* address their specific needs. Therefore, a special RIL system and training programme needs to be developed tailored to their specific needs.

CIDA-funded Caribbean Regional Human Resource Development Programme for Economic Competitiveness (CPEC) together with the Guyana Forestry Commission recently completed a Forestry Sector Training Project, which produced six training-of-trainers courses plus manuals. The courses were targeted to strengthen the capacity of GFC (staff) and other trainers to deliver such training to stakeholders. There is currently no formal framework within which these courses can be taught to potential stakeholders. It was agreed with GFC that the FTCl includes a number of these courses in its curriculum.

All training to date has been based on donor support because – like in so many other countries – locally based forest enterprises appear unable to pay the full costs of training. An added problem is the fact that the Forest Products Association of Guyana does not have a training budget or a mechanism to collect contributions from its members to pay training fees. Recent meetings with individual concessionaires indicated that companies are willing to pay training fees. It was suggested that the course fees should not exceed US\$ 250 per participant. With the high cost of the type of training being offered by FTCl, this amounts to approximately 15% of the running cost of the centre. Additional donor funding is requested until a critical mass of some 400 forest workers at all skill-levels has been trained.

It is important that FTCl conserves the cadre of trainers in whom it has invested so much until an additional 270 persons are trained in RIL and another 100 trained in complementary forest management skills. Donor support is also essential to conserve the arrangements (with TFF and

Caterpillar Company) under which the core machinery assets were made available to FTCl. Donor funding is therefore sought from ITTO and other agencies to address the **core developmental requirements; capacity to promote responsible and technologically sound forest practices**

Forest certification, standards enforced by the GFC and marketing efforts by FTCl will encourage forest enterprises to seek training for their operatives. It is therefore suggested to develop a training course in auditing procedures for ITTO / FSC Criteria and Indicators.

## **2 Sectored Policies**

The Guyana Forestry Commission (GFC) develops and monitors standards for forest sector operations, develops and implements forest protection and conservation strategies, oversees forest research, and provides support and guidance for forest education and training. The GFC directly manages 13.6 million hectares of State forests. Three categories of forest concessions may be issued as follows:

- State Forest Permissions (SFP): granted on an annual basis for areas under 8,000 hectares of State forests; there is the option for its renewal after one year;
- Wood Cutting Lease (WCL): granted for periods of three to ten years for areas between 8,000 and 24,000 hectares; a forest management plan is required, and there is the option for the renewal of the concession;
- Timber Sales Agreement (TSA): issued for periods of twenty-five or thirty years for areas exceeding 24,000 hectares; a forest management plan is required, and there is the option for renewal of the concession.

(Note that the Draft Forests Act, 2004 lumps the three types of concessions simply as *forest concession agreements*).

Prior to the issue of any **forest** concession, the GFC may require an investment proposal or a business plan, in which case an Exploratory Permit, that allows for general reconnaissance of the area of interest may be issued to the entrepreneur for periods of up to three years.

The Environmental Protection Agency was established in 1996 to provide for the management, conservation, protection and improvement of the environment, the assessment of the impact of economic activities on the environment and the sustainable use of natural resources. The EPA and the GFC have entered into a Memorandum of Understanding that provides for cooperation in the assessment and monitoring of environmental impact assessments (EIAs) for forestry projects. In 1998, the GFC published guidelines for the preparation of EIAs for forestry projects.

The GFC also liaises with the Cabinet Sub Committee on Natural Resources which screens important policy matters, such as forestry legislation, prior to its approval by the Government. The GFC also liaises with the Natural Resources and Environment Advisory Committee which attempts to share information among agencies in the natural resources and mitigate conflicts over policies or land use. (Policy matters in the natural resources sector are discussed at the level of the NREAC prior to being sent to the Cabinet Sub-Committee on Natural Resources).

## **3 Programs and Operational Activities**

The Guyana Forestry Commission is currently engaged with the Caribbean Regional Human Resource Development Programme for Economic Competitiveness (CPEC), a CIDA funded entity to train forest operatives in a number of very basic skills, including forest mapping and timber identification. FTCl prepared the manual on forest mapping and is ideally poised to conduct the training of the trainers as well as the main target group of forest operatives, including staff of the GFC.

The GFC is working with FAO to promote community based forest enterprises and assist in improving the quality of rural livelihoods. FAO is sponsoring a pilot programme on 'Strengthening

Participatory Approaches to Forest Management in Ghana, Guyana and Uganda'. FTCl will provide RIL based training to communities, students and GFC staff as part of the local programme conducted by the Guyana Forestry Commission.

The GFC is coordinating a WWF project that is intended to develop broad based participation and partnerships within the forestry sector in order to promote the harmonization of policies, guidelines and regulations, to improve the collection and dissemination of forest based data, and to promote the development and implementation of improved management practices. The partners in the project are the GFC, the FPA and the University of Guyana.

The Guyana National Initiative for Forest Certification, with funding from WWF is forging ahead with the development of national (FSC Endorsed) forest certification standards. The standards are expected to be finalised by August **2005**. The development of the standards is the end of a process started under PROFOR I (UNDP). This process has helped significantly in promoting discussions among the various stakeholders in the forestry sector.

The Iwokrama International Centre for Rainforest Conservation and Development (***Iwokrama***) is responsible for the management, conservation and sustainable development of 360,000 hectares of tropical forests. The objective is to demonstrate that tropical forests can provide economic benefits without destroying biological diversity. Zoning of the area has been completed and plans are in train to initiate harvesting of the sustainable utilization areas. ***Iwokrama will be engaged in the general training forest operatives. To avoid conflict or competition with FTCl, the two entities have started discussions on a Memorandum of Understanding.***

There has been progress with preparatory activities for the establishment of a protected areas system in Guyana, after problems with the World Bank. A new international entity, Flora and Fauna International (FFI), based in the United Kingdom has aligned itself with the Protected Areas Secretariat- EPA, WWF and GMTCS for the development of Shell Beach as a protected area. Conservation International (Guyana) Inc. is also collaborating with the PAS to address issues of protected areas in the Rupununi district. ***FTCl anticipates that the implementation of the protected areas system will afford it a number of training opportunities.***

Previous projects submitted to ITTO by Guyana are:

- A Sustainable Management Model in the Iwokrama Rain Forest (ITTO 10/97 Rev. 1 (F)) - funded
- Forest Industry Training Project (1997) - not funded
- Design and Implementation of an Information System within the GFC (1997) - not funded
- Training in Reduced Impact Logging in Guyana (ITTO PD 68/01 Rev. 2 (I)) - funded

## PART II: THE PROJECT

### **1 Project Objectives**

#### **1.1 Development Objective**

**To improve the forest sector's contribution to national development through promoting the use of sustainable forest management practices by timber producers.**

#### **1.2 Specific Objective**

**To provide training in reduced impact logging and related matters in order to reduce the level of negative environmental impacts (and promote more environmentally responsible approaches to timber harvesting).**

### **2 Justification**

#### **2.1 Problem to be addressed**

The Government of Guyana ***for some time now has been engaged with international partners***, including the United Nations Development Programme, the Canadian International Development Agency, the UK Department for International Development, Tropenbos International, the Edinburgh Centre for Tropical Forestry, ***International Tropical Timber Organization***, World Wildlife Fund, and Conservation International, to strengthen local capacity to manage the forests of Guyana.

The partnerships have allowed the GFC to implement significant changes in the sector including:

- The development of a National Forest Policy Statement, 1997;
- New draft forestry legislation;
- Revised curricula for undergraduate and Diploma programmes at the University of Guyana as well as for the Certificate programme at the Guyana School of Agriculture;
- Reorganization of the Guyana Forestry Commission and business training for senior staff;
- The development of social programmes in forestry;
- Guidelines for the preparation of Environmental Impact Assessments for Forestry Projects; and
- A Code of Practice for Timber Harvesting.

Unfortunately however, even in the face of the developments cited above, most harvesting operations are ***still*** characterised by an unacceptably high level of negative environmental impacts. ***This*** problem can be traced back to unskilled workforces-***due in part to the reluctance of logging enterprises to invest in the training of their field operatives, and in addition, the graduates and technicians recruited from local academic institutions are generally too inexperienced to make any significant short term impact on the quality of forest practices***

**The resulting shortfall in trained forestry practitioners at all levels constitutes a significant obstacle to the adoption of sustainable forest management across the Guiana Shield and leaves the forest industry unable to comply with government regulations and international standards.**

**A recurring theme in all major sectoral studies (Sizer, 1995<sup>5</sup>; GoG, 2000<sup>6</sup>; ITTO, 2003<sup>7</sup>) has been the need for vocational training, principally in forest inventory and timber harvesting.**

<sup>5</sup> Sizer, N. 1996: Profit without Plunder: Reaping revenues from Guyana's tropical forests without destroying them. World Resources Institute. 70 pp

<sup>6</sup> GoG. 2001. National Development Strategy for Guyana –Chapter 30 Forest management.



ITTO's Objective 2000 diagnostic mission concluded as follows: "The use currently being made of Guyana's extensive, diverse and complex forest resource is not satisfying many, if any, of the stakeholders. The latest figures show forestry contributed 15,000 jobs and 4% GDP for the country as a whole. Few enterprises in the sector are operating efficiently; fewer still are operating profitably."

**The actual timber production levels in Guyana has not been encouraging in recent years as evidenced by the downward trend in timber production (in cubic metres) since 1997.**

1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
389,600	425,500	416,300	521,500	95,000	435,400	288,500	312,000	297,500	239,600

**The need to source good markets and the corresponding requirement for a better quality of forest management , together with stricter regulation of forest practices by the Guyana Forestry Commission are forcing loggers to adopt better logging practices. It is apparent that the best way to achieve satisfactory logging practices is through the recruitment or the training of field operatives, generally there is mass of unskilled workers available for recruitment. Even the academically better qualified ones lack sufficient experience the create change in the quality of forest practices in the short term. On the other hand, training offered by FTCl is short, intensive and very well suited to the requirements of logging enterprises, for the simple reason that FTCl was generated from intensive consultations with logging enterprises.**

**FTCl has been working over the past two years to provide the training and technical support for the implementation of RIL training in Guyana. Nevertheless, its capacity and outputs to date have not been sufficient to meet the demand for training. This partly due to the delay in the establishment of the primary training facility and the restricted course promotion activities. In addition, loggers have not been investing sufficiently in the training of their field operatives due to a lack of appreciation by the industry of the expected benefits of training in RIL.**

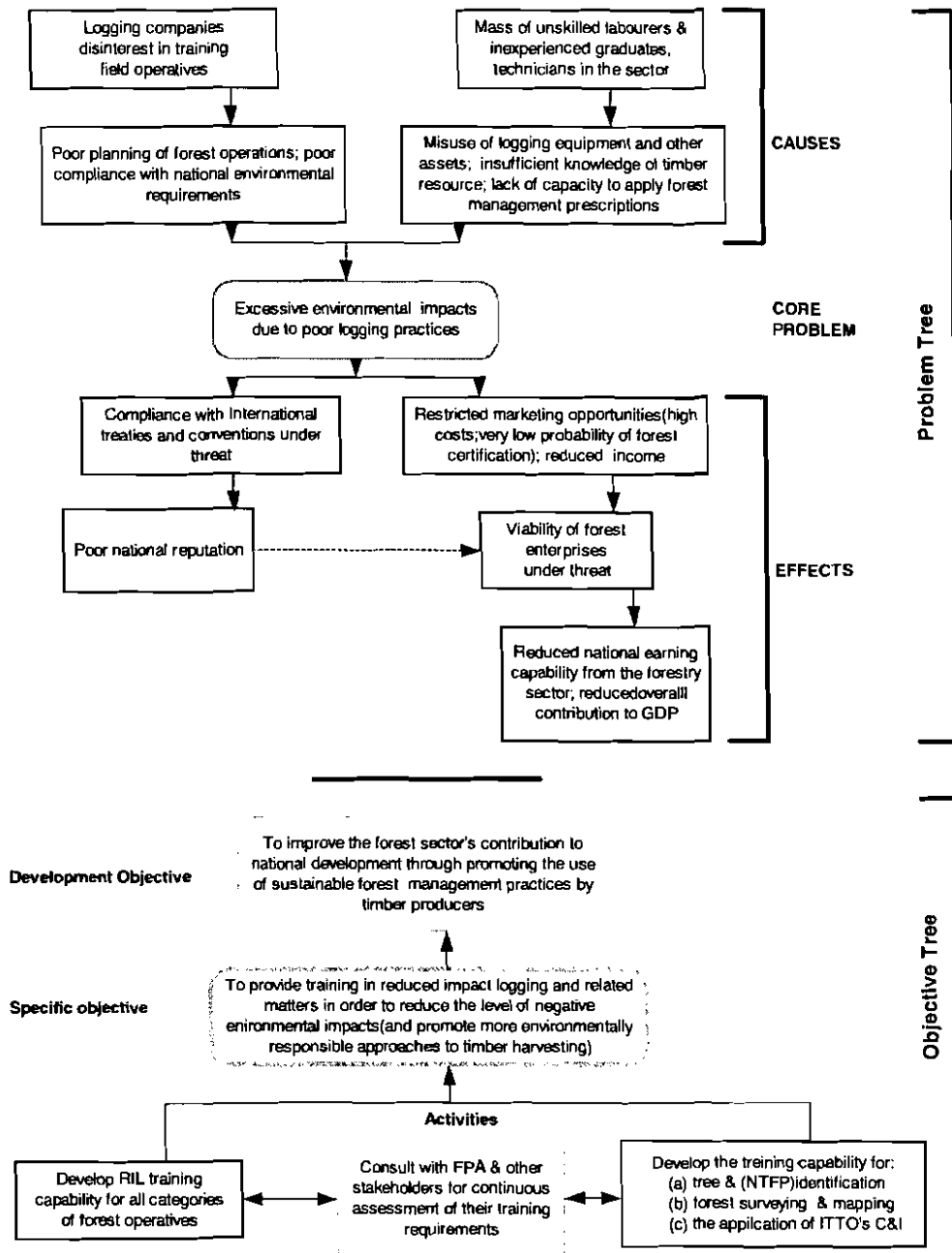
**Strategic marketing planning within forest enterprises will force the logging enterprises more seriously and this is already apparent from the number of requests FTCl has had and accommodated over the past year. Further, with the completion of the primary centre, FTCl will be able to improve its course promotion activities. The sector has already been sensitised about the benefits of RIL; FTCl needs to maintain the momentum**

**Additional issues that support RIL are also necessary. Special courses in Forest mapping & surveying, and tree identification (dendrology) are critical to forest resource use. FTCl can easily support these. The issue of criteria and indicators to assess progress towards sustainable forest management in general, and reduction in environmental problems provoked by logging are also critical to convincing consumers that forests are well managed. The problem/objective tree below summarises the problems to be addressed.**

<sup>7</sup> ITTO, 2003: Achieving the ITTO Objective 2000 and Sustainable Forest Management in Guyana-report of the diagnostic Mission. Executive Summary. 13 pp.

Figure 1

**Problems to be addressed by the Project**



2.2 Intended situation after Project completion

**The project will lead to a critical mass of people who have the skill sets to apply the basic elements of RIL. This will result in a situation where most operations will be covered by forest management plans and Annual operation Plans, a major segment of state forests**

would be mapped, forest machines would be used properly and post logging environmental problems would be reduced significantly. A critical mass of people trained in RIL would help the GFC to validate or correct the national vegetation map as well as help the GFC receive proper feedback on the quality of the prescriptions in the Code of Practice for Timber Harvesting. There is expected to be a significant decline in the number of accidents in timber harvesting operations.

FTCI will use a number of modules developed specifically for RIL training during its courses. A copy of these manuals will be given to each participant. In addition, FTCl will use the Code of Practice for Timber Harvesting in its courses and will explain in detail the reasons for each prescription within the Code of Practice; a copy of the Code of Practice for Timber Harvesting will be given to each course participant. At the end of the project therefore, a minimum of three hundred and sixty copies of the Code of Practice for Timber Harvesting as well as of FTCl's RIL Manual would have been disseminated in the forest sector providing easy, simple reference materials tailored to Guyanese conditions. This situation would prove to be of immense value to participants working in rural or remote areas.

The primary training site used by FTCl is expected to have more than 3,000 hectares of well treated forests: 100% inventory and tree location maps, skid trails well aligned and constructed; trees for felling & protection duly marked; trees fell directionally; logs extracted and skidded properly. Buffer and other protection or exclusion zones well respected. Such areas will serve as excellent demonstration sites for illustrating the long term value of RIL practices. More importantly, it would be possible to compare site conditions in the demonstration area with similar sites that were logged in a conventional manner.

FTCl's work will lead to the introduction of a certification process for field operatives. Only FTCl currently has a certification process for chainsaw operators and other forest technicians. Tree spotters, skidder operators and choker men, for example, would be graded in some measure and employers will have the option of demanding specific skill sets graded by FTCl from potential employees. Employees with a certificate are likely to adopt a more responsible approach to their tasks.

The project is expected to create additional impacts in respect of:

- a) the number of forest enterprises that become certified by FSC or other agency and an increase in the volume of certified timber from Guyana;
- b) increased training budgets
- c) reduced incidences of accelerated erosion as a consequence of logging
- d) lower maintenance costs for logging equipment;
- e) job creation for graduates of the university of Guyana and the Guyana School of Agriculture;
- f) appreciation of the value of the Code of Practice for Timber Harvesting and related legislation
- g) Regional partners (Suriname, Belize, and Trinidad & Tobago) will have themselves adopted and implemented RIL practices based on the quality of training courses in Guyana and more particularly, the quality of the demonstration sites. of Practice for Timber Harvesting.

- h) Finally, the forest sector would have provided enough critical support to guarantee that Guyana respects fully and complies with the treaties and conventions which Guyana has endorsed.

### 2.3 Project Strategy

The overall strategy is, through training courses, technical services and extension or course promotional work, to bombard loggers, students and vendors of forestry equipment with RIL concepts until all parties develop a shared understanding of RIL concepts and practices and all parties accept the responsibility for improved logging practices.

The proposed project has several elements that together constitute a strategy to address a key barrier to the adoption of good forest management practices across Guyana: the shortage of qualified and trained people.

Through the 38 courses more or less that FTCl will offer over two years, the project will help develop a critical mass of trained people who can implement RIL practices. Because trained workers are needed at all levels (workers to forest managers) and in all sectors (industry, government, communities, etc.), the project will develop and offer on- and off-site RIL based courses tailored to the specific requirements of participants and logging enterprises. Although all of the people seeking RIL training at present will not be able to participate in these courses because of limited capacity, the courses will nonetheless help satisfy a significant segment of the current demand.

Most importantly, the project will capitalize on the investments made during ITTO project PD 68/01 Rev.2 (I) in terms of trained personnel and acquired training assets. By sustaining FTCl's current programme, the project will maintain the momentum of interest in RIL and allow time for the Governments of Guyana and Suriname, the forest industry, and other partners to establish a longer term, sustainable vocational training programme for the Guiana Shield.

Broadening the scope of FTCl's training programme will address the growing numbers of small-scale and community based loggers, the capacity to assess forest operations based on criteria and indicators and complementary forest management skills including tree identification, forest surveying and mapping and the preparation of forest management plans.

FTCl will develop records systems that help loggers keep track of the use and maintenance of machines where required. Such systems will be passed on to logging enterprises as they are developed. Once loggers get into the habit of keeping detailed records, then FTCl will move to the next step. FTCl will review software such as RILSIM (Version 2.0) 'Financial analysis software for reduced impact logging'<sup>8</sup> and help loggers use the software or similar ones in their operations. Similarly, where practical, FTCl will work with the GFC to help loggers use software such as Excel and Arc View to help them process their data and plan their operations

FTCl will work with the GFC and other partners to develop videos/DVD on RIL practices and these will be used during courses, on extension visits to concessions, on sponsored television programmes and at academic institutions.

FTCl will continue to produce newsletters and brochures through which certain elements of RIL will be highlighted.

FTCl will continue to work with regional stakeholders, including forestry administrations and NGOs such as WWF to promote the use of RIL practices in Caricom Countries.

## 2.4 Target beneficiaries

The main beneficiaries of this project are:

- Forestry operatives (community / company forest workers, chainsaw operators, machine operators, technicians, foresters, supervisors, and managers) who will benefit from professional development (improved ability to implement required practices), and enhanced conservation of the resource on which they depend
- The University of Guyana and the Guyana School of Agriculture are among the primary beneficiaries. Many of the current requirements of forest enterprises are not addressed directly by the academic programmes offered due primarily to insufficient practical work. A recent study<sup>9</sup> has addressed the issues directly.
- Forest industry sector in Guyana, Suriname and Trinidad & Tobago who will benefit from (i) enhanced conservation of the resource on which they depend and (ii) potential economic benefits, both of which may be achieved through more efficient timber extraction
- Governmental and non-governmental institutions by increasing the knowledge among their officers to implement and audit regulations
- The global community by contributing to (i) a reduction in logging damage resulting in greater efficiency in the utilization of forests throughout the Guiana Shield; and (ii) a reduction in ecological impacts resulting from current practices (e.g. losses to biodiversity, greater fire vulnerability, and decreased carbon sequestration potential).

## 2.5 Technical and scientific aspects

The project will draw upon local and regional training experience with RIL and RIL training programmes worldwide. There is a rich history of RIL in Guyana: for instance, the workshop hosted by the Iwokrama International Centre for Rainforests Conservation and Development (IICRCD) in partnership with the Tropenbos-Guyana Programme and the Guyana Forestry Commission (see *International Forest Review*, Vol. 2 (1), March 2000).

The administration of the current project is associated with a vibrant technical advisory committee that includes all key stakeholders in the forestry sector. The TAC is involved in staff recruitment, site selection for the demonstration areas, review of training manuals and other collaborative tasks. The TAC will be conserved in the new project.

The RIL programme in Brazil, run by TFF and its affiliate, FFT, in Belém, Brazil, completed an independent cost/benefit analysis, "Financial costs and benefits of reduced-impact logging in the Eastern Amazon", in collaboration with ITTO, CIFOR, USAID, and the US Forest Service. This showed a clear cost advantage for RIL harvest methods over conventionally logged sites.

There is also a book-length study of RIL in Guyana, *Reduced Impact Logging in the Tropical Rain Forest of Guyana* (1999), written originally as a doctoral dissertation by Peter van der Hout, currently directing a "Feasibility Study of Reduced Impact Logging" for the Tropenbos-Guyana Programme.

The training courses will emphasize principles of forest management consistent with ITTO's guidelines and the implementation and training of SFM/RIL practices. The courses will be practical, hands-on, and tailored to the level and needs of trainees. The number and type of courses will be based on the demand from different levels and different parts of the forest sector. Each type of course targets a different audience and therefore has slightly different objectives (see below). In general, however, at the end of the courses, participants will be able to:

- explain basic principles of forest management for wood resources

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<sup>9</sup> GFC, 2004. Scoping Study: Participation in Forestry Education, Guyana. Strengthening Participatory approaches to Forest Management in Ghana, Guyana and Uganda. GFC/FAO. (FAO: GCP/INT/808/UK).

- explain the benefits and constraints of each component of RIL
- Conduct, demonstrate and/or supervise all FM-RIL components.

### Activity and Subject Hours for each proposed course

Activities	Courses	Decision Makers	Forest managers / Supervisors	Planning / Stock Survey teams	Felling teams	Heavy Equipment operators	Skidding teams
<b>Planning</b>							
Strategic forest resource assessment		2	6	4			
Block layout, definition and line cutting		2	4	8	1	1	1
100% Inventory and vine cutting		2	8	20	1	1	1
Introduction to data processing		2	4	8	1	1	1
FM planning and map making (GIS and Manual)		2	4	8	1	1	1
<b>Pre-Harvest</b>							
Forest infrastructure planning and construction (R&L)		4	4	8		20	
Skid trail planning, mapping, & layout		4	4	16	2	2	4
Tree marking		1	2	8	1		1
<b>Harvest Activities</b>							
Directional felling and cutting techniques		4	8	4	24		1
Skidding & winching		2	4	4	2	2	20
Landing operations (grading and scaling, loading)		1	4		1	4	2
<b>Pos Harvest activities</b>							
Harvest damage and waste evaluation		2	4		2		2
Skid trail restoration and maintenance		2	4				2
Infrastructure maintenance		2	4			4	
<b>Complementary activities</b>							
Worker safety for forestry activities			4	2	2	2	2
First-aid training for forestry activities			4	2	2	2	2
Chainsaw safety			2		4		
Chainsaw maintenance and use			4		4		
Heavy equipment safety and maintenance			4			4	4
Heavy equipment use			4			4	4
Use of forestry equipment and instruments			2	4			
<b>Sub Total</b>		<b>32</b>	<b>88</b>	<b>96</b>	<b>48</b>	<b>48</b>	<b>48</b>
	days	4	11	12	6	6	6
<b>Evening lectures and discussions</b>							
Forest management systems		1	2				
Forest management plans and AOPs		2	2	2	1	1	1
Forest management certification		1	2				
Forest management costs and benefits		2	2	2	2	2	2
Forest management legislation		1	2	2	1	1	1
Forestry management and biodiversity		1	2	2	1	1	1
Visual aids / presentations			4	4	2	2	2
<b>Sub Total</b>		<b>8</b>	<b>16</b>	<b>12</b>	<b>7</b>	<b>7</b>	<b>7</b>
<b>Total</b>		<b>40</b>	<b>104</b>	<b>108</b>	<b>55</b>	<b>55</b>	<b>55</b>

### 2.6 Economic aspects

In recent years, a number of projects have been implemented to test, demonstrate and measure the benefits of reduced impact logging. The results indicate that applying RIL, can, in some cases, increase efficiencies and reduce costs of harvesting. It can also help to reduce logging waste and safeguard future harvests and the environment. However, RIL can also result in additional direct costs to timber producers who may incur costs by introducing new activities, reorganising the structure and internal monitoring procedures of the company and in some cases may incur opportunity costs associated with foregone timber yields. Hammond et al (2002)<sup>10</sup> noted that the actual costs of RIL vary significantly from location to location due to differences in biophysical conditions, costs of labour and equipment, and other operating inputs, as well as socio-economic and institutional factors. There are still many unanswered questions, particularly with regard to the actual cost of implementing RIL and the scope for extending benefits by finding

<sup>10</sup> Hammond, D.S., Van der Hout, P., Zagt, R.J., Marshall, G.E., Evans, I. & Cassels, D.S. 2000. Benefits, bottlenecks and uncertainties in the pantropical implementation of reduced impact logging techniques. *International Forest Review*. Vol.2 (1): pp. 45-53.

a market for spin-off services (such as carbon offset) or rewarding private industry for minimizing its impact on important forest functions where this entails a cost.

It is certain that without well-trained, motivated and satisfactorily paid field crews, the likelihood of achieving the objectives of RIL is extremely low. The cost of training, extra wage demands, monitoring, verification and foregone timber have not always been accounted for in cost comparisons between RIL and conventional logging systems. Higher wage demands than might otherwise arise may reduce the total benefits received through implementation of RIL practices, but this can be seen as a medium to long-term investment. The unit cost of this one-time investment should be recouped over a specific term of production, unless job turnover rate or wage demand frequency is low enough to limit unit cost reduction. Within this perspective, it is difficult to produce definite figures relating to the economics of the training programme, but it is clearly indicated that the role of external financial support in the training of logging crews to reduce employer risk may be crucial for implementation.

## 2.7 Environmental aspects

This project aims to promote sustainable forest management through the development of human resources. As such, it will involve forest harvesting and other forest operations that will affect forest stands in which these activities are conducted. Nevertheless, a central goal of sustainable forest management is to obtain non-declining timber volumes without compromising forest quality or composition over time. Although any harvest will alter the forest to some extent, it is clear that minimizing physical impacts is an important first step in the goal of sustainable production. RIL methods reduce soil and canopy damage, protect future crop trees, and decrease waste compared to conventional practices. As such, RIL is considered a necessary step toward achieving sustainable forest management.

The training conducted during this project will be integrated into actual forest management and forest harvesting activities. Trees will be cut and heavy equipment used on at least 800 ha of forest will be harvested and roads will affect additional areas. In all operations and in all training activities, the FTCL field crew will adhere to GFC regulations and Code of Practice standards. Finally, it is worth noting that this project is expected to have a positive environmental impact because it should multiply the number and area of forests being managed with RIL practices compared with conventional logging practices.

RIL requires extensive planning of the harvesting operations, the use of trained personnel and appropriate equipment and machinery. RIL emphasizes sustainable forest management so that areas are harvested more effectively and efficiently, significantly lessening the need to re-enter a harvested area until it has matured and is ready for harvest again.

## 2.8 Social aspects

The overall social impact of the project is expected to be positive for many of the reasons mentioned above under *Economic Aspects*. Adoption of RIL practices changes the cost structure for producers in a socially beneficial way. Compared to conventional logging, RIL increases the proportion of total costs spent on salaries and additional labour. In conventional logging, those moneys are spent instead on equipment use and maintenance and fuel costs due to inefficiencies. In addition, RIL operations use more workers, many of whom possess special skills and training, than conventional logging operations. The dollars spent on wages stay in Guyana, which helps fuel the local economy. In conventional operations in contrast, the beneficiaries of producer expenses for equipment and fuel are mainly overseas.

Another socially beneficial aspect of RIL compared to conventional logging and most other land uses is that RIL requires a much larger range of skills. In conventional logging, a person is a labourer, a machine operator or a crew chief; seldom is there a defined career path that allows individuals to improve their status through experience and training. In RIL in contrast, various career plans are feasible even for an unskilled labourer.

Aside from the obvious benefits to rural workers, an important consequence of the career paths and various skills associated with RIL is that people trained in forestry will remain in rural areas rather than moving to cities where they might remain poor and jobless.

In addition to potential careers, RIL significantly upgrades attention to operational safety and health. In every one of the proposed courses and extension activities, FTCl trainers emphasize worker health and safety; in the hands-on courses, operational health and safety is a key part of the curriculum.

## 2.9 Risks

At the Developmental Objective level, there are several risks involved that are not under control of the management of the project. RIL is only one, albeit vital, component of good forest management. Sustainability will not be achieved through the adoption of RIL alone, when other aspects of forest management (e.g. harvesting intensities, post-harvest silvicultural control incentives) are not considered in the same framework. Implementation of RIL depends largely on the timber industry's willingness to pay. If the costs of implementing RIL (net of financial benefits) are at a level acceptable to industry and traditional views become more amenable to emerging perspectives (e.g. due to declining market access), then RIL will be widely adopted. Important risks are that the national and international macro-economic and sectoral policies that erode instead of promote the incentive to adopt good forest management practices. National and international mechanisms to reduce the financial burden for producers who wish to make the transition from traditional logging to RIL should be developed to achieve the development objective.

For the Specific Objective of the project:

Programme needs to remain competitive and attractive to forest sector clients. This will be addressed by ensuring that the programmes offered are continually revised to meet stakeholder needs, that the centre delivers value for money – i.e. efficiency, and by maintaining close liaison with these other institutions.



### 3 **Outputs**

#### 3.1 **Specific Objective: To provide training in reduced impact logging and related matters in order to reduce the level of negative environmental impacts (and promote more environmentally responsible approaches to timber harvesting).**

- Output 1: RIL training programme for medium / large scale operators organised and delivered and RIL demonstration forests established in three regions in Guyana (continuation of previous project)
- Output 2: RIL system for small-scale / community forestry operations designed
- Output 3: Capacity to provide RIL training programme for small-scale / community forest operations established
- Output 4: RIL training programme for small-scale / community forestry operations organised and delivered
- Output 5: Capacity to provide training programme on other aspects of sustainable forest management established
- Output 6: Training courses in other aspects of SFM organised and delivered
- Output 7: Long term sustainability of vocational SFM/RIL training in Guyana secured

### 4 **Activities**

#### 4.1 **Output 1: RIL training programme for medium / large scale operators organised and delivered and RIL demonstration forests established**

- Activity 1.1 **Organize training materials and supplies for RIL courses**
- Activity 1.2 Construct and/or maintain access roads, bridges and culverts
- Activity 1.3 Schedule and promote courses
- Activity 1.4 Conduct on-site course preparation activities and RIL harvest activities
- Activity 1.5 Conduct on-site basic RIL system training courses
- Activity 1.6 **Acquire logging equipment for and transport training materials and supplies to satellite sites**
- Activity 1.7 **Conduct off-site course preparation activities and RIL harvest activities**
- Activity 1.8 Conduct off-site basic RIL system training courses
- Activity 1.9 Conduct evaluations basic RIL system & courses
- Activity 1.10 Process, analyze and synthesize evaluations basic RIL system

#### 4.2 **Output 2: RIL system for small-scale / community forestry operations designed**

- Activity 2.1 Survey timber harvesting practices & technologies of small-scale & community operators
- Activity 2.2 **Consultations with small-scale loggers & communities to identify training needs**
- Activity 2.3 **Adapt basic RIL system to suit technology & labour force used by small-scale loggers & community forest operations.**
- Activity 2.4 Convene workshop / consultations with key stakeholders to review "small loggers" RIL system.

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- 4.3 Output 3: Capacity to provide RIL training programme for small-scale / community forest operations established
  - Activity 3.1 Design training programme for "small loggers" RIL system
  - Activity 3.2 Acquire and prepare technical materials and supplies for "small loggers" RIL system
  - Activity 3.3 Acquire and prepare training materials and supplies for "small loggers" RIL system
  - Activity 3.4 Convene workshop / consultations to validate training programme
  - Activity 3.5 Train FTCl trainers in "small logger" RIL system training modules
- 4.4 Output 4: RIL training programme for small-scale / community forestry operations organised and delivered
  - Activity 4.1 Schedule and promote "small loggers" RIL system courses
  - Activity 4.2 Conduct course preparation activities "small loggers" RIL system
  - Activity 4.3 Conduct "small loggers" RIL system training courses
  - Activity 4.4 Conduct evaluations "small loggers" RIL system
  - Activity 4.5 Process, analyze and synthesize evaluations "small loggers" RIL system
- 4.5 Output 5: Capacity to provide training programme on other aspects of sustainable forest management established
  - Activity 5.1 Stakeholder consultations to identify SFM training needs
  - Activity 5.2 Review and modify if necessary GFC/CPEC training modules on Forest Management Planning & Code of Practice, **Tree Identification & Forest Mapping**
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  - Activity 5.3 Design training programme on auditing procedures for Criteria & Indicators (ITTO & Guyana National Standard for Forest Certification & **Tarapota proposals**)
  - Activity 5.4 Convene workshop / consultations to validate training programme
  - Activity 5.5 Acquire and prepare technical materials and supplies for SFM training
  - Activity 5.6 Prepare training materials for SFM training
    - 5.8.1 Prepare & print Forest Management Planning & Code of Practice manual
    - 5.8.2 Prepare & print Tree and Timber Identification manual
    - 5.8.3 Prepare & print Forest Mapping and Surveying manual
    - 5.8.4 Prepare & print Auditing procedures for Criteria & Indicators manual
  - Activity 5.7 Train FTCl trainers in "other SFM aspects" training modules
- 4.6 Output 6: Training courses in other aspects of SFM organised and delivered

- Activity 6.1 Schedule and promote courses in "other SFM aspects"
- Activity 6.2 Conduct course preparation activities "other SFM aspects"
- Activity 6.3 Conduct training courses in "other SFM aspects"
  - 6.4.1 Forest Management Planning & Code of Practice course
  - 6.4.2 Tree and Timber Identification course
  - 6.4.3 Forest Mapping and Surveying course
  - 6.4.4 Auditing procedures for Criteria & Indicators course
- Activity 6.4 Conduct evaluations "other SFM aspects"
- Activity 6.5 Process, analyze and synthesize evaluations "other SFM aspects"

4.7 Output 7: Long term sustainability of vocational SFM/RIL training in Guyana secured

- Activity 7.1 Elaborate lesson plans, lectures and key techniques used by trainers during each course
- Activity 7.2 Peer review and compilation of lesson plans etc. for each training course
- Activity 7.3 **Review trainers' manuals**
- Activity 7.4 Train trainers in the use of trainer's manuals
- Activity 7.5 Establish vocational training branch at GFC
- Activity 7.6 Transfer core trainers, materials and key assets from FTCl to GFC

5 **Logical Framework**

Project elements	Indicators of achievement	Means of verification	Important assumptions
<p><b>Development Objective</b>  <u>To improve the forest sector's contribution to national development through promoting the use of sustainable forest management practices by timber producers.</u></p>	<p><u>50% increase in logging enterprises with forest management plans approved by the GFC</u></p> <p><u>Every forest concession with area &gt;20,000 hectares has at least one employee trained by FTCl</u></p> <p><u>50% increase in compliance with the forest legislation and the Code of Practice for Timber Harvesting</u></p> <p><u>At least one copy of GFC's Code of Practice may be found at every forest concession.</u></p>	<p>GFC monitoring unit reports, independent audits</p> <p>GFC production reports and statistics</p> <p>Production and trade statistics</p> <p>ITTO / FSC reports and statistics</p> <p>Min. of Local Government and Amerindian Affairs reports and statistics</p> <p>GoG statistics on employees in the forest sector</p>	<p><u>The new forestry legislation comes into force.</u></p> <p><u>The Government continues to demand Environmental and social Impact assessments for major forestry projects.</u></p> <p><u>The Government of Guyana starts work on a Land Use Plan for Guyana</u></p>
<p><b>Specific Objective</b>  <u>To provide training in reduced impact logging and related matters in order to reduce the level of negative environmental impacts (and promote environmentally responsible approaches to timber harvesting)</u></p>	<p><u>A minimum of 35 training courses completed</u></p> <p><u>A minimum of 366 forestry practitioners trained in the application of SFM-RIL; 50% of trained forest operators and workers are employed by timber companies</u></p> <p><u>At least 90% of students from the University of Guyana or the Guyana School of Agriculture who participate in FTCl's courses employed within 1 year of graduation</u></p>	<p><u>FTCl's records; progress reports</u></p> <p>Employment records of timber companies</p> <p>Company reports and plans submitted to GFC</p> <p>Final ITTO report</p> <p>Follow-up surveys of course participants</p>	<p>The monitoring programme at the GFC is implemented with full rigour</p> <p>Continued commitment by the GoG, GFC, timber industry and other stakeholders to adopt SFM/RIL and to invest in training</p> <p>Enabling environment at timber companies allows trainees to implement newly acquired skills</p>
<p><b>OUTPUT 1</b>  RIL training programme for medium / large scale operators organised and delivered and RIL demonstration forests established in three regions in Guyana (continuation of ITTO project PD 68/01 (I))</p>	<p><u>Three training sites managed directly by FTCl.</u></p> <p>Forest management plans for each <u>training area</u> completed</p> <p>12 graduates RIL decision makers' course, 36 RIL supervisors' course, 24 RIL harvest planning course, 72 RIL operators courses, 24 road construction course</p>	<p><u>Maps showing training, sites, demonstration forests</u></p> <p><u>MOUs established with the three concessionaires hosting training sites</u></p> <p>TAC reports</p> <p><u>Certificates issued by FTCl</u></p> <p>Forest management plans and annual plans available at GFC</p>	<p><u>Partner concessionaires agree to MOUs with FTCl.</u></p> <p>Adequate incentives for concessionaires to donate areas for training and demonstration implemented.</p>

Project elements	Indicators of achievement	Means of verification	Important assumptions
		plans available at GFC Tree stock and harvest maps available at FTCI GFC monitoring unit records	
OUTPUT 2 RIL system for small-scale / community forestry operations designed	"Small operators" RIL system <b><u>developed and documented</u></b> <b><u>Demonstration forest for</u></b> "Small operators" RIL system established	<b><u>Surveying records</u></b> GFC monitoring unit records Small operators understand the benefits and request training Demonstration forest <b><u>for 'Small operators RIL system.</u></b>	<b><u>Small operators continue to be a major segment of the forest sector.</u></b>  <b><u>RIL systems for small operators can be viable.</u></b>
OUTPUT 3 RIL training programme for small-scale / community forest operations designed	Course materials of high quality prepared Training manuals prepared	Findings of consultation process Peer review of course materials and curricula Training manuals available at FTCI Number of small-scale loggers / hinterland communities adopting the manual is significant	<b><u>Small operators can afford to pay for training or alternatively can source sponsorship</u></b> Small-scale loggers and hinterland communities <b><u>demonstrate</u></b> interest in improving <b><u>their</u></b> practices
OUTPUT 4 RIL training programme for small-scale / community forestry operations organised and delivered	FTCI trainers trained in adapted system 18 graduates among small loggers by 12/2006 18 graduates among hinterland communities by 12/2006	Number of training certificates issued ITTO reports, TAC report	Small-scale loggers and hinterland communities respond favourably to training opportunities Suitable <b><u>training</u></b> staff can be retained by the programme
OUTPUT 5 Training programme on other aspects of sustainable forest management designed	Training manual Forest Management planning and CoP course prepared Training manual Tree and Timber Identification course prepared Training manual Forest Mapping course prepared Training manual Auditing procedures for	Findings of consultation process Peer review of course materials and curricula Training manuals available at FTCI	<b><u>Programme on other aspects of SFM agreeable key stakeholders</u></b>  Suitable consultant can be identified and contracted at reasonable cost

Project elements	Indicators of achievement	Means of verification	Important assumptions
	Criteria & Indicators course prepared		
<b>OUTPUT 6</b> Training courses in other aspects of SFM organised and delivered	24 graduates in each of the following subjects: forest management planning, tree identification, practical forest mapping, auditing against ITTO/GNSFC criteria & indicators	<u><i>FTCI trainers trained to teach other aspects of SFM</i></u>  Number of training certificates issued ITTO reports, TAC report	<u><i>Forest monitoring efforts supported by new legislation is implemented with rigour</i></u>  Suitable staff can be identified and retained by the programme
<b>OUTPUT 7</b> Long term sustainability of vocational SFM/RIL training in Guyana secured	Trainer lesson plans, lectures and techniques incorporated in SFM/RIL training of trainers manual  Extension and didactic materials developed and transferred to GFC	GFC employment records Manuals, materials and key assets registered in GFC records	Government, GFC and other donors support extension service <u><i>GFC remains willing to absorb additional direct responsibilities</i></u>

Activity	Inputs	Input Categories
<b>Output 1: RIL training programme for medium / large scale operators organised and delivered and RIL demonstration forests established</b>		
<b><u>Activity 1.1 Organize training materials and supplies for RIL courses</u></b>	<ul style="list-style-type: none"> <li>- <b><u>Admin. Manager: 3 weeks</u></b></li> <li>- <b><u>Course Coordinator: 3 weeks</u></b></li> <li>- <b><u>Newsletter: 3 issues @ 500 copies</u></b></li> <li>- <b><u>Admin. Manager: 3 weeks</u></b></li> <li>- <b><u>Course Coordinator: 3 weeks</u></b></li> <li>- <b><u>Driver: 2 weeks</u></b></li> <li>- <b><u>Vehicle: 800 km</u></b></li> <li>- <b><u>Cook: 1 week</u></b></li> </ul>	<ul style="list-style-type: none"> <li>11. National experts</li> <li>12. <b><u>Other personnel</u></b></li> <li>21. <b><u>Printers</u></b></li> <li>41. <b><u>Vehicles</u></b></li> <li>53. <b><u>Vehicles running costs</u></b></li> </ul>
Activity 1.2 Construct and maintain access roads, bridges and culverts	<ul style="list-style-type: none"> <li>- Operations Manager: 1 week</li> <li>- Foresters: 1 MM</li> <li>- Sr. Instructor-operator: 4 MM</li> <li>- Instructor-operators: 4 MM</li> <li>- Sr. Technician: 3 MM</li> <li>- Technicians: 3 MM</li> <li>- Labourers: 7 MM</li> <li>- Driver: 4 MM</li> <li>- Cook: 4 MM</li> <li>- Barge (small): 1 trip</li> <li>- Speedboat: 2 return trips</li> <li>- DSA FTCl staff: 106 days</li> <li>- Chainsaws and other equipment</li> <li>- FTCl bulldozer: 48 machine days</li> <li>- FTCl wheel loader: 9 machine days</li> <li>- TPL excavator: 4 machine days</li> <li>- TPL dump truck: 6 machine days</li> <li>- TPL motor grader: 2 machine days</li> <li>- Bulldozer satellite sites: 48 machine days</li> <li>- Vehicles: 2600 km</li> <li>- Chainsaw operating cost (160 l. mix gas/ 50 l. chain oil / bars / chains / files / parts)</li> <li>- Food, cooking gas, kerosene, etc: 636 person days</li> <li>- Safety gear</li> <li>- Felling tools &amp; materials</li> </ul>	<ul style="list-style-type: none"> <li>11. National experts</li> <li>12. Other personnel</li> <li>33. Transport costs</li> <li>31. Daily Subsistence Allow.</li> <li>43. Training equipment</li> <li>51. Heavy equipment rental</li> <li>52. Heavy equipment running costs</li> <li>41. Vehicles</li> <li>53. Vehicles running costs</li> <li>54. Chainsaw operating costs</li> <li>55. Camp supplies</li> <li>56. Materials</li> </ul>
<b><u>Activity 1.3 Schedule and promote courses.</u></b>	<ul style="list-style-type: none"> <li>- <b><u>Project Director: 2 week</u></b></li> <li>- <b><u>Forester: 1 week</u></b></li> <li>- <b><u>Course Coordinator: 1 week</u></b></li> <li>- <b><u>Operations Manager: 1 week</u></b></li> <li>- <b><u>Course Coordinator: 1 week</u></b></li> <li>- Code of Practice: 240 copies</li> <li>- RIL training manual: 250 copies</li> <li>- Road construction manual: 100 copies</li> </ul>	<ul style="list-style-type: none"> <li>11. National experts</li> <li>12. Other personnel</li> <li>21. Printers</li> </ul>
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Activity	Inputs	Input Categories
Activity 1.4 Conduct on-site course preparation activities and RIL harvest activities	<ul style="list-style-type: none"> <li>- Operations Manager: 1 week</li> <li>- Foresters: 14 MM</li> <li>- Sr. Instructor-operator: 4.5 MM</li> <li>- Instructor-operators: 12 MM</li> <li>- Botanist: 5 MM</li> <li>- Sr. Technician: 9 MM</li> <li>- Technicians: 27 MM</li> <li>- Drivers: 19 MM</li> <li>- Cooks: 25 MM</li> <li>- Barge (small): 2 trips</li> <li>- Speedboat: 30 return trips</li> <li>- DSA FTCL staff: 594 days</li> <li>- Chainsaws and other equipment</li> <li>- FTCL bulldozer: 70 machine days</li> <li>- FTCL skidder: 90 machine days</li> <li>- FTCL wheel loader: 16 machine days</li> <li>- TPL logging truck: 15 machine days</li> <li>- Vehicles: 12800 km</li> <li>- Chainsaw operating cost (670 l mix gas/ 20 l chain oil / bars / chains / files / parts)</li> <li>- Food, cooking gas, kerosene, etc: 3564 person days</li> <li>- Safety gear</li> <li>- Surveying tools &amp; materials</li> <li>- Felling tools &amp; materials</li> <li>- Skidding tools &amp; materials</li> </ul>	<ul style="list-style-type: none"> <li>11. National experts</li> <li>12. Other personnel</li> <li>33. Transport costs</li> <li>31. Daily Subsistence Allow.</li> <li>43. Training equipment</li> <li>51. Heavy equipment rental</li> <li>52. Heavy equipment running costs</li> <li>41. Vehicles</li> <li>53. Vehicles running costs</li> <li>54. Chainsaw operating costs</li> <li>55. Camp supplies</li> <li>56. Materials</li> </ul>
Activity 1.5 Conduct on-site basic RIL system training courses	<ul style="list-style-type: none"> <li>- Project Director: 0.5 MM</li> <li>- Operations Manager: 3 MM</li> <li>- Foresters: 10 MM</li> <li>- Sr. Instructor-operator: 3.5 MM</li> <li>- Instructor-operators: 6 MM</li> <li>- Botanist: 2 MM</li> <li>- Sr. Technician: 2.5 MM</li> <li>- Technicians: 9 MM</li> <li>- Drivers: 6 MM</li> <li>- Cooks: 11 MM</li> <li>- Barge (small): 1 trip</li> <li>- Speedboat: 38 return trips</li> <li>- DSA FTCL staff: 424 days</li> <li>- Chainsaws and other equipment</li> <li>- FTCL bulldozer: 35 machine days</li> <li>- FTCL skidder: 35 machine days</li> <li>- FTCL wheel loader: 20 machine days</li> <li>- TPL excavator: 8 machine days</li> <li>- TPL dump truck: 4 machine days</li> <li>- TPL logging truck: 7 machine days</li> <li>- TPL motor grader: 6 machine days</li> <li>- Vehicles: 12200 km</li> <li>- Chainsaw operating cost (275 l mix gas/ 83 l chain oil / bars / chains / files / parts)</li> <li>- Food, cooking gas, kerosene, etc: 2544 person days</li> </ul>	<ul style="list-style-type: none"> <li>11. National experts</li> <li>12. Other personnel</li> <li>33. Transport costs</li> <li>31. Daily Subsistence Allow.</li> <li>43. Training equipment</li> <li>51. Heavy equipment rental</li> <li>52. Heavy equipment running costs</li> <li>41. Vehicles</li> <li>53. Vehicles running costs</li> <li>54. Chainsaw operating costs</li> <li>55. Camp supplies</li> </ul>



Activity	Inputs	Input Categories
	<ul style="list-style-type: none"> <li>- Teaching aids</li> <li>- Safety gear</li> <li>- Surveying tools &amp; materials</li> <li>- Felling tools &amp; materials</li> <li>- Skidding tools &amp; materials</li> </ul>	56. Materials
Activity 1.6 Acquire logging equipment for and transport training materials and supplies to satellite sites	<ul style="list-style-type: none"> <li>- Operations Manager: 2 weeks</li> <li>- Sr. Instructor-operator: 2 weeks</li> <li>- Instructor-operators: 1 week</li> <li>- Drivers: 3 weeks</li> <li>- Cooks: 2 weeks</li> <li>- Low bed: 2 trips (long)</li> <li>- Barge (large): 2 trips</li> <li>- Speedboat: 1 return trips</li> <li>- Vehicles: 2100 km</li> </ul>	11. National experts  12. Other personnel  33. Transport costs  41. Vehicles 53. Vehicles running costs
Activity 1.7 Conduct off-site course preparation activities and RIL harvest activities	<ul style="list-style-type: none"> <li>- Foresters: 6.5 MM</li> <li>- Sr. Instructor-operator: 2.5 MM</li> <li>- Instructor-operators: 4 MM</li> <li>- Botanist: 2.5 MM</li> <li>- Sr. Technician: 2 MM</li> <li>- Technicians: 6 MM</li> <li>- Drivers: 5.5 MM</li> <li>- Cooks: 7 MM</li> <li>- Barge</li> <li>- DSA FTCL staff: 186 days</li> <li>- Chainsaws and other equipment</li> <li>- Bulldozer satellite sites: 12 machine days</li> <li>- Skidder satellite sites: 30 machine days</li> <li>- Wheel loader satellite sites: 8 machine days</li> <li>- Logging truck satellite sites: 8 machine days</li> <li>- Vehicles: 12250 km</li> <li>- Chainsaw operating cost (190 l mix gas/ 57 l chain oil / bars / chains / files / parts)</li> <li>- Food, cooking gas, kerosene, etc: 1116 person days</li> <li>- Safety gear</li> <li>- Surveying tools &amp; materials</li> <li>- Felling tools &amp; materials</li> <li>- Skidding tools &amp; materials</li> </ul>	11. National experts  12. Other personnel  33. Transport costs 31. Daily Subsistence Allow. 43. Training equipment 51. Heavy equipment rental 52. Heavy equipment running costs  41. Vehicles 53. Vehicles running costs 54. Chainsaw operating costs 55. Camp supplies 56. Materials
Activity 1.8 Conduct off-site basic RIL system training courses	<ul style="list-style-type: none"> <li>- Project Director: 1 week</li> <li>- Foresters: 4.5 MM</li> <li>- Sr. Instructor-operator: 1 MM</li> <li>- Instructor-operators: 2 MM</li> <li>- Botanist: 1.5 MM</li> <li>- Sr. Technician: 1.5 MM</li> <li>- Technicians: 5 MM</li> <li>- Drivers: 1.5 MM</li> <li>- Cooks: 3 MM</li> <li>- Barge (small): 1 trip</li> <li>- DSA FTCL staff: 220 days</li> <li>- Chainsaws and other equipment</li> </ul>	11. National experts  12. Other personnel  33. Transport costs 31. Daily Subsistence Allow. 43. Training equipment

Activity	Inputs	Input Categories
	<ul style="list-style-type: none"> <li>- Bulldozer satellite site: 6 machine days</li> <li>- Skidder satellite site: 8 machine days</li> <li>- Wheel loader satellite site: 3 machine days</li> <li>- Logging truck satellite site: 3 machine days</li> <li>- Vehicles: 10650 km</li> <li>- Chainsaw operating cost (140 l mix gas/ 42 l chain oil / bars / chains / files / parts)</li> <li>- Food, cooking gas, kerosene, etc: 1320 person days</li> <li>- Teaching aids</li> <li>- Safety gear</li> <li>- Surveying tools &amp; materials</li> <li>- Felling tools &amp; materials</li> <li>- Skidding tools &amp; materials</li> </ul>	51. Heavy equipment rental 52. Heavy equipment running costs  41. Vehicles 53. Vehicles running costs 54. Chainsaw operating costs  55. Camp supplies  56. Materials
Activity 1.9 Conduct evaluations basic RIL system & courses	<ul style="list-style-type: none"> <li>- Project Director: 1 week</li> <li>- Operations Manager: 2 weeks</li> <li>- Foresters: 1 week</li> <li>- Course Coordinator: 4 weeks</li> </ul>	11. National experts  12. Other personnel
Activity 1.10 Process, analyze and synthesize evaluations basic RIL system	<ul style="list-style-type: none"> <li>- Project Director: 1 week</li> <li>- Operations Manager: 4 weeks</li> <li>- Foresters: 1 week</li> <li>- Sr. Instructor-operator: 1 week</li> <li>- Instructor-operator: 2 week</li> <li>- Course Coordinator: 2 weeks</li> <li>- Technicians: 1 week</li> </ul>	11. National experts  12. Other personnel
<b>Output 2: RIL system for small-scale / community forestry operations designed</b>		
Activity 2.1 Survey timber harvesting practices & technologies of small-scale & community operators	<ul style="list-style-type: none"> <li>- Project Director: 2 weeks</li> <li>- Sr. Instructor-operator: 1 week</li> <li>- Instructor-operator: 2 weeks</li> <li>- Admin. Manager: 1 week</li> <li>- Course Coordinator: 3 weeks</li> <li>- Consultant – RIL: 10 days</li> <li>- DSA consultants: 7 days</li> <li>- International Flight: 1</li> <li>- Vehicles: 1500 km</li> </ul>	11. National experts  12. Other personnel  13. Int'l Consultants 31. Daily Subsistence Allow. 32. International Travel 41. Vehicles 53. Vehicles running costs
<b><u>Activity 2.2 Consultations with small-scale loggers &amp; communities to identify training needs</u></b>	<ul style="list-style-type: none"> <li>- <b><u>Project Director: 1 week</u></b></li> <li>- <b><u>Course Coordinator: 1 week</u></b></li> <li>- <b><u>Consultant – RIL: 1 day</u></b></li> <li>- <b><u>DSA consultants: 2 days</u></b></li> <li>- <b><u>Transport workshop participants</u></b></li> <li>- <b><u>Vehicles: 400 km</u></b></li> <li>- <b><u>Venue / snacks workshop</u></b></li> </ul>	<b><u>11. National experts</u></b> <b><u>12. Other personnel</u></b> <b><u>13. Int'l Consultants</u></b> <b><u>31. Daily Subsistence Allow.</u></b> <b><u>33. Transport costs</u></b> <b><u>41. Vehicles</u></b> <b><u>53. Vehicles running costs</u></b> <b><u>62. Workshops</u></b>

Activity	Inputs	Input Categories
	-	
Activity 2.3 Adapt basic RIL system to suit technology & labour force used by small-scale loggers & community forest operations	- Consultant – RIL: 10 days	13. Int'l Consultants
Activity 2.4 Convene workshop / consultations with key stakeholders to review "small loggers" RIL system	- Project Director: 1 weeks - Instructor-operator: 2 weeks - Technicians: 1 week - Consultant – RIL: 1 day - DSA consultants: 2 days - International Flight: 1 - Transport workshop participants - Vehicles: 400 km  - Venue / snacks workshop	11. National experts 12. Other personnel 13. Int'l Consultants 31. Daily Subsistence Allow. 32. International Travel 33. Transport costs 41. Vehicles 53. Vehicles running costs 62. Workshops
<b>Output 3: Capacity to provide RIL training programme for small-scale / community forest operations established</b>		
Activity 3.1 Design training programme for "small loggers" RIL system	- Project Director: 1 weeks - Operations Manager: 1 week - Consultant – RIL: 5 days	11. National experts 13. Int'l Consultants
Activity 3.2 Acquire and prepare technical materials and supplies for "small loggers" RIL system	- Project Director: 1 weeks - Operations Manager: 2 weeks - Sr. Instructor-operator: 1 week - Course Coordinator: 1 week - Vehicles: 400 km	11. National experts 12. Other personnel 41. Vehicles 53. Vehicles running costs
Activity 3.3 Acquire and prepare training materials and supplies for "small loggers" RIL system	- Project Director: 1 weeks - Sr. Instructor-operator: 2 weeks - Drivers: 1 week - Consultant – RIL: 2 days - Small loggers training manual: 50 copies - Vehicles: 600 km	11. National experts 12. Other personnel 13. Int'l Consultants 21. Printers 41. Vehicles 53. Vehicles running costs
Activity 3.4 Convene workshop / consultations to validate training programme	- Project Director: 1 week - Instructor-operator: 1 week - Botanist: 1 week - Consultant – RIL: 1 day - DSA consultants: 2 days	11. National experts 13. Int'l Consultants 31. Daily Subsistence Allow.
Activity 3.5 Train FTCl trainers in "small logger" RIL system training modules	- Project Director: 1 week - Operations Manager: 2 weeks - Foresters: 2 weeks - Sr. Instructor-operator: 2 weeks - Instructor-operators: 4 weeks - Botanist: 2 weeks - Sr. Technician: 2 weeks - Technicians: 2 weeks - Drivers: 1 week - Cooks: 1 week - Consultant – RIL: 10 days - DSA consultants: 14 days	11. National experts 12. Other personnel 13. Int'l Consultants 31. Daily Subsistence Allow.

Activity	Inputs	Input Categories
	<ul style="list-style-type: none"> <li>- DSA FTCl staff: 20 days</li> <li>- International Flight: 1</li> <li>- Speedboat: 3 return trips</li> <li>- Chainsaws and other equipment</li> <li>- Vehicles: 400 km</li>   <li>- Food, cooking gas, kerosene, etc: 120 person days</li> <li>- Teaching aids</li> <li>- Other materials</li> </ul>	<ul style="list-style-type: none"> <li>31. Daily Subsistence Allow.</li> <li>32. International Travel</li> <li>33. Transport costs</li> <li>43. Training equipment</li> <li>41. Vehicles</li> <li>53. Vehicles running costs</li> <li>55. Camp supplies</li>   <li>56. Materials</li> </ul>
<b>Output 4: RIL training programme for small-scale / community forestry operations organised and delivered</b>		
Activity 4.1 Schedule and promote "small loggers" RIL system courses	<ul style="list-style-type: none"> <li>- Course Coordinator: 2 weeks</li> <li>- <b><u>Foresters: 1 week</u></b></li> <li>- <b><u>Botanist: 1 week</u></b></li> <li>- <b><u>Course Coordinator: 3 weeks</u></b></li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>11. <b><u>National experts</u></b></li> <li>12. Other personnel</li> </ul>
Activity 4.2 Conduct course preparation activities "small loggers" RIL system	<ul style="list-style-type: none"> <li>- Operations Manager: 1 week</li> <li>- Foresters: 9 weeks</li> <li>- Sr. Instructor-operator: 2 weeks</li> <li>- Instructor-operators: 6 weeks</li> <li>- Botanist: 7 weeks</li>   <li>- Course Coordinator: 1 week</li> <li>- Sr. Technician: 3 weeks</li> <li>- Technicians: 12 weeks</li> <li>- Labourers: 6 weeks</li> <li>- Drivers: 4 weeks</li> <li>- Cooks: 3 weeks</li>   <li>- DSA FTCl staff: 80 days</li> <li>- Speedboat: 6 return trips</li> <li>- Vehicles: 1200 km</li>   <li>- Chainsaws and other equipment</li> <li>- Chainsaw operating cost (30 l mix gas/ 9 l chain oil / bars / chains / files / parts)</li> <li>- Safety gear</li> <li>- Surveying tools &amp; materials</li> <li>- Felling tools &amp; materials</li> </ul>	<ul style="list-style-type: none"> <li>11. National experts</li>   <li>12. Other personnel</li>   <li>31. Daily Subsistence Allow.</li> <li>33. Transport costs</li> <li>41. Vehicles</li> <li>53. Vehicles running costs</li> <li>43. Training equipment</li> <li>54. Chainsaw operating costs</li>   <li>56. Materials</li> </ul>
Activity 4.3 Conduct "small loggers" RIL system training courses	<ul style="list-style-type: none"> <li>- Operations Manager: 2 week</li> <li>- Foresters: 10 weeks</li> <li>- Sr. Instructor-operator: 2 weeks</li> <li>- Instructor-operators: 12 weeks</li> <li>- Botanist: 6 weeks</li>   <li>- Course Coordinator: 2 weeks</li> <li>- Sr. Technician: 6 weeks</li> <li>- Technicians: 14 weeks</li> <li>- Drivers: 5 weeks</li> <li>- Cooks: 4 weeks</li>   <li>- DSA FTCl staff: 138 days</li> <li>- Speedboat: 7 return trips</li> <li>- Vehicles: 3600 km</li> </ul>	<ul style="list-style-type: none"> <li>11. National experts</li>   <li>12. Other personnel</li>   <li>31. Daily Subsistence Allow.</li> <li>33. Transport costs</li> <li>41. Vehicles</li> <li>53. Vehicles running costs</li> </ul>

Activity	Inputs	Input Categories
	<ul style="list-style-type: none"> <li>- Chainsaws and other equipment</li> <li>- TPL farm tractor: 9 days</li> <li>- Chainsaw operating cost (30 l mix gas/ 9 l chain oil / bars / chains / files / parts)</li> <li>- Teaching aids</li> <li>- Safety gear</li> <li>- Surveying tools &amp; materials</li> <li>- Felling tools &amp; materials</li> </ul>	<ul style="list-style-type: none"> <li>43. Training equipment</li> <li>51. Heavy equipment rental</li> <li>52. Heavy equipment running costs</li> <li>54. Chainsaw operating costs</li> <li>56. Materials</li> </ul>
Activity 4.4 Conduct evaluations "small loggers" RIL system	<ul style="list-style-type: none"> <li>- Operations Manager: 1 week</li> <li>- Foresters: 3 weeks</li> <li>- Instructor-operators: 4 weeks</li> <li>- Course Coordinator: 1 week</li> </ul>	<ul style="list-style-type: none"> <li>11. National experts</li> <li>12. Other personnel</li> </ul>
Activity 4.5 Process, analyze and synthesize evaluations "small loggers" RIL system	<ul style="list-style-type: none"> <li>- Foresters: 1 week</li> <li>- Instructor-operators: 4 weeks</li> <li>- Course Coordinator: 1 week</li> </ul>	<ul style="list-style-type: none"> <li>11. National experts</li> <li>12. Other personnel</li> </ul>
<b>Output 5: Capacity to provide training programme on other aspects of sustainable forest management established</b>		
Activity 5.1 Stakeholder consultations to identify SFM training needs	<ul style="list-style-type: none"> <li>- Project Director: 1 week</li> <li>- Operations Manager: 1 week</li> <li>- Foresters: 1 week</li> <li>- Admin. Manager: 1 week</li> <li>- Course Coordinator: 1 week</li> <li>- Transport workshop participants</li> <li>- Vehicles: 1500 km</li> <li>- Other materials</li> <li>- Venue / snacks workshop</li> </ul>	<ul style="list-style-type: none"> <li>11. National experts</li> <li>12. Other personnel</li> <li>33. Transport costs</li> <li>41. Vehicles</li> <li>53. Vehicles running costs</li> <li>56. Materials</li> <li>62. Workshops</li> </ul>
Activity 5.2 Review existing GFC/CPEC training modules on Forest Management Planning & Code of Practice, <u>Tree identification, &amp; Forest mapping</u>	<ul style="list-style-type: none"> <li>- Project Director: 10 weeks</li> <li>- Operations Manager: 4 weeks</li> <li>- Foresters: 2 weeks</li> <li>- <b><u>Botanist: 1 week</u></b></li> <li>- <b><u>Technicians: 3 weeks</u></b></li> <li>-</li> <li>-</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>11. National experts</li> <li>12. <b><u>Other personnel</u></b></li> </ul>
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	-	
Activity 5.3 Design training programme on auditing procedures for Criteria & Indicators (ITTO & Guyana National Standard for Forest Certification)	<ul style="list-style-type: none"> <li>- Project Director: 1 week</li> <li>- Foresters: 1 week</li> <li>- Consultant – C&amp;I auditing: 14 days</li> </ul>	<ul style="list-style-type: none"> <li>11. National experts</li> <li>13. Int'l Consultants</li> </ul>
Activity 5.4 Convene workshop / consultations to validate training programme	<ul style="list-style-type: none"> <li>- Project Director: 1 week</li> <li>- Operations Manager: 1 week</li> <li>- Foresters: 3 weeks</li> <li>- Botanist: 3 weeks</li> <li>- Admin. Manager: 1 week</li> <li>- Course Coordinator: 3 weeks</li> <li>- Consultant – C&amp;I auditing: 1 day</li> </ul>	<ul style="list-style-type: none"> <li>11. National experts</li> <li>12. Other personnel</li> <li>13. Int'l Consultants</li> </ul>

Activity	Inputs	Input Categories
	<ul style="list-style-type: none"> <li>- DSA consultants: 2 days</li> <li>- International Flight: 1</li> <li>- Transport workshop participants</li> <li>- Vehicles: 300 km</li> <li>- Venue / snacks workshop</li> </ul>	31. Daily Subsistence Allow. 32. International Travel 33. Transport costs 41. Vehicles 53. Vehicles running costs 62. Workshops
Activity 5.5 Acquire and prepare technical materials and supplies for SFM training	<ul style="list-style-type: none"> <li>- Sr. Instructor-operator: 2 weeks</li> <li>- Admin. Manager: 2 weeks</li> <li>- Drivers: 1 week</li> <li>- Vehicles: 300 km</li> </ul>	11. National experts 12. Other personnel 41. Vehicles 53. Vehicles running costs
Activity 5.6 Prepare training materials for SFM training	<ul style="list-style-type: none"> <li>- Project Director: 4 weeks</li> <li>- Foresters: 8 weeks</li> <li>- Botanist: 2 weeks</li> <li>- Course Coordinator: 1 week</li> <li>- Technicians: 2 weeks</li> <li>- Consultant – C&amp;I auditing: 10 days</li> <li>- 4 training manuals 50 copies each</li> </ul>	11. National experts 12. Other personnel 13. Int'l Consultants 21. Printers
Activity 5.7 Train FTCI trainers in "other SFM aspects" training modules	<ul style="list-style-type: none"> <li>- Project Director: 2 weeks</li> <li>- Operations Manager: 3 week</li> <li>- Foresters: 6 weeks</li> <li>- Botanist: 3 weeks</li> <li>- Course Coordinator: 3 weeks</li> <li>- Consultant – C&amp;I auditing: 5 days</li> <li>- DSA consultants: 7 days</li> <li>- International Flight: 1</li> <li>- Vehicles: 400 km</li> </ul>	11. National experts 12. Other personnel 13. Int'l Consultants 31. Daily Subsistence Allow. 32. International Travel 41. Vehicles 53. Vehicles running costs
<b>Output 6: Training courses in other aspects of SFM organised and delivered</b>		
Activity 6.1 Schedule and promote courses in "other SFM aspects"	<ul style="list-style-type: none"> <li>- Project Director: 2 weeks</li> <li>- Course Coordinator: 2 weeks</li> <li>- <b><u>Foresters: 1 week</u></b></li> <li>- <b><u>Botanist: 1 week</u></b></li> <li>- <b><u>Course Coordinator: 2 weeks</u></b></li> </ul>	11. National experts 12. Other personnel
	-	
Activity 6.2 Conduct course preparation activities "other SFM aspects"	<ul style="list-style-type: none"> <li>- Operations Manager: 6 weeks</li> <li>- Foresters: 10 weeks</li> <li>- Instructor-operators: 3 weeks</li> <li>- Botanist: 3 weeks</li> <li>- Course Coordinator: 2 weeks</li> <li>- Sr. Technician: 3 weeks</li> <li>- Technicians: 5 weeks</li> <li>- Training equipment</li> </ul>	11. National experts 12. Other personnel 43. Training equipment
Activity 6.3 Conduct training courses in "other SFM aspects"	<ul style="list-style-type: none"> <li>- Project Director: 5 weeks</li> <li>- Foresters: 16 weeks</li> <li>- Botanist: 4 weeks</li> <li>- Course Coordinator: 7 weeks</li> <li>- Sr. Technician: 1 week</li> <li>- Technicians: 3 weeks</li> <li>- Training equipment</li> </ul>	11. National experts 12. Other personnel 43. Training equipment

Activity	Inputs	Input Categories
	<ul style="list-style-type: none"> <li>- Teaching aids</li> <li>- Other materials</li> </ul>	56. Materials
Activity 6.4 Conduct evaluations "other SFM aspects"	<ul style="list-style-type: none"> <li>- Project Director: 1 week</li> <li>- Operations Manager: 1 week</li> <li>- Foresters: 4 weeks</li> <li>- Botanist: 1 week</li> <li>- Course Coordinator: 1 week</li> </ul>	11. National experts  12. Other personnel
Activity 6.5 Process, analyze and synthesize evaluations "other SFM aspects"	<ul style="list-style-type: none"> <li>- Project Director: 1 week</li> <li>- Operations Manager: 1 week</li> <li>- Foresters: 5 weeks</li> <li>- Botanist: 1 week</li> <li>- Course Coordinator: 2 weeks</li> </ul>	11. National experts  12. Other personnel
<b>Output 7: Long term sustainability of vocational SFM/RIL training in Guyana secured</b>		
Activity 7.1 Elaborate lesson plans, lectures and key techniques used by trainers during each course	<ul style="list-style-type: none"> <li>- Project Director: 3 weeks</li> <li>- Foresters: 2 weeks</li> <li>- Botanist: 3 weeks</li> <li>- Course Coordinator: 3 weeks</li> <li>- Technicians: 3 weeks</li> </ul>	11. National experts  12. Other personnel
Activity 7.2 Peer review and compilation of lesson plans etc. for each training course	<ul style="list-style-type: none"> <li>- Project Director: 3 weeks</li> <li>- Course Coordinator: 4 weeks</li> </ul>	11. National experts 12. Other personnel
Activity 7.3 Prepare trainers' manuals	<ul style="list-style-type: none"> <li>- Project Director: 3 weeks</li> <li>- Foresters: 8 weeks</li> <li>- Course Coordinator: 4 weeks</li> <li>- Trainers' manuals: 25 copies</li> </ul>	11. National experts  12. Other personnel 21. Printers
Activity 7.4 Train trainers in the use of trainer's manuals	<ul style="list-style-type: none"> <li>- Project Director: 1 week</li> <li>- Operations Manager: 2 weeks</li> <li>- Foresters: 4 weeks</li> <li>- Sr. Instructor-operator: 2 weeks</li> <li>- Instructor-operators: 1 week</li> <li>- Botanist: 2 weeks</li> <li>- Course coordinator: 2 weeks</li> <li>- Sr. Technician: 2 weeks</li> <li>- Technicians: 4 weeks</li> <li>- Drivers: 1 week</li> <li>- Cooks: 1 week</li> <li>- Training materials</li> </ul>	11. National experts  12. Other personnel  56. Materials
Activity 7.5 Establish vocational training branch at GFC	<ul style="list-style-type: none"> <li>- Project Director: 1 week</li> <li>- Operations Manager: 1 week</li> <li>- Admin. Manager: 1 week</li> </ul>	11. National experts  12. Other personnel
Activity 7.6 Transfer core trainers, materials and key assets from FTCl to GFC	<ul style="list-style-type: none"> <li>- Project Director: 1 week</li> <li>- Operations Manager: 1 week</li> <li>- Foresters: 5 weeks</li> <li>- Sr. Instructor-operator: 2 weeks</li> <li>- Instructor-operators: 4 weeks</li> <li>- Botanist: 2 weeks</li> <li>- Admin. Manager: 1 week</li> <li>- Course coordinator: 2 weeks</li> <li>- Sr. Technician: 2 weeks</li> <li>- Technicians: 5 weeks</li> <li>- Drivers: 2 week</li> <li>- Cooks: 1 week</li> <li>- Speedboat: 4 return trips</li> <li>- Low bed (short trip): 3 trips</li> </ul>	11. National experts  12. Other personnel  33. Transport costs

Activity	Inputs	Input Categories
	<ul style="list-style-type: none"><li>- Barge (large): 1 trip</li><li>- Vehicles: 1800 km</li></ul>	41. Vehicles 53. Vehicles running costs



**6 Work Plan**

OUTPUTS/ACTIVITIES	2005						2006												2007					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<b>Output 1: RIL training programme for medium / large scale operators organised and delivered</b>																								
1.1 <u>Organize training materials and supplies for RIL courses</u>																								
1.2 Construct and/or maintain access roads, bridges etc																								
1.3 <u>Schedule and promote courses</u>																								
1.4 Conduct on-site course preparation activities																								
1.5 Conduct on-site basic RIL system training courses																								
1.6 Conduct off-site course preparation and RIL harvest																								
1.7 Conduct off-site basic RIL system training courses																								
1.8 Conduct evaluations basic RIL system																								
1.9 Analyze and synthesize evaluations basic RIL system																								
<b>Output 2: RIL system for small-scale / community forestry operations designed</b>																								
2.1 Survey small-scale & community operators																								
2.2 <u>Convene workshop to identify specific training needs</u>																								
2.3 Adapt basic RIL system to small-scale loggers																								
2.4 Convene workshop to review "small loggers" RIL																								
<b>Output 3: RIL training programme for small-scale / community forest operations designed</b>																								
3.1 Design training programme for "small loggers" RIL																								
3.2 Training materials and supplies for "small loggers" RIL																								
3.3 Technical materials for "small loggers" RIL																								
3.4 Convene workshop to validate training programme																								
3.5 Train FTCI trainers in "small loggers" RIL modules																								
<b>Output 4: RIL training programme for small-scale / community forestry operations organised and delivered</b>																								
4.1 Schedule and promote "small loggers" RIL courses																								
4.2 Conduct "small loggers" RIL course preparation																								
4.3 Conduct "small loggers" RIL training courses																								
4.4 Conduct evaluations "small loggers" RIL																								
4.5 Analyze evaluations "small loggers" RIL																								
<b>Output 5: Training programme on other aspects of sustainable forest management designed</b>																								
5.1 Consultations to identify SFM training needs																								

OUTPUTS/ACTIVITIES	2005						2006												2007						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
5.2 Review <i>all manuals</i>																									
5.3 Design training auditing procedures for C & I																									
5.4 Convene workshop to validate "other SFM aspects"																									
5.5 Technical materials and supplies for SFM training																									
5.6 Training manuals "other SFM aspects"																									
5.7 Train trainers in "other SFM aspects" training modules																									
<b>Output 6: Training courses in other aspects of SFM organised and delivered</b>																									
6.1 Schedule and promote course "other SFM aspects"																									
6.2 Course preparation "other SFM aspects"																									
6.3 Conduct training courses "other SFM aspects"																									
6.4 Conduct evaluations" other SFM aspects"																									
6.5 Analyze evaluations "other SFM aspects"																									
<b>Output 7: Long term sustainability of vocational SFM/RIL training in Guyana secured</b>																									
7.1 Compile lesson plans, lectures and key techniques																									
7.2 Peer review lesson plans etc. for each training course																									
7.3 <b>Review</b> trainer's manuals																									
7.4 Train trainers in the use of trainer's manuals																									
7.5 Establish vocational training branch at GFC																									
7.6 Transfer trainers, materials and assets to GFC																									

7 **Budget**

7.1 **Overall Project Budget by Activity**

OUTPUTS / ACTIVITIES + Non-Activity Based Expenses	BUDGET COMPONENTS							GRAND TOTAL
	10. Project Personnel	20. Sub Contracts	30. Duty Travel	40. Capital Items	50. Consumable Items	60. Miscellaneous	Quarter, Year	
<b>OUTPUT 1: <u>RIL training programme for medium / large scale operators organised and delivered and RIL demonstration forests established</u></b>								
Activity 1.1: Organize assets for RIL courses	10,270 I/E	2,250 I		220 E	150 E		q1,y1; q1,y2	12,890
Activity 1.2: Construct & maintain access roads, etc	15,480 I/E		570 I/E	1,910 I/E	49,635 I/E		q1,q4,y1; q1,y2	67,595
Activity 1.3 Schedule & promote courses	4,310 I/E	6,565 I					q1,y1	10,875
Activity 1.4: Conduct on-site course preparation	81,555 I/E		5,055 I/E	7,990 I/E	114,360 I/E		q1,q4,y1; q2,q3,y2	208,960
Activity 1.5: Conduct on-site RIL training courses	37,340 I/E		4,960 I/E	7,780 I/E	69,985 I/E		q1,q3,q4,y1; q2,q3,y2	120,065
Activity 1.6: Conduct off-site course preparation	28,285 I/E		7,525 I/E	5,115 E	21,930 I/E		q1,q2, q4, y1; q1,q2,y2	62,855
Activity 1.7 Conduct off-site RIL training courses	14,800 I/E		505 I	3,455 E	13,680 I/E		q2,y1; q1,y2	32,440
Activity 1.8: Conduct evaluations RIL system	2,275 I/E						q1,q4,y1; q1,q3,y2	2,275
Activity 1.9: Process evaluations RIL system/courses	3,145 I/E						q1,q2,q4,y1; q2,q3,y2	3,145
<b>subtotal 1</b>	<b>197,460 I/E</b>	<b>8,815 I</b>	<b>18,615 I/E</b>	<b>26,470 I/E</b>	<b>269,740 I/E</b>		<b>q1-q4,y1; q1,q3,y2</b>	<b>521,100</b>
<b>OUTPUT 2: <u>RIL system for smalls-scale / community forestry operations designed</u></b>								
Activity 2.1: Survey practices small operators	6,250 I/E		4,900 I/E	420 E	280 E		q1,q2,y1	11,850
<b>Activity 2.2: <u>Consultations to identify training needs</u></b>	925 I/E		3,150 I/E	115 E	75 E	800 I	q2,y1	5,065
Activity 2.3: Adapt RIL system to suit small operations	3,500 I						q2,y1	3,500
Activity 2.4: Consultations "small loggers" RIL	1,260 I/E		3,150 I/E	110 E	75 E	800 I	q2,y1	5,395
<b>subtotal 2</b>	<b>11,935 I/E</b>		<b>11,200 I/E</b>	<b>645 E</b>	<b>430 E</b>	<b>1,600 I</b>	<b>q1,q2,y1</b>	<b>25,810</b>
<b>OUTPUT 3: <u>RIL training programme for small-scale / community forest operations designed</u></b>								
Activity 3.2: Design training for "small loggers"	2,750 I/E						q1,q2,y1	2,750
Activity 3.3: Technical materials for "small loggers" RIL	1,315 I/E			115 E	75 E		q2,y1	1,505
Activity 3.4: Training materials for "small loggers" RIL	1,615 I/E	1,805 I		175 E	110 E		q2,y1	3,705

OUTPUTS / ACTIVITIES + Non-Activity Based Expenses	BUDGET COMPONENTS						Quarter, Year	GRAND TOTAL
	10. Project Personnel	20. Sub Contracts	30. Duty Travel	40. Capital Items	50. Consumable Items	60. Miscellaneous		
Activity 3.5: Consultations to validate training	1,105 I/E		1,150 I				q2,y1	2,255
Activity 3.6: Train FTCl trainers in "small loggers" RIL	7,370 I/E		3,845 I/E	510 I/E	1,595 I/E		q3,y1	13,320
<b>subtotal 3</b>	<b>14,155 I/E</b>	<b>1,805 I</b>	<b>4,995 I/E</b>	<b>800 I/E</b>	<b>1,780 I/E</b>	<b>I</b>	<b>q1,q3 ,y1</b>	<b>23,535</b>
<b>OUTPUT 4: RIL training programme for small-scale / community forestry operations organised and delivered</b>								
Activity 4.1: Schedule "small loggers" RIL courses	1420 I						q3,y1; q2,y2	1420
Activity 4.2: Course preparation "small loggers" RIL	9,935 I/E		835 I/E	1,020 I/E	2,870 I/E		q4,y1; q3,q4,y2	14,660
Activity 4.3: Conduct "small loggers" RIL courses	11,185 I		1,010 I/E	2,210 I/E	6,610 I/E		q4,y1; q4,y2	21,015
Activity 4.4: Evaluate "small loggers" RIL system	1,840 I						q4,y1; q4,y2	1,840
Activity 4.5: Process evaluations "small loggers" RIL	1,175 I						q4,y1; q4,y2	1,175
<b>subtotal 4</b>	<b>25,555 I/E</b>		<b>1,845 I/E</b>	<b>3,230 I/E</b>	<b>9,480 I/E</b>		<b>q3,q4,y1; q2,q4,y2</b>	<b>40,110</b>
<b>OUTPUT 5: Training programme on other aspects of sustainable forest management designed</b>								
Activity 5.1: Consultations SFM training needs	1,240 I/E		2,000 E	420 E	1,280 I/E	800 I	q1,y1	5,740
Activity 5.2: Review FMP & CoP manual	7,055 I/E						q2,y1	7,055
Activity 5.3: Design training auditing C&I ITTO/GNSFC	5,850 I/E						q1,q2,y1	5,850
Activity 5.4: Consultations to validate programme	3,350 I/E		3,900 I/E	85 E	55 E	800 I	q2,y1	8,190
Activity 5.5: Technical materials for SFM training	1,040 I			110 E	75 E		q2,y1	1,225
Activity 5.6: Training materials for SFM training	8,260 I/E	6,780 I					q2,q3,y1	15,040
Activity 5.7: Train trainers in "other SFM aspects"	6,045 I/E		2,900 I	205 E	55 E		q3,y1	9,205
<b>subtotal 5</b>	<b>32,840 I/E</b>	<b>6,780</b>	<b>8,800 I/E</b>	<b>820 E</b>	<b>1,465 I/E</b>	<b>1,600 I</b>	<b>q1,q3,y1</b>	<b>52,305</b>
<b>OUTPUT 6: Training courses in other aspects of SFM organised and delivered</b>								
Activity 6.1: Schedule "other aspects of SFM" courses	1,155 I/E						q3,y1; q1,y2	1,155
Activity 6.3: Preparatory activities "SFM" courses	7,780 I			455 E			Q3, q4,y1; q1, q2,y2	8,235
Activity 6.3 Conduct "other aspects of SFM" courses	8,695 I/E			415 E	2,960 I		q4,y1; q2,y2	12,070
Activity 6.4: Conduct evaluations "SFM" courses	1,840 I/E						q4,y1; q2,y2	1,840
Activity 6.5: Process evaluations "SFM" courses	2,055 I/E						q1,q2,y2;	2,055
<b>subtotal 6</b>	<b>21,525 I/E</b>			<b>870 E</b>	<b>2,960 I</b>		<b>q3,q4,y1; q1,q2,y2</b>	<b>25,355</b>

OUTPUTS / ACTIVITIES + Non-Activity Based Expenses	BUDGET COMPONENTS							GRAND TOTAL
	10. Project Personnel	20. Sub Contracts	30. Duty Travel	40. Capital Items	50. Consumable Items	60. Miscellaneous	Quarter, Year	
<b>OUTPUT 7: Long term sustainability of vocational SFM/RIL training in Guyana</b>								
Activity 7.1: Lesson plans, lectures and key techniques	3,545 I/E						q3,y2	3,545
Activity 7.2: Peer review & compile lesson plans	2,305 I/E						q3,q4,y2	2,305
Activity 7.3: <b>Review</b> trainers' manuals	3,940 I/E	1,000 I					q4,y2	4,940
Activity 7.4: Train trainers in the use of manuals	4,790 I/E				1,000 I		q4,y2	5,790
Activity 7.5: Vocational training branch at GFC	830 I/E						q4,y2	830
Activity 7.6: Transfer trainers & assets to GFC	5,330 I/E		2,900 E	1,295 I/E	395 E		q4,y2	9,920
<b>subtotal 7</b>	<b>20,740 I/E</b>	<b>1,000 I</b>	<b>2,900 E</b>	<b>1,295 I/E</b>	<b>1,395 I/E</b>		<b>q3,q4,y2</b>	<b>27,330</b>
<b>NON-ACTIVITY BASED EXPENSES</b>								
1 Administrative costs	115,570 I/E							115,570
2 Office rent					36,000 E			36,000
3 Utilities					36,000 E			36,000
4 Office equipment				6,000 E				6,000
5 Office supplies					12,000 E			12,000
6 Vehicles administrative use				4,270 I/E				4,270
7 Fuel administrative use					1,710 E			1,710
8 Public transportation			5,845 I/E					5,845
9 Other supplies					1,635 E	10,000 I		11,635
10 Chartered Accountant		6,400 E						6,400
11 Legal council		1,400 E						1,400
12 TAC & PSC meetings						3,500 I		3,500
13 TFF BOD meetings			7,000 I					7,000
<b>subtotal 8</b>	<b>115,570 I/E</b>	<b>7,800 E</b>	<b>12,845 I/E</b>	<b>10,270 I/E</b>	<b>87,345 E</b>	<b>13,500 I</b>		<b>247,330</b>
<b>Subtotal ITTO</b>	<b>219,700</b>	<b>18,400</b>	<b>25,900</b>	<b>12,000</b>	<b>21,890</b>	<b>16,700</b>		<b>314,590</b>
<b>Subtotal E. Agency</b>	<b>205,200</b>	<b>7,800</b>	<b>35,300</b>	<b>32,400</b>	<b>352,705</b>			<b>633,405</b>
<b>TOTAL</b>	<b>424,900</b>	<b>26,200</b>	<b>61,200</b>	<b>44,400</b>	<b>374,595</b>	<b>16,700</b>		<b>947995</b>

## 7.2 Yearly Project Budgets by Source

### Yearly Project Budget by Source – ITTO

Budget Components	Total	Annual Disbursements	
		Jul05-Jun06	Jul06-Jun07
10. Project personnel	<u>219,700</u>	<u>122,100</u>	<u>97,600</u>
20. Sub-contracts	<b>18,400</b>	16,650	1,750
30. Duty travel	<b>25,900</b>	20,468	5,432
40. Capital items	<b>12,000</b>	12,000	-
50. Consumable items	<b>21,890</b>	12,130	9,761
60. Miscellaneous	<b>16,700</b>	10,200	6,500
<b>Subtotal 1</b>	<b><u>314,590</u></b>	<b><u>193,548</u></b>	<b><u>121,043</u></b>
80. ITTO Monitor, Evaluat. and Administ. Costs			
81. Monitoring and Review Costs	<b>13,000</b>		
82. Evaluation Costs	<b>7,500</b>		
<b>Subtotal 2</b>	<b>335,090</b>		
83. Programme Support Costs (8% of subtotal 2)	<b>26,807</b>		
<b>ITTO TOTAL</b>	<b><u>361,897</u></b>		

### Yearly Project Budget by Source – Host government: GFC (cash & in kind)

Budget Components	Total	Annual Disbursements	
		Jul05-Jun06	Jul06-Jun07
10. Project personnel	<u>205,200</u>	<u>102,600</u>	<u>102,600</u>
20. Sub-contracts	<b>7,800</b>	3,100	4,700
30. Duty travel	-	-	-
40. Capital items	-	-	-
50. Consumable items	<b>84,000</b>	42,000	42,000
60. Miscellaneous	-	-	-
70. Coordinating Agency Management Costs (15% of Total of Overall Project Budget by Activity)	<b>144,431</b>	82,797	61,635
<b>GFC TOTAL</b>	<b><u>441,431</u></b>	<b><u>230,497</u></b>	<b><u>210,935</u></b>

### Yearly Project Budget by Source – Implementing agency: FTCI (cash <sup>1)</sup> & in kind)

Budget Components	Total	Annual Disbursements	
		Jul05-Jun06	Jul06-Jun07
10. Project personnel	-	-	-
20. Sub-contracts	-	-	-
30. Duty travel	-	-	-
40. Capital items	<b>32,400</b>	16,200	16,200
50. Consumable items	<b>47,755</b>	26,216	21,539
60. Miscellaneous	-	-	-
<b>FTCI TOTAL</b>	<b>80,155</b>	<b>42,416</b>	<b>37,739</b>

<sup>1)</sup> FTCI to earn \$47,755 through timber sales and consultancies

**Yearly Project Budget by Source – Other: Forest enterprises (cash <sup>2)</sup> & in kind)**

Budget Components	Total	Annual Disbursements	
		Jul05-Jun06	Jul06-Jun07
10. Project personnel	14,880	8,880	6,000
20. Sub-contracts	-	-	-
30. Duty travel	35,300	25,250	10,050
40. Capital items	-	-	-
50. Consumable items	85,950	43,995	41,955
60. Miscellaneous	-	-	-
<b>FOREST ENTERPRISES</b>	<b>136,130</b>	<b>69,100</b>	<b>70,700</b>

<sup>2)</sup> Forest enterprises contribute \$83,000 in training fees, with labour and equipment as in kind contribution

**Yearly Project Budget by Source – Other: TFF / Caterpillar, Inc. (in kind <sup>3)</sup>)**

Budget Components	Total	Annual Disbursements	
		Jul05-Jun06	Jul06-Jun07
TFF / Caterpillar, Inc. <sup>3)</sup>			
10. Project personnel	-	-	-
20. Sub-contracts	-	-	-
30. Duty travel	-	-	-
40. Capital items	-	-	-
50. Consumable items	135,000	90,190	44,810
60. Miscellaneous	-	-	-
<b>TFF/CATERPILLAR IN KIND TOTAL</b>	<b>135,000</b>	<b>69,100</b>	<b>70,700</b>

<sup>3)</sup> Caterpillar, Inc. loans three forestry machines through TFF

### 7.3 Consolidated Yearly Project Budget

#### Consolidated Yearly Project Budget – All Sources

Budget Components	Unit	Number of units	Unit cost	TOTAL	YEAR 1	YEAR 2
<b>10 Project Personnel</b>						
<b>11. National Experts</b>						
11.1. Project Director (1)	month	24	2,000	48,000	24,000	24,000
11.2. Operations manager (1)	month	24	1,000	24,000	12,000	12,000
11.3. Foresters (3)	month	72	800	57,600	28,800	28,800
11.4. Sr. Instructor / Operator (1)	month	24	900	21,600	10,800	10,800
11.5. Instructor / Operator (2)	month	48	750	36,000	18,000	18,000
11.6. Botanist (1)	month	24	750	18,000	9,000	9,000
<b>12. Other labour</b>						
12.1. Administrative manager (1)	month	24	800	19,200	9,600	9,600
12.2. Course coordinator (1)	month	24	800	19,200	9,600	9,600
12.3. Sr. Forest technician (1)	month	24	650	15,600	7,800	7,800
12.4. Forest technicians (3)	month	72	600	43,200	21,600	21,600
12.5. Labourers (4)	week	248	60	14,880	8,880	6,000
12.6. Drivers (2)	month	48	500	24,000	12,000	12,000
12.7. Cooks (2)	month	48	500	24,000	12,000	12,000
<b>13. International Experts</b>	day	50	1,000	50,000	25,000	25,000
<b>14. International Consultants</b>						
14.1. RIL expert	day	40	350	14,000	14,000	-
14.2. C&I auditing expert	day	30	350	10,500	10,500	-
<b>19. Component Total</b>				439,780	233,580	206,200
<b>20 Sub-contracts</b>						
21. Printers	document	12	variable	18,400	16,650	1,750
22. Accountant	statement	8	800	6,400	2,400	4,000
23. Legal council	consult	4	350	1,400	700	700
<b>29. Component Total</b>				26,200	19,750	6,450
<b>30 Duty Travel</b>						
<b>31. Daily Subsistence Allowance</b>						
31.1. DSA consultants	per diem	36	200	7,200	7,200	-
31.2. DSA TFF BOD meeting	per diem	12	250	3,000	1,500	1,500
31.3. DSA FTCl staff	trip	1680	2.50	4,200	2,268	1,932
<b>32. International Travel</b>						
32.1. Flights consultants	flight	5	1,500	7,500	7,500	-
32.2. Flights TFF BOD meeting	flight	4	1,000	4,000	2,000	2,000
<b>33. Transport Costs</b>						
33.1. Transport workshop	workshop	5	2,000	10,000	10,000	-
33.2. Transport workers participants	week	99	150	14,800	7,750	7,050
33.3. Convey equipment	trip	10	variable	10,500	7,500	3,000
<b>39. Component Total</b>				61,200	45,718	15,482



**Consolidated Yearly Project Budget – All Sources**

Budget Components		Unit	Number of units	Unit cost	TOTAL	YEAR 1	YEAR 2
40	<b>Capital Items</b>						
	41. Vehicles						
	41.1. 5-ton Lorry (army surplus)				12,000	12,000	-
	41.2. Depreciation Land Cruisers	month	48	750	18,000	9,000	9,000
	42. Depreciation Office equipment	month	48	250	6,000	3,000	3,000
	43. Depreciation Training equipment	month	48	350	8,400	4,200	4,200
	<b>49. Component Total</b>				<b>44,400</b>	<b>28,200</b>	<b>16,200</b>
50	<b>Consumable Items</b>						
	51. Heavy Equipment rental						
	51.1. Heavy equipm. TFF (3)	day	320	360-500	135,000	90,190	44,810
	51.2. Heavy equipm. partners (9)	day	187	100-250	40,950	19,700	21,250
	52. Heavy Equipment running costs						
	52.1. Heavy Equipm. fuel	litre	63450	0.40	25,380	16,460	8,920
	52.2. Heavy Equipm. maintenance	service	11	variable	6,100	2,750	3,350
	53. Vehicles running costs						
	53.1. Vehicles fuel	litre	14000	0.40-0.50	6,400	3,379	3,021
	53.2. Vehicles maintenance	service	18	variable	7,675	2,475	5,200
	54. Chainsaw operating costs	litre	1825/550	0.68/2.00	2,200	1,151	1,049
	55. Camp supplies				45,000	24,295	20,705
	56. Materials				21,890	12,130	9,761
	57. Office rent	month	48	1,500	36,000	18,000	18,000
	58. Utilities	month	48	1,500	36,000	18,000	18,000
	59. Office supplies	month	48	500	12,000	6,000	6,000
	<b>59. Component Total</b>				<b>374,595</b>	<b>214,530</b>	<b>160,065</b>
60	<b>Miscellaneous</b>						
	61. PSC & TAC meetings	meeting	7	500	3,500	2,000	1,500
	62. Workshops	workshop	4	800	3,200	3,200	-
	63. Sundry items	month	20	500	10,000	5,000	5,000
	<b>69. Component Total</b>				<b>16,700</b>	<b>10,200</b>	<b>6,500</b>
70	<b>Executing Agency Management Cost</b>						
	15% of Total of Project Budget by Activity				144,431	82,797	61,635
	<b>79. Component Total</b>				<b>144,431</b>	<b>82,797</b>	<b>61,635</b>
	<b>SUBTOTAL</b>				<b>1,107,306</b>	<b>634,774</b>	<b>472,532</b>
80	<b>ITTO Monitor., Evaluat. &amp; Administrat.</b>						
	81. Monitoring and Review Costs				13,000		
	82. Evaluation Costs				7,500		
	83. Programme Support Costs				26,807		
	<b>89. Component Total</b>				<b>47,307</b>		
100	<b>GRAND TOTAL</b>				<b>1,154,613</b>		

Consolidated Yearly Project Budget – ITTO

Budget Components		TOTAL	YEAR 1	YEAR 2
10	<b>Project Personnel</b>			
	<b>11. National Experts</b>			
	11.2. Forest operations manager (1)	24,000	12,000	12,000
	<b>12. Other labour</b>			
	12.1. Administrative manager (1)	19,200	9,600	9,600
	12.2. Course coordinator (1)	19,200	9,600	9,600
	12.3. Sr. Forest technician (1)	15,600	7,800	7,800
	12.4. Forest technicians (3)	43,200	21,600	21,600
	12.6. Drivers (2)	24,000	12,000	12,000
	<b>13. International Experts</b>	50,000	25,000	25,000
	<b>14. International Consultants</b>			
	14.1. RIL expert	14,000	14,000	-
	14.2. C&I auditing expert	10,500	10,500	-
	<b>19. Component Total</b>	<b>219,700</b>	<b>122,100</b>	<b>97,600</b>
20	<b>Sub-contracts</b>			
	21. Printers	18,400	16,650	1,750
	22. Accountant	-	-	-
	23. Legal council	-	-	-
	<b>29. Component Total</b>	<b>18,400</b>	<b>16,650</b>	<b>1,750</b>
30	<b>Duty Travel</b>			
	<b>31. Daily Subsistence Allowance</b>			
	31.1. DSA consultants	7,200	7,200	-
	31.2. DSA TFF BOD meeting	3,000	1,500	1,500
	31.3. DSA FTCl staff	4,200	2,268	1,932
	<b>32. International Travel</b>			
	32.1. Flights consultants	7,500	7,500	-
	32.2. Flights TFF BOD meeting	4,000	2,000	2,000
	<b>33. Transport Costs</b>	-	-	-
	<b>39. Component Total</b>	<b>25,900</b>	<b>20,468</b>	<b>5,432</b>
40	<b>Capital Items</b>			
	<b>41. Vehicles</b>			
	41.1. 5-ton Lorry (army surplus)	12,000	12,000	-
	42. Depreciation FTCl Office equipment	-	-	-
	43. Depreciation FTCl Training equipment	-	-	-
	<b>49. Component Total</b>	<b>12,000</b>	<b>12,000</b>	<b>-</b>
50	<b>Consumable Items</b>			
	51. Heavy Equipment rental	-	-	-
	52. Heavy Equipment running costs	-	-	-
	53. Vehicles running costs	-	-	-
	54. Chainsaw operating costs	-	-	-
	55. Camp supplies	-	-	-
	56. Materials	21,890	12,130	9,761

**Consolidated Yearly Project Budget – ITTO**

<b>Budget Components</b>		<b>TOTAL</b>	<b>YEAR 1</b>	<b>YEAR 2</b>
	57. Office rent	-	-	-
	58. Utilities	-	-	-
	59. Office supplies	-	-	-
	<b>59. Component Total</b>	<b>21,890</b>	<b>12,130</b>	<b>9,761</b>
60	<b>Miscellaneous</b>			
	61. PSC & TAC meetings	3,500	2,000	1,500
	62. Workshops	3,200	3,200	-
	63. Sundry items	10,000	5,000	5,000
	<b>69. Component Total</b>	<b>16,700</b>	<b>10,200</b>	<b>6,500</b>
	<b>SUBTOTAL</b>	<b><u>314,590</u></b>	<b><u>193,548</u></b>	<b><u>121,043</u></b>
80	<b>ITTO Monitoring, Evaluation and Administration</b>			
	81. Monitoring and Review Costs	13,000		
	82. Evaluation Costs	7,500		
	83. Programme Support Costs	26,807		
	<b>89. Component Total</b>	<b>47,307</b>		
100	<b>GRAND TOTAL</b>	<b><u>361,897</u></b>		

Consolidated Yearly Project Budget – Host Government: GFC

Budget Components		TOTAL	YEAR 1	YEAR 2
10	<b>Project Personnel</b>			
	11. National Experts ( <i>in kind</i> )			
	<b>11.1. Project Director (1)</b>	<b>48,000</b>	<b>24,000</b>	<b>24,000</b>
	<b>11.3. Foresters(3)</b>	<b>57,600</b>	<b>28,800</b>	<b>28,800</b>
	<b>11.4 Sr. Instructor/Operator</b>	<b>21,600</b>	<b>10,800</b>	<b>10,800</b>
	<b>11.5 Ins/Op (2)</b>	<b>36,000</b>	<b>18,000</b>	<b>18,000</b>
	<b>11.6 Botanist</b>	<b>18,000</b>	<b>9,000</b>	<b>9,000</b>
	12. Other labour	-	-	-
	<b>12.7. Cooks (2)</b>	<b>24,000</b>	<b>12,000</b>	<b>12,000</b>
	13. International Experts	-	-	-
	14. International Consultants	-	-	-
	<b>19. Component Total</b>	<b>205,200</b>	<b>102,600</b>	<b>102,600</b>
20	<b>Sub-contracts</b>			
	21. Printers	-	-	-
	22. Accountant ( <i>cash</i> )	<b>6,400</b>	2,400	4,000
	23. Legal council ( <i>cash</i> )	<b>1,400</b>	700	700
	<b>29. Component Total</b>	<b>7,800</b>	<b>3,100</b>	<b>4,700</b>
30	<b>Duty Travel</b>			
	<b>39. Component Total</b>	-	-	-
40	<b>Capital Items</b>			
	<b>49. Component Total</b>	-	-	-
50	<b>Consumable Items</b>			
	51. Heavy Equipment rental	-	-	-
	52. Heavy Equipment running costs	-	-	-
	53. Vehicles running costs	-	-	-
	54. Chainsaw operating costs	-	-	-
	55. Camp supplies	-	-	-
	56. Materials	-	-	-
	57. Office rent ( <i>in kind</i> )	<b>36,000</b>	18,000	18,000
	58. Utilities ( <i>in kind</i> )	<b>36,000</b>	18,000	18,000
	59. Office supplies ( <i>cash</i> )	<b>12,000</b>	6,000	6,000
	<b>59. Component Total</b>	<b>84,000</b>	<b>42,000</b>	<b>42,000</b>
60	<b>Miscellaneous</b>			
	<b>69. Component Total</b>	-	-	-
70	<b>Executing Agency Management Cost (<i>in kind</i>)</b>			
	15% of Total of Overall Project Budget by Activity	<b>144,431</b>	82,797	61,635
	<b>79. Component Total</b>	<b>144,431</b>	<b>82,797</b>	<b>61,635</b>
100	<b>GRAND TOTAL</b>	<b>441,431</b>	<b>230,497</b>	<b>210,935</b>

Consolidated Yearly Project Budget – FTCl / TFF

Budget Components		TOTAL	YEAR 1	YEAR 2
10	<b>Project Personnel</b>			
	19. <b>Component Total</b>	-	-	-
20	<b>Sub-contracts</b>			
	29. <b>Component Total</b>	-	-	-
30	<b>Duty Travel</b>			
	39. <b>Component Total</b>	-	-	-
40	<b>Capital Items (in kind)</b>			
	41. Vehicles			
	41.2. <i>Depreciation FTCl Land Cruisers</i>	18,000	9,000	9,000
	42. <i>Depreciation FTCl Office equipment</i>	6,000	3,000	3,000
	43. <i>Depreciation FTCl Training equipment</i>	8,400	4,200	4,200
	49. <b>Component Total</b>	32,400	16,200	16,200
50	<b>Consumable Items</b>			
	51. <i>Heavy Equipment rental (in kind)</i>			
	51.1. <i>Heavy equipment TFF (3)</i>	135,000	90,190	44,810
	52. <i>Heavy Equipment running costs (cash)</i>			
	52.1. <i>Heavy Equipment fuel</i>	25,380	16,460	8,920
	52.2. <i>Heavy Equipment maintenance</i>	6,100	2,750	3,350
	53. <i>Vehicles running costs (cash)</i>			
	53.1. <i>Vehicles fuel</i>	6,400	3,379	3,021
	53.2. <i>Vehicles maintenance</i>	7,675	2,475	5,200
	54. <i>Chainsaw operating costs (cash)</i>	2,200	1,151	1,049
	55. <i>Camp supplies</i>	-	-	-
	56. <i>Materials</i>	-	-	-
	57. <i>Office rent</i>	-	-	-
	58. <i>Utilities</i>	-	-	-
	59. <i>Office supplies</i>	-	-	-
	59. <b>Component Total</b>	182,755	116,406	66,349
60	<b>Miscellaneous</b>			
	69. <b>Component Total</b>	-	-	-
100	<b>GRAND TOTAL</b>	215,155	132,606	82,549

Note: cash requirements generated through timber sales and consultancies

**Consolidated Yearly Project Budget – Forest enterprises**

Budget Components		TOTAL	YEAR 1	YEAR 2
10	<b>Project Personnel</b>			
	11. National Experts			
	12. Other labour ( <i>in kind</i> )			
	12.5. Labourers (4)	14,880	8,880	6,000
	13. International Experts	-	-	-
	14. International Consultants			
	19. <b>Component Total</b>	14,880	8,880	6,000
20	<b>Sub-contracts</b>			
	29. <b>Component Total</b>	-	-	-
30	<b>Duty Travel</b>			
	31. Daily Subsistence Allowance			
	32. International Travel			
	33. Transport Costs ( <i>cash</i> )			
	33.1. Transport workshop participants etc	10,000	10,000	-
	33.2. Transport workers & course participants	14,800	7,750	7,050
	33.3. Convey equipment	10,500	7,500	3,000
	39. <b>Component Total</b>	35,300	25,250	10,050
40	<b>Capital Items</b>			
	49. <b>Component Total</b>	-	-	-
50	<b>Consumable Items</b>			
	51. Heavy Equipment rental ( <i>in kind</i> )			
	51.2. Heavy equipment forest enterprises (9)	40,950	19,700	21,250
	52. Heavy Equipment running costs			
	53. Vehicles running costs			
	54. Chainsaw operating costs	-	-	-
	55. Camp supplies ( <i>cash</i> )	45,000	24,295	20,705
	56. Materials	-	-	-
	57. Office rent	-	-	-
	58. Utilities	-	-	-
	59. Office supplies	-	-	-
	59. <b>Component Total</b>	85,950	43,995	41,955
60	<b>Miscellaneous</b>			
	69. <b>Component Total</b>	-	-	-
100	<b>GRAND TOTAL</b>	136,130	78,125	58,005

Note: cash contribution collected through training fees

Two aspects of the budget require explanation. The first is the decision to pay the international promotional expert US\$1000 per day for limited periods. This in essence refers to special technical assistance that FTCl requests from TFF in respect of few items.

Facilitating the work of FTCl by sourcing special technical assistance for FTCl: for example, TFF arranged for tyres with special environmental features to be field tested on the Skidder used by FTCl. The tyres were sourced and shipped at no cost to FTCl. Another useful example is that TFF liaised with experts from the US Forest Service to conduct a 5 day course on forest roads in Guyana at no cost to FTCl. Further, TFF is in discussion with a local firm to provide FTCl with a portable sawmill at no cost to FTCl that will allow FTCl to expand its training services for small operators.

From time to time we have asked TFF to perform special services for us, such as sourcing software or equipment or arranging for the servicing or repair of FTCl's equipment purchased in the US. This allows FTCl to source critical items in a few days.

TFF keeps FTCl abreast of critical developments with other RIL initiatives in Brazil, Indonesia and Africa. TFF has been involved in lobbying efforts to support FTCl's initiatives with WWF.

Please note that the fee is for a very limited time. TFF is in telephone contact with FTCl on average about two times per month. TFF also utilizes its office resources to support FTCl. And the issues referred to above are completely separate from the efforts associated with the lease of three machines from Caterpillar, an arrangement managed by TFF.

The other item refers to the proposed recruitment of an international consultant in C & I auditing. FTCl wishes to apply ITTO's C & I to monitor and evaluate forest management in Guyana. However there are several, somewhat similar initiatives.

The Guyana Forestry Commission has a Code of Practice for Timber Harvesting, while the Environmental Protection Agency has a number of guidelines relating generally to fauna and biodiversity.

The Guyana National Initiative for Forest certification is on the verge of publishing a separate set of standards that facilitates FSC Certification.

Then there are the Tarapota set of Criteria and Indicators for ACT countries that the GFC is coordinating at the local level.

Pulling all these initiatives together to organize teaching materials will require a great deal of time, hence the requirement for a consultant.

## **PART III. OPERATIONAL ARRANGEMENTS**

### **1 Management structure**

GFC will coordinate the project for ITTO and together with the Office of the Auditor General will audit the project's activities. FTCl, in cooperation with TFF, is the implementing agency in charge of all field activities and will report to ITTO.

FTCl is a corporate entity specifically established to execute ITTO project PD 68/01 Rev.2 (I) in May 2003. The Board of Directors of FTCl includes representatives of the Guyana Forestry Commission, the Tropical Forest Foundation and the Forest Products Association of Guyana.

The ITTO Project Steering Committee comprising the FTCl Board plus a representative of ITTO and will review the implementation of the Project on an annual basis. The Guyana Forestry Commission is the Coordinating Agency for the project and all major decisions will be sanctioned by the Commissioner of Forests.

The Auditor General of Guyana will continue to conduct annual audits of the project to ensure attention to approved financial procedures and the Project outputs compatibility with national requirements.

FTCl will continue to consult regularly with its Technical Advisory Committee to ensure the relevance of its courses and cohesion with other national initiatives, including the development of national, FSC endorsed forest certification standards.

Since the project is basically implemented and managed by one institution only – FTCl – it is not necessary to include an organization chart. **Figure 2 below illustrates the management structure for the project.**

### **2 Monitoring, Reporting and Evaluation**

#### **Project Progress Reports**

Project reports will be prepared biannually by the Project Director and sent to all core stakeholders, including TFF and FPA. All project reports will be submitted to the FTCl Board of Directors - the Commissioner of Forests in particular - for review before submission to ITTO.

#### **Audit reports**

In accordance with ITTC Decision 4 (XXV), an annual audit of the financial statements will be conducted by an external auditor. In accordance to the Laws of Guyana all donor-funded projects shall be audited by the Office of the Auditor General. The Project Director will submit financial statements to the Office of the Auditor General no later than six weeks after the end of each year. Previous experience has shown that the Office of the Auditor General is usually not in the position to complete the external audit before ITTO's deadline of 31 March. Therefore, a commercial external auditor will also be engaged to perform the annual audit.

A chartered accountancy firm has been contracted by FTCl to produce financial statements on a quarterly basis.

#### **Project Completion Report**

A project completion report will be submitted to ITTO within three months of Project completion.

#### **Project Technical Reports**

Technical reports produced during the course of the project are limited to training manuals. Eight manuals will be produced during the project. Three of these manuals will be new: the RIL training manual for small-scale loggers and hinterland communities, the training manual on auditing



procedures for ITTO / FSC criteria & indicators, using national standards, and the RIL training of trainers' manual. Two of the manuals have been prepared during ITTO project PD 68/10 Rev.2 (I) and will be updated if necessary: the general RIL training manual and the training manual for Road Construction and Heavy Equipment operators. Three training manuals were originally developed as training of trainers' manuals as part of the CIDA-funded GFC/CC forestry training programme and may be modified after review. All technical reports generated by the project will be provided to ITTO and sent to other members of the PSC, the technical advisory committee, and (locally based) donors such as WWF-Guyana.

#### Monitoring, review and steering committee visits

The project steering committee will be the primary body monitoring the project. The last PSC meeting for ITTO project 68/10 Rev.2 (I) took place in April 2004. Since the project builds strongly upon the former project and may be regarded as Phase II of that project, it is recommended that the first monitoring visit take place in October 2005 which can then also serve as an *ex-post* evaluation of the initial project.

A second monitoring mission is proposed for October 2006.

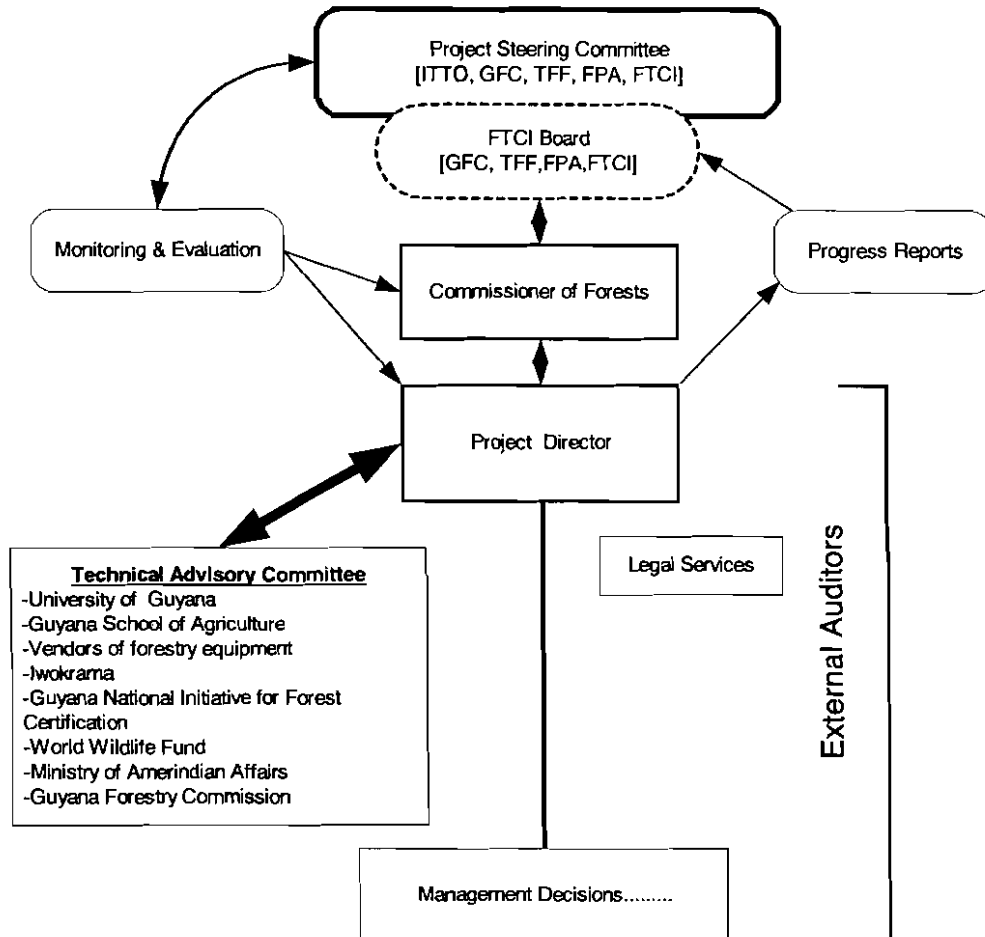
GFC and TFF will be kept abreast of project progress at least once a month, with financial statement being submitted to these agencies on a quarterly basis. The Technical Advisory Committee is kept abreast of project progress on a biannual basis.

#### Monitoring and Reporting Schedule

A preliminary Monitoring and Reporting Schedule is suggested below. It indicates the dates of presentation of Project Progress Reports and Project Technical Reports and the suggested dates for Monitoring visits to the executing agency. Project Progress Reports will be presented to the ITTO two months before Council Session meetings to allow reception, processing and distribution of the documents.

Description	Dates
1 <sup>st</sup> Disbursement request	1 July 2005
1 <sup>st</sup> Technical Report (updated RIL training manual)	1 September 2005
Final annual audit report ITTO Project 68/01 Rev.2 (I)	30 September 2005
ITTO Project 68/01 Rev.2 (I) Project Completion Report	1 October 2005
2 <sup>nd</sup> Technical Report (Road construction manual)	1 October 2005
1 <sup>st</sup> Monitoring Mission	15 October 2005
3 <sup>rd</sup> Technical Report (description RIL system for small-scale loggers)	1 February 2006
1 <sup>st</sup> Project Progress Report	15 February 2006
2 <sup>nd</sup> Disbursement request	15 February 2006
4 <sup>th</sup> Technical Report (five training manuals: forest management planning; tree identification, forest mapping and surveying; auditing procedures on ITTO/FSC C&I; and RIL for small-scale loggers training manual)	1 March 2006
2 <sup>nd</sup> Project Progress Report	15 August 2006
1 <sup>st</sup> Annual audit report	30 September 2006
3 <sup>rd</sup> Disbursement request	30 September 2006
2 <sup>nd</sup> Monitoring Mission	15 October 2006
3 <sup>rd</sup> Project Progress Report	15 February 2007
4 <sup>th</sup> Disbursement request	15 February 2007
5 <sup>th</sup> Technical Report: RIL training of trainers' manual	1 July 2007
Project Completion Report	1 September 2007

**Figure 2**  
**Management Structure for Project**



***Figure 3 below sets out the structure and scope of the monitoring and evaluation system.***

### **3 Future Operation and Maintenance**

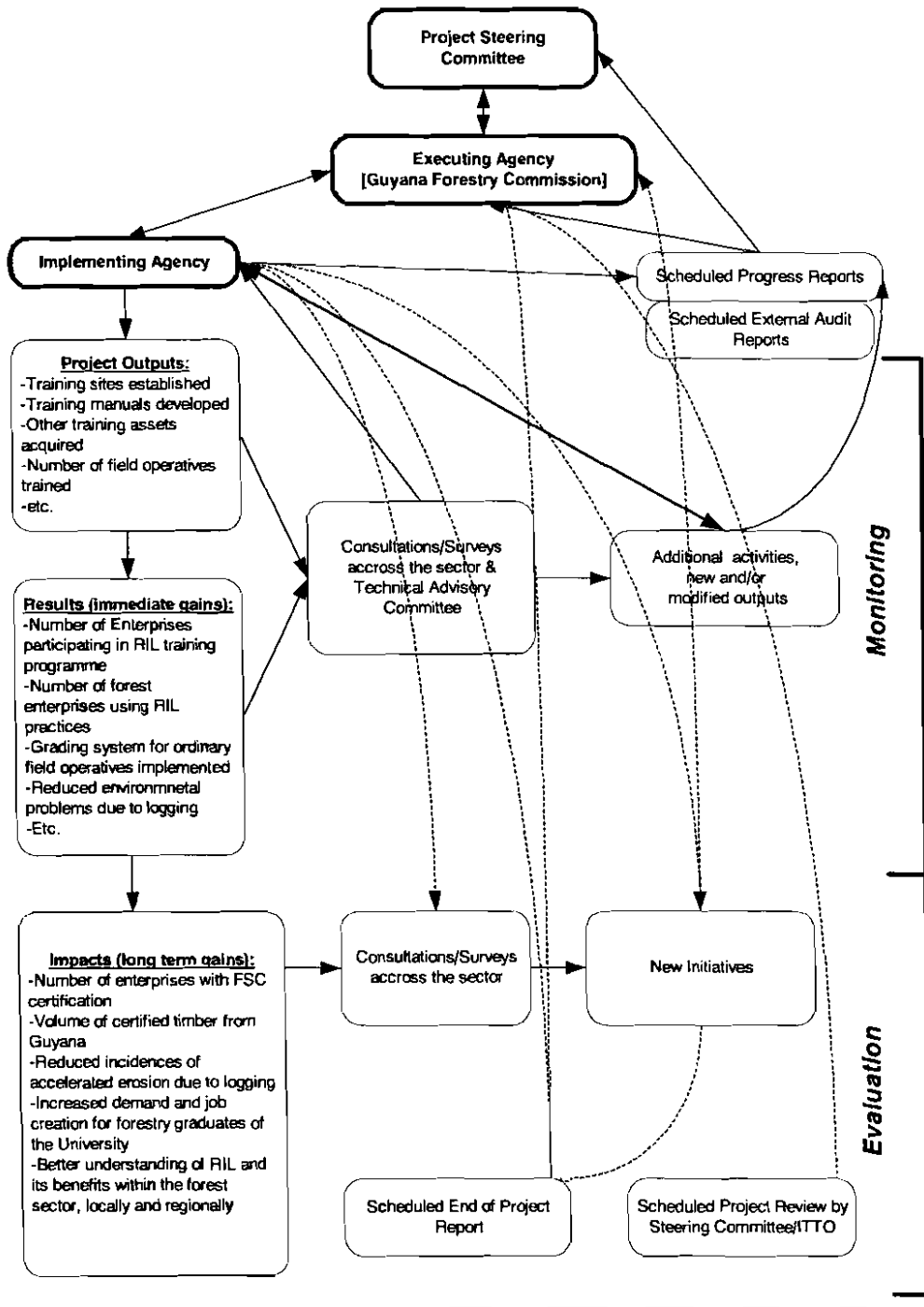
After successful completion of ITTO Project 68/01 Rev.2 (I) and successful implementation of the "second phase", approximately 400 persons – 130 during the first phase and 270 during the second – will be trained in RIL practices and techniques. This will include some 40 decision makers (company owners & executive officers, and representatives of forest administrations, donor organizations, and educational institutions), 70 forest managers / field supervisors, 80 technicians, 50 chainsaw operators, 40 skidder operators, 30 forestry students, 20 road engineers / supervisors, 20 operators of forestry machines, and 40 small-scale / community operators.

The demand for training among concessionaires and forest managers in Guyana may have been fulfilled at that time, while the demand for operators, students and small-scale / community operators is likely to be unfulfilled.

The cost of running an on-site, hands-on training facility is high due to the small numbers of persons that can be trained during each course, the large number of training and support staff involved and especially the operational cost of heavy machinery. Based on the experience during the first phase and on consultations held during the formulation of this proposal, it can be concluded that the willingness and ability to pay for training among the industry is present but limited, while small operators and students will not be in the position to make any substantial contribution. Although a number of companies have indicated that they are willing to pay for training, the level of what is seen as an acceptable contribution will not cover more than 8% of the expected total budget and 15% of the operational cost. Moreover, most of these companies will enrol their workers during the first or second phase. This implies that outside funding, either by the Government of Guyana or by the donor community will need to continue to support the field operations after the completion of the project.

It is therefore suggested that the field operations be closed down after the end of the project period. The core cadre of instructors and lecturers can be transferred to GFC as well as FTC's key training assets. This way the capacity to provide vocational SFM/RIL training is being sustained. From then on training will have to be conducted using the machinery available at the concessions that are requesting training. This will reduce the maintenance cost substantially, because separate logistical and administrative staff will no longer be required and especially the running cost of heavy machinery and the field facility will be avoided. In addition, the number of technicians and camp staff can be reduced. Running costs of heavy machinery will be on account of the requesting company while running cost of office and transport facilities can be absorbed by GFC.

**Figure 3**  
**Chart of Monitoring and Evaluation System**



## **PART IV. THE TROPICAL TIMBER FRAMEWORK**

### **1 Compliance with ITTA Objectives**

This project is aligned with the following ITTA objectives:

- To contribute to the process of sustainable development
- To enhance the capacity of members to implement a strategy for achieving exports of tropical timber and timber products from sustainable produced managed sources
- To promote and support research and development with a view to improving forest management and efficiency of wood utilisation as well as increasing the capacity to conserve and enhance other forest values in timber production tropical forests;
- To encourage members to develop national policies aimed at sustainable utilisation and conservation of timber producing forests and their genetic resources and at maintaining the ecological balance in the regions concerned, in the context of tropical timber trade.
- To encourage tropical timber reforestation and forest management

The project also complies with ITTO criteria established by the Committee on Reforestation and Forest Management and is principally related to the following areas:

- Natural Forest Management
- Harvesting, logging infrastructure, training of technical personnel

This project is also compatible with the following objectives established by this committee:

- Benefits to the tropical timber economy and relevance to producing and consuming nations
- Prospects for positive economic returns
- Use of existing research institutions and relationship to other efforts supported by ITTO

The training project has direct relevance to the tropical timber economy of the region because regional Governments will be encouraged to utilize the services of the centre and to maintain policies that promote the sustainable use of their forest resources, and corresponding productivity gains, including the sale of certified timber. Further, FTCI will of necessity, establish linkages with regional forestry agencies.

### **2 Compliance with ITTO Action Plan**

This project proposal is consistent with the ITTO Action Plan and it relates to the priorities established by the *Committee on Reforestation and Forest Management* in the areas classified within **Demonstration** as follows:

- Demonstrate the economic viability and promote long-term investments in sustainable forest management
- Develop and promote the intellectual, economic and technological basis for integrated forest management systems and optimal use of the tropical forests, taking into consideration multiple benefits that can be derived from them
- Assist in creating a scientific basis for sound forest management

In addition, there is coherence with matters embraced within **Facilitation** regarding:

- Promoting and assisting in the development of adequate skills for research and for implementation of forest management operations

- Facilitating the establishment of demonstration areas that reflect different models of management to enhance the transfer of technology and scientific knowledge

Further, this project relates to the following priority established by the **Forest Industry Committee:**

- Promotion of human resources development at all levels.

This proposal is also consistent with the recommendations of the recently conducted diagnostic survey<sup>11</sup> to elucidate the key impediments to the achievement of the ITTO 2000 objective in Guyana. The development of human resources for the implementation of sustainable forest management was one of the priority areas for ITTO support recommended in the report. This project addresses the critical issue of 'inadequate training capacity...at the artisan and operator levels' in the local sector as identified by the ITTO mission. The broadening of the focus of the FTCL to include small-scale and hinterland (indigenous) community forest operatives reflects the recommendations of the diagnostic survey.

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<sup>11</sup> ITTO, 2003: Achieving the ITTO Objective 2000 and Sustainable Forest Management in Guyana-Report of the Diagnostic Mission.

## ANNEX A - PROFILES OF THE COORDINATING AND IMPLEMENTING AGENCIES

### 1 Profile of the Implementing Agency

#### 1.1 The Expertise of the Implementing Agency

The Tropical Forest Foundation (TFF), the Guyana Forestry Commission (GFC), and the Forest Products Association of Guyana (FPA) approached the ITTO in 2001 to co-fund a RIL training and demonstration programme for Guyana and the region. ITTO funding was approved in November 2001 (ITTO project PD 68/01 Rev.2 (I)). The Forestry Training Centre Incorporated (FTCI) was established as a corporate entity in May 2003 to implement this programme.

The Centre provides hands-on, practical training in and demonstration of RIL for all skill-levels from forest managers to field-based operators. Training is carried out at the Centre's permanent as well as two satellite training sites. Participants not only witness demonstrations and follow lectures on best practices but are also encouraged to take part in them. This approach has been developed by Johan Zweede of FFT - a subsidiary of TFF - and has proven highly successful over the years, training over a thousand persons in RIL and catalyzing interest in applying RIL among a wide variety of stakeholders in Brazil (Dykstra & Elias, 2003<sup>12</sup>; Blate et al, 2002<sup>13</sup>)

During its first year, FTCI recruited and trained a well-qualified cadre of trainers covering all skills needed to apply RIL. Through the generous support of the UK Department for International Development (DFID), Caterpillar Inc. and Farfan & Mendes (local Stihl dealer), much needed training equipment has been acquired.

To facilitate the teaching of RIL, the Forestry Training Centre Inc. has prepared a training manual consisting of 17 modules that takes the student through the process of RIL step-by-step. In general, three types of courses are offered:

- Decision makers' courses of 2-3 days, showing all the basics of RIL over a short period with many opportunities for discussions, evaluations, etc.
- Introductory courses that include all the basic components of RIL in a logical, chronological sequence. This course targets logging supervisors, block inspectors, inventory team leaders, etc. and lasts for 12 days
- Operators' courses teaching either harvest planning, felling, skidding, or other heavy equipment operations. Courses briefly touch on other aspects of RIL either preceding or following the particular activity.

To date, FTCI has organised two courses (one in Suriname) and one workshop *ex-situ*, in which 55 persons participated. Participants included company chief executives (3), officials of forest administrations of Guyana, Suriname, French Guiana, and Belize (10), educational & research institutions and donor community (all Suriname – 4), forest operations managers (6), field supervisors / foremen (14), forest inventory technicians (12), felling teams (3) and skidding teams (3). The courses and workshop were well received and led to a growing acceptance and awareness of RIL and a demand for training in RIL in the region.

The course in Suriname was funded by Centre for the Development of Enterprise of the European Union (CDE), ITTO and WWF Guianas Program (Guianas Sustainable Forest Resources Management Project), with the other two receiving support of WWF Guianas Program, ITTO and two forest enterprises (Barama Company Ltd and Variety Woods Ltd)

<sup>12</sup> Dykstra, D.P. & Elias. 2003. RIL becomes real in Brazil. *ITTO Tropical Forest Update* 13/4: 3-5.

<sup>13</sup> Blate, G.M., Putz, F.E., Zweede, J.C. 2002. Progress towards RIL adoption in Brazil and Bolivia: driving forces and implementation successes. In: *Applying reduced impact logging to advance sustainable forest management*. FAO RAP Publication 2002/14: 217-238

FTCI's permanent training site is expected to be operational by August 2004. Eighty persons are expected to be trained between August and December 2004.

### 1.2 The Infrastructure of the Implementing Agency

FTCI has its administrative centre in Georgetown in one of GFC's buildings, with four offices and a store room. FTCL office is fully equipped with five computers (three desk tops and two portables), one LaserJet printer, one plotter and two DeskJet printers, one photocopier, one scanner, one facsimile and three phone lines. Computers are equipped with all necessary software such as standard professional office, GIS, and desktop publishing software.

FTCI has its main field training facility at Toolsie Persaud Ltd concession situated 100 km from Georgetown between the left bank Essequibo and left bank Cuyuni Rivers (see Map 1). The area measures 6,000 hectares and is covered with virgin tropical rain forest, characteristic of that part of the country. One satellite site, measuring 300 hectares of virgin forest characteristic of central Guyana, has been established at Variety Woods Concession situated 200 km from Georgetown on the right bank of the Demerara River (see Map 2).

FTCI possesses two Toyota Land Cruiser station wagons, one donated by GFC (year of manufacture 1996) and one by ITTO (year of manufacture 2002). Both vehicles are in good condition. The Centre has three forestry machines at its disposal – made available free of cost by Caterpillar, Inc. – located at the main field training facility: one 2003 CAT D6N XL bulldozer, one 2003 CAT 950G Series II wheel loader and one 2000 CAT 545 cable wheel skidder. The machines are maintained by Macorp (Guyana), the local Caterpillar dealer.

The Centre possesses six Stihl chainsaws with an entire range of accessories and spare parts for four years of operation. The Centre is fully equipped with all types of forest surveying tools and materials such as GPS receivers, diameter tapes, compasses, clinometers, 30-m tapes and 50-m tapes, flagging tape, level, diameter callipers, ultrasonic distance measuring equipment. State-of-the-art safety gear is available for all instructors and technicians, and 15 participants.

### 1.3 Budget

	2002	2003	2004 (Provisional)
<b>Income</b>			
ITTO	127,500	180,400	85,600
GFC <sup>14</sup>	39,450	119,350	147,550
TFF <sup>15</sup>			184,250
DFID	54,900	28,152	
WWF			25,000
Contract work		35,650	23,450
<b>Total income</b>	<b>221,850</b>	<b>363,550</b>	<b>465,850</b>
<b>Expenses</b>			
Personnel <sup>16</sup>	79,350	253,100	220,950
Sub-contracts	700	7,000	1,700
Duty travel	5,050	25,850	13,400
Capital items <sup>17</sup>	65,600	24,950	194,250
Consumable items	17,850	42,350	77,550
Miscellaneous	6,700	8,050	6,850
<b>Total Expenses</b>	<b>175,250</b>	<b>361,300</b>	<b>514,700</b>

<sup>14</sup> Includes office rent and utilities

<sup>15</sup> Rental of heavy machinery

<sup>16</sup> includes consultants and training courses

<sup>17</sup> Includes rental of heavy machinery and office rent



1.4 Personnel

- a) Experts with post-graduate degrees: 1
- b) Experts with baccalaureate degrees: 2
- c) Experts with higher vocational training: 2
- d) Qualified instructor-operators 4
- e) Middle-level technicians: 5
- f) Administrative personnel: 1
- g) Support staff: 4

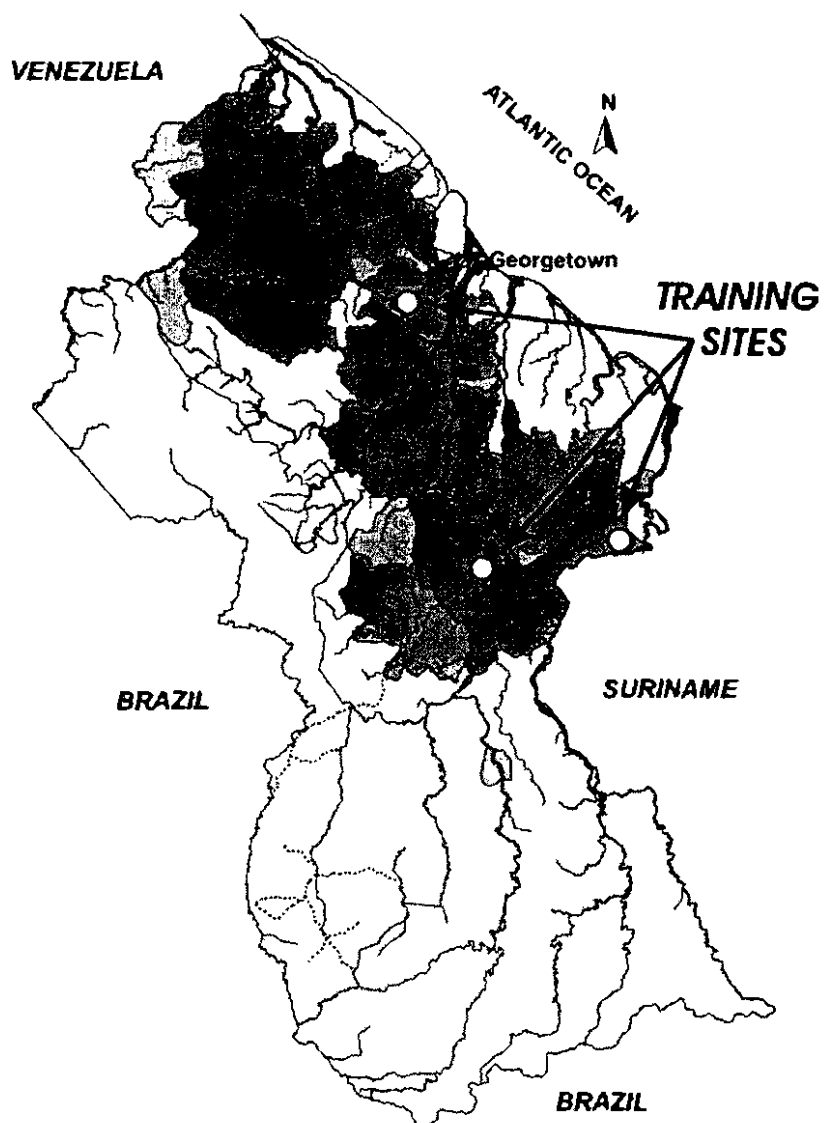


Figure 4 Map indicating the location of FTCl's training sites

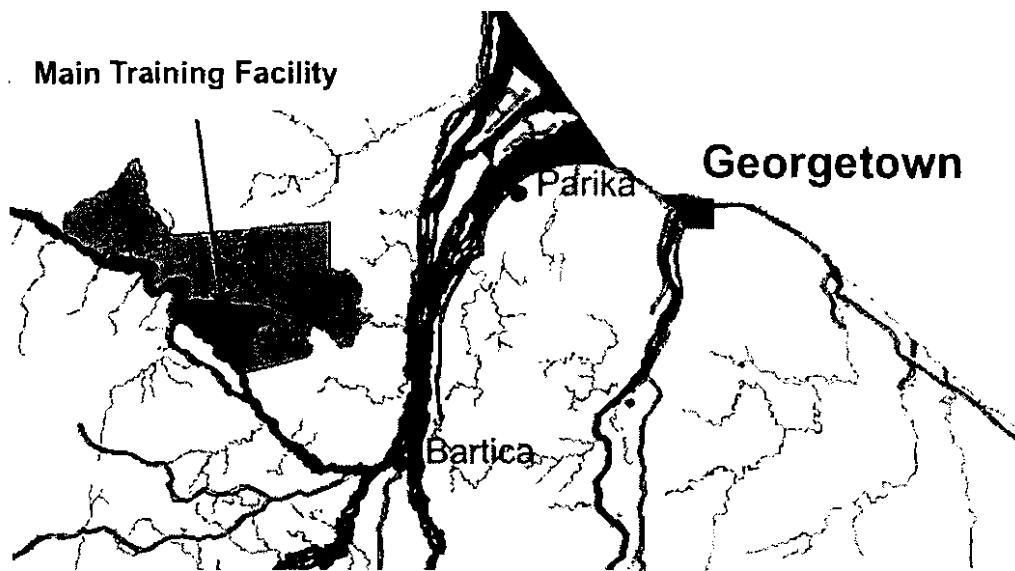


Figure 5 Map indicating the location of FTCI's main training facility

## 2 Profile of the Coordinating Agency

### 2.1 The Expertise of the Coordinating Agency

The Guyana Forestry Commission is a semi-autonomous agency that is responsible for the management of Guyana's forest resources in accordance with the National Forest Policy Statement that was approved by the Government in 1997.

The mission statement of the GFC is *"To provide excellence in forestry management services to our stakeholders through the application of professional skills to contribute to our nation's development"*. The vision statement of the GFC is *"To be a dynamic and professional Forestry commission highly respected by local and international stakeholders"*.

The GFC is mandated by law:

- To advise the Government on, and implement the National Forest Policy;
- To 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:

- Research, Planning and Development: responsible for the co-ordination of forest based research, the preparation of forest sector plans, information notes and reports and other GFC publications; conducting socio-economic studies, providing a market information service and agreed services to the forest industry.
- Forest Resources Management Division: responsible for data collection on the national forest resource, conducting forest surveys and inventories, researching and making recommendations on forest dynamics and silviculture, planning and recommending the allocation of forest concessions, preparing operational guidelines for forest management planning, evaluating management and operational plans, providing advice on forestry policies and legislation, prescribing standards for forest management and providing support to forestry extension.

- 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.
- 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.
- Finance Division: responsible for financial matters.

The GFC is also equipped with a library, herbarium and field centre (Yarowkabra) which provides information services to staff at the GFC and to the public.

Recent developmental initiatives by the GFC include

- Review of the National Forest Legislation
- The development of codes of practice for non-timber forest products
- The development of new Timber Grading Rules
- The development of national standards for forest certification
- Intensive use of GIS as a tool to inform Forest Management planning and processes.
- Extension efforts targeting social issues in forestry
- Increased attention to community based forest enterprises
- Sourcing donor support for the Forest Products Association of Guyana.
- A review of several manuals/documents which include
  - Guidelines for the preparation of forest management plans
  - Code of practice for timber harvesting operations
  - Forestry in Guyana (fact sheet)
  - Manual of procedures for forest concession allocation
  - Quarterly market reports
  - Timber grading rules for Guyana
  - Newsletter for staff

The recent UK DFID sponsored Guyana Forestry Commission Support Project (1996 to 2002) targeted primarily the development of the Guyana Forestry Commission, the forestry authority. The GFC was completely re-organized, new administrative and forest concession administrative systems were developed, offices and field stations were refurbished and new equipment and furniture provided, several M.Sc. scholarships were provided and business training were provided for all senior managers.

Previous projects submitted to ITTO by Guyana are:

- A Sustainable Management Model in the Iwokrama Rain Forest (ITTO 10/97 Rev. 1 (F)) - funded
- Forest Industry Training Project (1997) - not funded
- Design and Implementation of an Information System within the GFC (1997) - not funded
- Training in Reduced Impact Logging in Guyana (ITTO PD 68/01 Rev. 2 (I)) - funded

## 2.2 The Infrastructure of the Coordinating Agency

The GFC has a main headquarters building in Demerara, with Divisional offices in Berbice and Essequibo. In addition to these central Division offices, 15 field stations are distributed throughout the country. All stations are equipped with radio/telephone communication equipment

for easy exchange of information across the entire country. The Divisional offices are all computerized, and there is access to key databases via this medium.

Through technical assistance provided by the Canadian International Development Agency and the Department for International Development (United Kingdom) the GFC has addressed many of the major constraints faced by the GFC itself. A new National Forest Policy Statement, new draft legislation, a national forest Plan, a vegetation map of Guyana, and codes of practice for the harvesting of timber and non-timber products have been major outputs of such assistance. The DFID sponsored Guyana Forestry Commission Support Project led to marked improvement in forest concession administration systems, structured and rigorous forest monitoring systems, the quality and scope of forestry training in Guyana and a complete rehabilitation and refurbishment of forest stations. CIDA supported the GFC with vehicles and field equipment. Further, the Government of Guyana sourced technical assistance from UNDP (PROFOR) to review global forest certification practices with key stakeholders and to initiate the development of local forest certification standards in support of good forest management practices.

### 2.3 Budget

Over the past ten years the GFC has enjoyed considerable financial vigour and has been able to meet all its financial obligations

### 2.4 Personnel

a) Experts with post-graduate degrees:	10
b) Experts with baccalaureate degrees:	15
c) Middle-level technicians:	35
d) Administrative personnel:	40
e) Total number of personnel in forestry-related fields:	120

## **ANNEX B - CURRICULA VITAE OF THE KEY STAFF**

### **Project Director**

Name: Godfrey Emerson Marshall  
Designation: Project Coordinator  
Date of birth: 12 November, 1954  
Education: 1982: Diploma in Forestry - Eastern Caribbean Institute of Agriculture & Forestry (Trinidad & Tobago)  
1992: B. Sc. Forestry - Universidade Federal de Lavras (formerly Escola Superior de Lavras)-(Brazil)  
1999: M.Sc. Forestry - University of Oxford- UK  
Nationality: Guyanese

### **Professional Experience:**

Employed since 1972 with the Guyana Forestry Commission and seconded to FTCI in 2002. At the GFC, Mr. Marshall was engaged in a variety of tasks mainly related to forest concession administration. He has held seven different positions within the commission, including Deputy Commissioner of Forests and served as head of all the core technical divisions of the GFC: Forest Monitoring, Forest Resources Management, and Planning & Development.

Mr. Marshall has done field tours to various countries, including Malaysia, Sweden & Spain. His formal forestry education was done in Trinidad & Tobago, Brazil and the United Kingdom and he is thus familiar with forestry practices in those countries.

In February 2003, Mr. Marshall led the FTCI team on the field tour to the RIL training centre managed by the Fundação Floresta Tropical in Brazil.

2002 to date: Project Coordinator-FTCI/Counterpart to Project Director

### **Duties:**

1. To manage the Project personnel and to provide technical and administrative orientation for carrying out the planned Activities.
2. To develop detailed yearly work plans and the related budgets.
3. To plan and coordinate the Implementation of the Project.
4. To supervise the selection of consultants to the Project.
5. To participate in the elaboration of training programs.
6. To coordinate the implementation of the Project Activities and to adopt any administrative measures necessary to keep the Project on track.
7. To ensure the timely achievement of the Project Results and Objectives.
8. To supervise the Project financial expenditures.
9. To prepare biannual Progress Reports.
10. To supervise the elaboration and to approve Project technical and administrative documents.

## TERMS OF REFERENCE

### **Operations manager**

#### **Qualifications:**

- Guyanese national
- 5 years of experience forest operations management in Guyana
- Strong communication and organizational skills

#### **Responsibilities**

- To coordinate logistical and technical part of Project
- To supervise maintenance of all field facilities
- To supervise maintenance and operation of all Project equipment
- To supervise all field personnel.
- To coordinate purchase and other acquisition of equipment, tools and materials
- To coordinate all field activities
- To assist in the development of yearly work plans.
- To participate in the elaboration of training programs.
- To assist in the coordination of the implementation of the Project Activities.
- To assist in the preparation of biannual Progress Reports.
- To elaborate Project Technical and administrative documents
- To consult with stakeholders and local project partners

## **Forester II**

Name: Julian Pillay  
Date of birth: 8 June 1965  
Education: 1989-1990 Guyana School of Agriculture (Certificate in Agriculture)  
1993-1996: University of Guyana (Dip. Forestry);  
Nationality: Guyanese

### **Professional Experience**

1990-1993: Extension Officer-Ministry of Agriculture. Responsibilities: providing technical assistance to rural farmers

1996-2001: Crew leader / research assistant Tropenbos Guyana programme. Responsibilities: Managed Tropenbos field camp; coordinated and executed field research; served as crew leader and logging supervisor.

From 28 April to 9 May 2003, Mr. Pillay participated in a Training of Trainers' Course in Guyana conducted by experts from URS Forestry, Australia.

2003 to date: Forester II-Forestry Training Centre Inc.

### **Responsibilities:**

1. Supervising FTCI's foresters, instructors and technicians during the planning and the execution of field activities, particularly in the field of harvest planning
2. Developing and giving lectures on reduced impact logging concepts and principles
3. Reviewing and disseminating practical and theoretical knowledge relative to GFC's Code of Practice with crews and course participants
4. Leading crews for block establishment, 100% inventory, tree marking, skid trail and road alignment during course preparations
5. Supervising the use and maintenance of forest surveying and inventory materials and tools
6. Planning organizing and assigning work for field crews
7. Producing reports, maps, tables and diagrams as required
8. Ensuring agreed work plans for field activities are implemented
9. Liaising with representatives of course participants and or concession based supervisors as required
10. Conducting the briefing sessions required for the implementation of work plans.

### **Course coordinator**

Name: Shenella Alicia Wiltshire  
Date of birth: 15 July 1978  
Education: 1995-1996: University of Guyana (Dip. Forestry)  
1997-2001: University of Guyana (B.Sc. Forestry)  
Nationality: Guyanese

### **Professional experience**

Between 1996 and 1999 Ms. Wiltshire did several work study stints at the Guyana Forestry Commission. In 2000 and 2001, she worked as a research assistant with the Tropenbos-Guyana programme with responsibility for collecting and recording data related to the RIL feasibility study conducted by the agency.

In February 2003, Ms. Wiltshire went on a field tour to the RIL training centre managed by the Fundação Floresta Tropical in the State of Para, Brazil. From 28 April to 9 May 2003, Ms. Wiltshire participated in a Training of Trainers' Course in Guyana conducted by experts from URS Forestry, Australia.

2003 to present: Forester I, Forestry Training Centre Incorporated

### **Responsibilities:**

1. Scheduling, promoting and coordinating RIL training courses
2. Coordinating the production of newsletters and brochures on FTCL and RIL
3. Developing and giving lectures on Reduced impact logging practices and in particular skidding, road construction, and the application of heavy machinery in forestry and occupational health and safety-in association with the skidder and/or heavy equipment instructor;
4. Coordinating logistics and personnel deployments for all field activities;
5. Coordinating the acquisition, storage and issue of camp supplies, including rations and ensuring proper records are maintained.
6. Leading crews for block establishment, 100% forest inventory, tree marking, skid trail and road alignment, during course preparations
7. Planning, organizing and assigning work for field crews
8. Coordinate all administrative activities related to trainees
9. Organize and maintain all course materials, correspondences and contacts
10. Provide management with summaries of participant requests for evaluation
11. Provide information to all those interested how to participate in the courses
12. Make travel arrangements



## **Forester I**

Name: Chris Davis  
Date of birth: 2 March 1975  
Education: 1995-1999: University of Guyana (B.Sc. Forestry)  
Nationality: Guyanese

### **Professional experience**

2000 (August-November): Research Assistant: Iwokrama International Centre for Rainforest Conservation and Development. Primary responsibilities: the establishment of sample plots for research on RIL in Guyana.

2001 Research Assistant: Tropenbos-Guyana Programme. Primary responsibilities: tree marking, monitoring of logging crews and assessing post harvest damage assessment.

2002: Guyana Forestry Commission: Management Trainee

In February 2003, Mr. Davis went on a field tour to the RIL training centre managed by the Fundação Floresta Tropical in the State of Para, Brazil. From 28 April to 9 May 2003, Mr. Davis participated in a Training of Trainers' Course in Guyana conducted by experts from URS Forestry, Australia.

2003 to present Forester I, Forestry Training Centre Incorporated

### **Responsibilities:**

1. Coordinating all kinds of data collection, data storage and data analysis.
2. Produce reports, maps, tables and diagrams as required.
3. Supervising the use of FTCI's computer systems and associated devices
4. Supervising FTCI's instructors and technicians involved in primarily in the following activities: block demarcation, 100% forest inventory, tree marking, and directional tree felling
5. Developing and giving lectures on reduced impact logging, and in particular data management and tree felling
6. Reviewing and disseminating practical and theoretical knowledge on occupational safety and health issues related to timber harvesting (during courses)
7. Leading crews for block establishment, 100% forest inventory, tree marking, and tree felling during course preparations
8. Planning, organizing and assigning work for field crews in accordance with the agreed work plan.

## **Forester I**

Name: Howard Boyan  
Date of birth: 2 Jan 1942  
Education: Certificate Forestry  
Nationality: Guyanese

### **Professional Experience**

1966-2002-Forest Officer-Guyana Forestry Commission

Responsibilities (various over a 36 year period) assisting in forest concession administration and forest administration. Special skills: aerial photo-interpretation; surveying and mapping; forest inventory and tree identification.

In February 2003, Mr. Boyan went on a field tour to the RIL training centre managed the Fundação Floresta Tropical in the State of Para, Brazil. From 28 April to 9 May 2003, Mr. Boyan participated in a Training of Trainers' Course in Guyana conducted by experts from URS Forestry, Australia.

2003 to date: Forester I - Forestry Training Centre Inc.

### **Responsibilities**

1. Supervising crews during the execution of line cutting, surveying and 100% inventory field activities
2. Participating in data processing in the field and in office
3. Reviewing and disseminating practical and theoretical knowledge on forest management planning, mapping and aerial photo-interpretation during courses.
4. Reviewing and disseminating practical and theoretical knowledge relative to GFC's Code of Practice with crews and course participants
5. Developing and giving lectures on forest management planning, mapping and remote sensing
6. Supervising the use and maintenance of maps, surveying and forest inventory tools and materials
7. Leading crews for block establishment, 100% inventory, tree marking, skid trail and road alignment during course preparations
8. Planning organizing and assigning work for field crews
9. Producing reports, maps, tables and diagrams as required

### **Senior Instructor - Heavy Duty Equipment**

Name: Prince Albert Williams  
Date of birth: 26 December 1947  
Education: Primary Education.  
Nationality: Guyanese

#### **Professional experience:**

Over 35 years experience as a utility operator/instructor with all the major mining entities in Guyana - including the Guyana Bauxite Company (1969-79) and OMAI Gold Mines Ltd. (1990-2002). He operated Bulldozers, motor graders, heavy mining trucks, front end loaders, backhoe, excavator and shovels. His responsibilities included the operation of production support equipment for haulage, major loading operations, drill site preparation, and production hauling trucks. At OMAI Gold Mines he was responsible for training operators.

He has had extensive vocational training related to machine operation and supervisory/training skills.

In February 2003, Mr. Williams went on a field tour to the RIL training centre managed the Fundação Floresta Tropical in the State of Para, Brazil. From 28 April to 9 May 2003, Mr. Williams participated in a Training of Trainers' Course in Guyana conducted by experts from URS Forestry, Australia.

2003 - To date: Instructor – Heavy Duty Equipment - Forestry Training Centre Inc.

#### **Responsibilities:**

1. Carrying out road construction, loading and similar operations as needed in the implementation of training programmes
2. Demonstrating RIL operator methods with the crawler tractor, wheel loader and related equipment as needed throughout the training programme
3. Using appropriate techniques designed to reduce the impact of machines on the Forestry Training Centre Inc.
4. Reviewing and disseminating knowledge about the basic mechanics and care and maintenance of crawler tractors, wheel loaders and related equipment
5. Discussing common field practices relative to GFC's Code of Practice with crews and course participants
6. Maintaining records on machine hours, maintenance, spare parts and fuel consumption for FTCL's crawler tractor and wheel loader
7. Carrying out preventive maintenance of FTCL's crawler tractor and wheel loader
8. Produce reports tables and diagrams as required.

### **Instructor - Felling**

Name: Wilfred Jarvis

Designation: Instructor

Date of birth: 1 June 1951

Education: Several vocational courses on the use and maintenance of chainsaws from local and international agencies.

Nationality: Guyanese

### **Professional Experience**

Over thirty years experience in the use and maintenance of chainsaws. Mr. Jarvis has also been exposed to a many vocational training programmes conducted by local and international experts. He has worked with forest enterprises, the Guyana Forestry Commission and the Tropenbos-Guyana (research) Programme.

1991-1995 Chainsaw Instructor-Interim Forestry Project (CIDA/GFC). Responsibilities: Conducting tree felling operations associated with research and forestry extension.

1994: Chainsaw operator conducting directional felling during Tropenbos RIL research

1998-2003: Extension Officer-Guyana Forestry Commission. Responsibilities: On the job training of tree fellers on logging concessions.

2001: Directional felling instructor Tropenbos RIL feasibility study

In February 2003, Mr. Jarvis went on a field tour to the RIL training centre managed the Fundação Floresta Tropical in the State of Para, Brazil. From 28 April to 9 May 2003, Mr. Jarvis participated in a Training of Trainers' Course in Guyana conducted by experts from URS Forestry, Australia.

2003 to date: Instructor-Chainsaw technology-Forestry training Centre Inc.

### **Responsibilities:**

1. Demonstrating directional felling, cross cutting, skid trail preparation and similar operations as needed in the implementation of the training programme
2. Demonstrating RIL chainsaw operating methods and related equipment as needed throughout the training programme.
3. Using appropriate operational techniques designed to reduce the impact of tree fall on the residual forest
4. Reviewing and disseminating knowledge about the operation, basic mechanics and care and maintenance of chainsaws during courses.
5. Reviewing and disseminating knowledge about occupational health and safety related to the operation of chainsaws during courses
6. Discussing common field practices relative to GFC's Code of Practice with Crews and with course participants
7. Maintaining records on machine hours, maintenance, and spare parts. Fuel consumption for FTCl's chainsaws
8. Carrying out preventive maintenance of FTCl's chainsaws

### **Instructor - Dendrology**

Name: Isaac Johnson  
Date of birth: 10 January 1934  
Education: Primary Education  
Nationality: Guyanese

### **Professional experience:**

Mr. Johnson worked with a variety of forest enterprises, the Guyana Forestry Commission and the Tropenbos-Guyana programme on a large number of forest inventories and research plots over a fifty year period. He has participated as an instructor in a large number of vocational training programmes conducted by the Guyana Forestry Commission.

From 28 April to 9 May 2003, Mr. Johnson participated in a Training of Trainers' Course in Guyana conducted by experts from URS Forestry, Australia.

2003 - present: Instructor-Dendrology-Forestry Training Centre Inc.

### **Responsibilities:**

1. Provide training in the principles and practices of dendrology
2. Establishing an arboretum at main training facility
3. Illustrating the occurrence of forest types in accordance with topographic conditions
4. Teaching the use of vegetation maps for planning logging operations
5. Planning, organizing and assigning work for field teams
6. Maintaining up-to-date lists of local species for review by course participants
7. Demonstrating the collection and preservation of plants and parts of plant
8. Teaching course participants the use of herbaria
9. Teaching course participants some basic concepts of biodiversity
10. Producing reports and exhibits as required

### **Instructor - Skidding**

Name: Fred Edward Lim  
Date of birth: 29 September 1964  
Education: Primary Education.  
Nationality: Guyanese

### **Professional Experience**

Over twenty years experience in the care maintenance and operation of skidders and agricultural tractors, including:

1980-87: Technician-JP Santos & Co. Ltd. (Dealers in Case Skidders, Nuffield & Leyland Agricultural tractors and Combine Harvesters): main responsibilities-managing the spare parts department and maintenance duties in the workshop.

1992-99: Technical services officer-T. Geddes Grant Ltd. (dealers in Ford Tractors and Clark Ranger Skidders).

Mr. Lim was also engaged in personal businesses as a mechanic servicing skidders on concessions and as a logger.

In February 2003, Mr. Lim went on a field tour to the RIL training centre managed the Fundação Floresta Tropical in the State of Para, Brazil. From 28 April to 9 May 2003, Mr. Lim participated in a Training of Trainers' Course in Guyana conducted by experts from URS Forestry, Australia.

2003 to date: Instructor –Skidders: Forestry Training Centre Incorporated

### **Responsibilities:**

1. Carrying out log skidding and related operations as required
2. Demonstrating RIL operating methods with a skidder and related equipment as needed throughout the training programme
3. Using and demonstrating appropriate operational techniques designed to reduce the impact of machines on the forest resource
4. Teaching and demonstrating to course participants, the operation, basic mechanics and preventive maintenance of skidders and accessories and related equipment
5. Reviewing and disseminating knowledge about occupational health and safety related to the operation of skidders and related equipment.
6. Discussing common field practices relative to GFC's code of Practice with crews and with course participants
7. Maintaining records on the skidder that includes data as machine use/hours, maintenance regime, spare parts and the use of fuel and oil.
8. Preparing charts, diagrams and reports as required from time to time

### **International promotional expert**

Name: O. Keister Evans  
Birth date: 10/05/1939  
Qualifications: M.Sc. Agronomy at the Virginia Polytechnic Institute  
B. Sc. Forestry at the Virginia Polytechnic Institute  
Nationality: USA

### **Professional Experience**

1990 – present: Executive Director TFF, Alexandria, Va., USA  
1976 – 1984: Int. Wood Products Association Virginia; Executive Vice President  
1970 – 1976: American Horticultural Society, Virginia; Executive Director  
1961 – 1964: Virginia Agricultural Extension Service, Virginia

### **Responsibilities:**

1. Advising officials in relevant government agencies, universities, and NGO's in LAC countries in training opportunity; requesting cooperation and assistance in advertising and promoting courses
2. Organizing and running international events
3. Supervision on production (including design, translation and printing) and distribution of promotional material
4. Supervision on development of informational web page describing the courses
5. Supervision on development and distribution of application material
6. Establishment and maintenance of database of all relevant contacts for courses

ANNEX C

RECOMMENDATIONS OF THE 29<sup>TH</sup> PANEL AND THE RESPECTIVE MODIFICATIONS

RECOMMENDATION	MODIFICATION
1. Provide more information on the results of PD 68/01 rev.2 (I)	See highlighted paragraphs under Part I: Context-1. Origin
2. Further improve the development and specific objectives.	See highlighted sections under Part II: The Project- 1 Project Objectives
3. provide a more realistic assessment of the problem to be addressed, a well structured problem tree and the intended situation after project completion	See highlighted sections and Figure 1 under Part II: The Project; 2 Justification; 2.1 Problem to be addressed and 2.2 Intended situation after Project completion
4. Further develop the project strategy	See highlighted sections under Part II: The Project; 2 Justification; 2.3 Project Strategy
5. Refine the project activities	The Project activities- Part II: The Project; 4 Activities-have been revised and refined (see highlighted sections)
6. Provide precise quantitative indicators and realistic assumptions in the logical framework	The Logical framework- Part II: The Project , 5 Logical Framework-has been revised (see highlighted sections)
7. Include a management structure chart	See Figure 2, page 49
8. Elaborate a monitoring and evaluation system	See Figure 3, page 51
9. Justify the fees for the international promotional expert (US\$1000/day) and the engagement of an international consultant in C&I auditing expert.	See notes on page 47
10. Consider distributing the costs for the national experts and other labour more equitably between the Executing Agency and ITTO	See 7.2 Yearly Budgets by Source
11. Include and Annex which shows the recommendations of the 29 <sup>th</sup> Panel and the respective modifications in a tabular form.	See Annex C

NB. All changes have been highlighted by a combination of bold, italic and underlines.