



Federal Ministry
of Food
and Agriculture

INTERNATIONAL TROPICAL TIMBER ORGANIZATION

AGREEMENT No. (F) F19/10

*DEVELOPMENT OF TRAINING MODULES
ON LEGAL AND SUSTAINABLE SUPPLY CHAINS (LSSC)*

TRAINING MODULE 3

FROM LEGALITY TO SUSTAINABILITY

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I. INTRODUCTION

This Activity is part of the Special Service Agreement No. (F) F19/10 titled "Development of training modules on legal and sustainable supply chains (LSSC) - Module 3: From legality to sustainability". The Terms of Reference set out that the activity will contribute to strengthening the capacity of forest management stakeholders in the Congo Basin to ensure compliance with the main requirements of the LSSCs, in connection with the international trade of timber products from Central African ITTO member countries, namely: Cameroon, the Central African Republic (CAR), the Democratic Republic of Congo (DRC), Gabon and the Republic of Congo. These countries harbor the largest forest cover in Central Africa and are also the main timber producers in the region.

In addition, the activity aims to promote the broader implementation of current SFM guidelines and regulations among the Congo Basin countries with a view to their integration into the legal and sustainable supply chain processes and ensuring compliance with the aforementioned international trade regulations, in connection with the most widely used relevant traceability systems.

Funding for the Activity "Development of training modules on legal and sustainable supply chains (LSSC)" is provided by the Government of Germany. The Government of Germany is providing start-up funds for an expanded training and capacity building program for the management of sustainable supply chains in Central African countries under the supervision of the Central African Forest Commission (COMIFAC) and the Network of Forestry and Environmental Training Institutions of Central Africa (RIFFEAC), which are currently the administrative bodies responsible for the financing mechanism linked to the Seventh Tokyo International Conference on African Development (TICAD-7).

The training modules resulting from this Activity target professionals and technicians to enable them to understand and wisely manage tropical timber products legal and sustainable supply chains within the framework of sustainable forest management (SFM) practices. The Activity includes four modules, as follows:

- Module 1: Understanding the 'zero-deforestation concept'
- Module 2: Assessing legality and achieving accountability
- Module 3: From legality to sustainability
- Module 4: Markets and market access

More specifically, Module 3 titled "From legality to sustainability" as per Agreement No. (F) F19/10 includes the following components:

- Tools and technologies for forest management and planning (integration into existing modules under ITTO project PD 456/07 "Capacity Building in Congo Basin Countries");
- Role of SFM Criteria and Indicators – ITTO guidelines and others;
- Guidelines for the sustainable management of forest concessions, including reduced impact logging (RIL);
- Certification systems and their requirements;

- International policies on timber and timber products (European Union Timber Regulation—EUTR, Revised Lacey Act, Clean Wood Act, etc.).

II. METHODOLOGY

The development of Module 3 involved three key stages:

Literature review covering studies carried out in the sub-region on the adequacy between training provided by RIFFEAC training institutions and the skills profile desired by the various stakeholders, and including various guidelines and technical guides on sustainable forest management used across timber producing countries in Central Africa;

Development of a questionnaire aimed at determining the training needs in relation to Module 3 topics. The questionnaire targeted various actors and stakeholders in the forestry and environment sector in Central Africa;

Questionnaire enhancement and data collection during the regional activity inception workshop held on October 14-15, 2019, in Douala, Cameroon, which brought together the actors and stakeholders from countries concerned by the Activity;

Analysis of questionnaire responses and a content proposal for Module 3 based on a structure divided into Courses; Chapters; and Chapter Sections and Subsections. This structure was selected by RIFFEAC for introducing the academic and technical modules through ITTO project PD 456/07 "Capacity building in the Congo Basin countries". Each Course includes Prerequisites; General Objective and Specific Objectives; Detailed content description; Teaching activities; Schedule; Assessment Methods; and References and Recommended Reading Material.

A validation workshop was held in Brazzaville, Congo, on October 19-23 2020 for Modules 3 and 4 and the draft Module 3 was improved both in substance and form.

III. DRAFT MODULE

III.1. TRAINING FOCUS

III.1.1 Industry focus areas and related areas targeted by training

The areas that will benefit from training support should be defined as precisely as possible.

Short-term training course

Title: *From legality to sustainability*

Focus area	Sustainable production and responsible timber trade in Central African countries
Main related area	Legal and sustainable timber supply chains in Central Africa
Related area	Timber legality and forest production sustainability in Central Africa

III.1.2 Other existing training courses in this field and specific features of developed training course

Institutions in Central Africa already deliver similar courses or courses on related topics for the most part. However, these training courses are either very general without specifically addressing the needs of actors involved in the production and marketing of timber from Central Africa, or they remain very theoretical and do not include enough practical work.

The training developed aims to provide actors in timber production and marketing in Central African countries with the capacity to meet requirements imposed by various timber markets.

III.1.3 Training course potential users and stakeholders, and expected outcomes

This training course duration is short term and is aimed at various professionals, as follows:

- forestry administration;
- tax and customs administration;
- operators in official forestry private sector (logging companies, timber processing companies, timber marketing/trade/transit);
- operators in the non-official forestry private sector; small-scale businesses;
- consultancy firms and individual consultants in forest-based industry;
- national and international conservation non-governmental organizations;
- development partners

Table 1: Training stakeholders and expected outcomes

Users/stakeholders	Training expected outcomes
<ul style="list-style-type: none"> Forestry Administration 	<ul style="list-style-type: none"> At the strategic level, the administration has an improved knowledge of issues related to legal and sustainable timber supply chains and is able to formulate policies and strategies that promote sustainable production and responsible timber trade; At the strategic level, personnel is familiar with legal requirements in consumer countries importing timber from Central Africa; Personnel from technical directorates and decentralized departments are familiar with forest legality and sustainable management tools and instruments, and are able to support private sector operators in connection with responsible timber production and trade.
<ul style="list-style-type: none"> Tax and customs administration 	<ul style="list-style-type: none"> At the strategic level, the administration has an improved knowledge of issues related to legal and sustainable timber supply chains and is able to formulate a tax/customs system and strategies for promoting timber sustainable production and responsible trade. Personnel is familiar with the different aspects of forestry taxation in Central African timber producer countries, and with legal requirements in the major timber consumer countries
<ul style="list-style-type: none"> Official sector private operators (logging companies, timber processing companies, marketing/trade/transit) 	<ul style="list-style-type: none"> Official sector private operators are familiar with forest legality and sustainable management tools and instruments and are able to produce timber sustainably; Official sector private operators are familiar with tax and customs tools and instruments in producer countries and able to market timber responsibly; Official sector private operators are familiar with legal requirements in timber consumer countries and able to maximize timber marketing with those countries.
<ul style="list-style-type: none"> Non-official private sector/small-scale businesses 	<ul style="list-style-type: none"> Informal sector private operators are familiar with forest legality tools and instruments as adapted to the small-scale business sector and are able to produce and process timber legally; Informal sector private operators are familiar with tools and tax instruments in producer countries as adapted for the informal sector for marketing timber products responsibly in the domestic timber market; Informal sector private operators are familiar with legal requirements in consumer countries importing Central African timber and able to export timber to those countries.

<ul style="list-style-type: none"> Consulting firms and individual consultants in forest-related industry 	<ul style="list-style-type: none"> Consulting firms and individual consultants are familiar with issues related to legal and sustainable timber supply chains and are able to support country administrations and private operators with the development of strategies promoting timber sustainable production and responsible trade; Consulting firms and individual consultants are familiar with forest legality and sustainable management tools and instruments and are able to develop management plans for sustainably producing timber; Consulting firms and individual consultants are familiar with tax and customs tools and instruments in producer countries to support private operators with responsible timber marketing; Consulting firms and individual consultants are familiar with legal requirements in timber consumer countries to support private operators with the establishment of systems for maximizing trade with those countries; Consulting firms and individual consultants are familiar with forest legality tools and instruments as adapted for the small-scale business sector and are able to support non-official private operators with timber legal production and processing; Consulting firms and individual consultants are familiar with tax tools and instruments in producer countries as adapted to the non-official sector to support non-official private operators with the responsible timber marketing in the timber domestic wood market; Consulting firms and individual consultants are familiar with legal requirements in consumer countries importing timber from Central Africa to support non-official private operators with timber exports to those countries.
<ul style="list-style-type: none"> National and international conservation NGOs 	<ul style="list-style-type: none"> National and international conservation NGOs are familiar with issues related to legal and sustainable timber supply chains and are able to ensure that policies and strategies developed by governments are taken into account for promoting of timber sustainable production and responsible trade.
<ul style="list-style-type: none"> Development partners in forest-environment sector 	<ul style="list-style-type: none"> Development partners are familiar with issues related to legal and sustainable timber supply chains and are able to support national administrations and private operators with the development of policies and strategies for promoting timber sustainable production and responsible trade; Development partners are familiar with legal and tax/customs tools and instruments in producer countries to facilitate the development of responsible trade between producer countries and consumer countries from which they originate.

III.1.4 Prerequisites for training course applicants

Prerequisites will be determined based on courses included in Module 3 and on the level of training applicants. This level will reflect the content of training previously followed by applicants.

As part of short-term continuing education, two levels will be distinguished: the strategic level and the operational level.

Two levels will be distinguished during training, the strategic level and the operational level.

The strategic level will apply to learners occupying a position equivalent to at least that of deputy director in the central administration and senior managers in forest-based companies and development partners.

The operational level will apply to technical services in relevant central administrations; decentralized departments; forest-based company skilled personnel; small-scale businesses and other non-official sector private operators.

Individual consultants, staff from consultancy firms and national and international NGOs may be included in both levels. Prerequisites will then be determined according to the courses.

III.2 MODULE 3 CONTENT

Module 3 will be divided into five courses, as follows:

Course 3A: Issues for legal and sustainable timber supply chains

Course 3B: Forest taxation and customs procedures in timber producer and consumer countries

Course 3C: Role of SFM Criteria and Indicators—ITTO Guidelines and others, including on Reduced Impact Logging (RIL)

Course 3D: Forest management and planning tools and technologies (integration into existing modules from ITTO Project PD 456/07 “Capacity building in Congo Basin countries”);

Course 3E: Certification systems and related requirements

Table 2: Module 3 courses and number of hours

N°	Course title	Number of hours			
		Theory (Th)	Practical work/tutorials, (PW, T)	Individual (TI)	Total
3A	Issues for legal and sustainable timber supply chains	38	10	42	90
3B	Forest taxation and customs procedures in timber producer and consumer countries	16	10	12	38
3C	Role of Criteria and Indicators for SFM—ITTO Guidelines and others, including for Reduced Impact Logging (RIL)	49	40	32	121
3D	Forest management and planning tools and technologies (integration into existing modules from ITTO Project PD 456/07 “Capacity building in Congo Basin countries”)	76	118	140	334
3E	Certification systems and requirements	30	20	32	82
	TOTAL	209	198	258	665

III.2.1 MODULE 3, COURSE 3A

ISSUES FOR LEGAL AND SUSTAINABLE TIMBER SUPPLY CHAINS

COURSE PLAN

COURSE OVERVIEW

Several initiatives were taken by the COMIFAC member countries and their partners to promote sustainable forest management and strengthen forest law enforcement. Course 3A makes the link between the various scopes of these initiatives.

The course targets are as follows:

- Personnel at the strategic level in administrations and businesses, as well as NGO personnel
- Government and business executives, and other experts in timber marketing
- Developers of small-scale to micro-businesses

Prerequisites: None

OVERALL OBJECTIVES

- Familiarize learners with the concepts of sustainable development and sustainable forest management
- Provide learners with knowledge of the concept of sustainable forest management for implementation in the Congo Basin production forests
- Familiarize learners with the concept of timber legality
- Provide learners with knowledge of the concept of legal timber for implementation in the Congo Basin production forests
- Provide learners with knowledge of the link between timber legality and timber production sustainability in Central Africa
- Familiarize learners with the concept of legal and sustainable timber supply chains
- Provide learners with knowledge of the concept of legal and sustainable timber supply chains for implementation
- Familiarize learners with requirements established by timber and timber products importing countries
- Provide learners with knowledge of requirements established by timber and timber products importing countries for implementation

SPECIFIC OBJECTIVES (SKILLS)

Upon course completion, learners will be able to:

- Explain the principles and challenges of sustainable forest management

- Distinguish between various types of forest harvesting permits in force in the Congo Basin
- Explain the sustainable forest management model in the form of forest concessions and other types of forest harvesting permits used in the Congo Basin
- Distinguish between legal timber and illegal timber according to the definition of legality in learners' country
- Explain the legal and institutional framework governing timber legality in learners' country
- Explain the timber legality assurance system in place in learners' country
- Implement legality matrices
- Explain the similarities between timber legality and timber production sustainability in Central Africa
- Explain the differences between timber legality and timber production sustainability in Central Africa
- Identify synergies between timber legality and timber production sustainability in Central Africa
- Explain the concept of legal and sustainable timber supply chains
- Characterize existing timber supply chain in learners' country
- Assess the legality and/or sustainability of existing timber supply chain in learners' country
- Explain and implement requirements specified by:
 - European Union Timber Regulations (EUTR)
 - Revised Lacey Act, USA;
 - Clean Wood Act, Japan;
 - Illegal Logging Prohibition Act, Australia;
 - CITES

DETAILED COURSE CONTENT

Chapter 0: Course introduction

Chapter 1: Sustainable forest management definition

- 1.1 Concept of sustainable development
 - 1.1.1 Sustainable development definition
 - 1.1.2 Rio Declaration on Environment and Development
- 1.2 Concept of sustainable forest management and challenges
 - 1.2.1 Sustainable forest management definition
 - 1.2.2 Challenges in sustainable forest management (environmental challenges, social challenges and economic challenges)
- 1.3 Sustainable forest management in the Congo Basin
 - 1.3.1 Congo Basin forest types
 - 1.3.2 Allocation of Congo Basin forests as timber production forests

- 1.3.3 Sustainable forest management model in the form of concessions and other types of forest harvesting permits

Chapter 2: Timber legality definitions in Central African timber producer countries

- 2.1 National definitions of timber legality
- 2.2 National legal and institutional framework for timber legality
- 2.3 Management of community/government estate
- 2.4 National legality assurance system
 - 2.4.1 Legality matrices
 - 2.4.2 Traceability system
 - 2.4.3 National forest control systems

Chapter 3: Relationship between sustainability and legality in Central Africa

- 3.1 Similarities between timber legality and timber production sustainability in Central Africa
- 3.2 Differences between timber legality and timber production sustainability in Central Africa
- 3.3 Synergies between timber legality and timber production sustainability in Central Africa

Chapter 4: Characterization of timber legal and sustainable supply chains

- 4.1 Concept of timber legal and sustainable supply chains
- 4.2 Existing timber supply chains in relevant countries
- 4.3 Criteria for assessing legality and sustainability in timber supply chains

Chapter 5: International requirements for timber and timber products (EUTR, Revised Lacey Act, Clean Wood Act, CITES, etc.)

- 5.1 European Union Timber Regulation
- 5.2 Revised Lacey Act, USA
- 5.3 Clean Wood Act, Japan
- 5.4 Illegal Logging Prohibition Act, Australia
- 5.5 CITES

Teaching approach

The course will be delivered in the form of interactive lectures aimed at introducing concepts and their implementation. Group discussions will be promoted through thematic workshops. It will include several readings of publications suggested by the trainer on relevant topics such as sustainable forest management, timber legality in the Congo Basin countries and international requirements for timber and timber products.

Practical work and tutorials

Tutorials

Groups of four-five learners will prepare and deliver presentations on international requirements for timber and timber products.

Practical work

- For Chapter 2, a visit to a government or private timber traceability management department will be planned in the relevant country; and
- For Chapter 4, a PW/T session will be dedicated to assessing timber supply chains.

SCHEDULE

Table 3: Course schedule

Number of hours			Chapters	Teaching activities
Theory classes	Practical work/ Tutorials	Total		
1	0	1	Chapter 0: Course introduction	Lecture
4	0	4	Chapter 1: Sustainable development definition	Interactive lecture + T1
20	6	26	Chapter 2: Timber legality definitions in Central African timber producer countries	Interactive lecture + PW1
2	0	2	Chapter 3: Relationship between sustainability and legality in Central Africa	Interactive lecture
4	4	8	Chapter 4: Characterization of timber legal and sustainable supply chains	Interactive lecture + PW2
8	0	8	Chapter 5: International requirements for timber and timber products (EUTR, Revised Lacey Act, Clean Wood Act, CITES, etc.)	Interactive lecture + T2
39	10	49	Total	

Note: Attendance to classes as well as tutorials and practical work will be mandatory.

ASSESSMENT METHOD

Knowledge assessment will be carried out on a continuous basis throughout the session, as follows:

- Continuous assessment: $2 \times 10\% = 20\%$
- Practical work and tutorials $35\% = \text{PW1 (7,5\%)} + \text{PW2 (7,5\%)} + \text{PW1 (10\%)} + \text{PW2 (10\%)}$
- Final assessment 45%

Other

Use of class notes will not be allowed during assessments.

Language ability (French/English) and presentation, both for examinations and presentations/tutorials and PW reporting, will be taken into account for assessment (5% of marks).

Any delay in submitting tutorials/PW reports will incur a 10% penalty per each day's delay.

REFERENCES AND SUGGESTED READING MATERIAL

The list of mandatory publications will be detailed by trainer.

List of recommended reading material

1. Baskerville, G.L. 1987. Comprendre l'aménagement forestier. Forêt Conservation 53(9): 47-56.
2. CTFT, 1989. Mémento du forestier. Troisième édition, série techniques rurales en Afrique, ministère de la coopération, Paris, France. 1266 p. (3rd edition available on line and 4th edition published).
3. De Wasseige C. de Marcken P., Bayol N., Hiol F., Mayaux Ph., Declée B., Nasi R717-2., Billand A., Defourny P. et Eba'a Atyi R. 2012. Les forêts du bassin du Congo - État des forêts 2010. Publications Office of the European Union. Luxembourg. 276 p. ISBN: 978-92-79-22.
4. Dubourdieu, J. Manuel d'aménagement forestier. Paris: Office national des Forêts. Lavoisier, 1997. XV-159 -
5. Mille G. et D. Louppe. 2015. Mémento du forestier tropical. Édition Quae, RD 10, 78026 Versailles Cedex, France. ISBN: 978-2-7592-2340-4. 1199 p.
6. OIFQ, 2009. Manuel de foresterie. Seconde édition, Éditeurs: Éditions MultiMondes et Ordre des ingénieurs forestiers du Québec, 1510 pages, ISBN: 9782895441380. 9. IUCN, 1989. La conservation des écosystèmes forestiers d'Afrique Centrale. IUCN, Gland, Switzerland. 124 p.

III.2.2 MODULE 3, COURSE 3B

FOREST TAXATION AND CUSTOMS PROCEDURES IN TIMBER PRODUCER AND CONSUMER COUNTRIES

COURSE PLAN

Course overview

Course targets are as follows:

- Administration and company executive managers and other experts in the field of timber marketing;
- Developers of forest-based companies, including small-scale businesses.

Prerequisites: None

Overall objectives

- Provide learners with knowledge of the taxation and quasi-taxation in force in timber producer countries in Central Africa
- Provide learners with knowledge of customs procedures in force in producer countries and consumer countries importing timber from Central Africa.

Specific objectives (in terms of skills):

Upon course completion, learners will be able to:

- Explain the legal and institutional framework governing taxation and quasi-taxation in relevant timber producer country;
- List and describe all forest taxes and quasi-taxes in force in the relevant timber producer country and in consumer countries importing timber from Central Africa;
- Describe all steps required for timber export and import in the relevant producer country and in consumer countries importing timber from Central Africa;
- Describe bottlenecks throughout the timber export and import process and identify workaround strategies.

DETAILED COURSE CONTENT

Chapter 0: Course introduction

Chapter 1: Forestry taxation in Central African timber producer countries

- 1.1 Legal and institutional framework governing taxation and quasi-taxation in relevant timber producer country
- 1.2 Forest taxes and market prices in force in relevant timber producer country
- 1.3 Quasi-taxes levied in relevant timber producer country
- 1.4 Quasi-taxes levied in relevant timber producer country

Chapter 2: Customs-related procedures in Central African timber producer and consumer countries

- 2.1 Required steps for timber export and import in producer and consumer countries and involved actors
- 2.2 Bottlenecks in timber export and import process and workaround strategies

TEACHING APPROACH

The course will be delivered in the form of interactive lectures aimed to introduce concepts and their implementation. Group discussions will be promoted through thematic workshops. Readings of publications suggested by trainers in connection with taxation and quasi-taxation in relevant timber producer country will be held.

Tutorials and practical work

Tutorials

Tutorials will be conducted for determining some taxes and tax burden, and production data series will be used for case studies.

Practical work

PW1: Visit to a government department responsible for managing forest taxation in relevant country will be organized to become familiar with and have a better understanding of the taxation system in force;

PW2: Visit to a timber shipping port for export; interview with the actors of the industry who act and interact at the port level; description of procedures, bottlenecks and workaround strategies.

SCHEDULE

Table 4: Course schedule

Number of hours			Chapters	Teaching activities
Theory classes	Practical work/Tutorials	Total		
1	0	1	Chapter 0: Course introduction	Lecture
7	2	9	Chapter 1: Forestry taxation in Central African timber producer countries	Interactive lecture + T1 and PW1
8	8	16	Chapter 2: Customs-related procedures in Central African timber producer and consumer countries	Interactive lecture + PW2
16	10	26	Total	

Note: Attendance to classes as well as tutorials and practical work will be mandatory.

ASSESSMENT METHOD

Knowledge assessment will be carried out on a continuous basis throughout the session, as follows:

- Continuous assessment: $2 \times 10\% = 20\%$
- Practical work and tutorials: $40\% = T1 (10\%) + PW1(15\%) + PW2(15\%)$
- Final examination: 40%

Other

Use of class notes will not be allowed during assessments.

Language ability (French/English) and presentation, both for examinations and presentations/tutorials and PW reporting, will be taken into account for assessment (5% of marks).

Any delay in submitting tutorial/PW reports will incur a 10% penalty per each day's delay.

REFERENCES AND SUGGESTED READING MATERIAL

The list of mandatory reading material will be detailed by trainer.

List of recommended reading material

1. ADB, 2018. Rapport stratégique régional. Développement intégré et durable de la filière bois dans le bassin du Congo: opportunités, défis et recommandations. 38 p.
2. Bigombe L. 2008. La gouvernance des revenus forestiers locaux en Afrique centrale: pour le meilleur ou pour le pire. Workshop on forest governance & decentralization in Africa, Durban, South Africa. 32p.
3. Carret J.C. La réforme de la fiscalité forestière au Cameroun: Débat politique et analyse économique. Bois et Forêts des Tropiques, 264 (2): 37-53.
4. Current Finance Law in COMIFAC countries participating in project.
5. Customs procedures in COMIFAC timber producer member countries.
6. Customs procedures in consumer countries importing timber from Central Africa.
7. De Wasseige C., Flynn J., Louppe D., Hiol Hiol F., Mayaux P., 2014. Les forêts du bassin du Congo. État des forêts 2013. Dépôt légal D/2014/8631/30; ISBN 978-2-87489-1. 325p.
8. Forest Code of COMIFAC countries participating in project.
9. Guillaume L., Moulngang T. 2016. Exportations de bois du Cameroun vers le Tchad: un succès commercial mais une légalité défaillante. Bois et Forêts des Tropiques, 329 (3): 67-79.
10. Karsenty A. 2002. Le rôle controversé de la fiscalité forestière dans la gestion des forêts tropicales: L'état du débat et les perspectives en Afrique centrale. Cahiers d'Économie et de Sociologie Rurales (64): pp. 6-36.
11. Karsenty A., Eric F. and Willy D. 2020. Réduction de la fiscalité forestière pour les concessions certifiées avec compensation aux États (Réduction Compensée de Fiscalité – RCF). Rapport d'étude de faisabilité. 36p
12. Karsenty A. 2004. Enjeux des réformes récentes de la fiscalité forestière dans le bassin du Congo. Bois et Forêts des Tropiques, 281 (3): 51-60
13. Karsenty A. 2000. Étude sur la fiscalité forestière en Afrique Centrale en vue de favoriser un développement forestier durable dans la sous-région. 88p
14. Mahonghol, D., Ringuet, S., Nkoulou, J., Amougou, O. G. and Chen, H. K. 2016. Les flux et les circuits de commercialisation du bois: le cas du Cameroun. TRAFFIC Ed. Yaounde, Cameroon and Cambridge, United-Kingdom. 122p.

III.2.3 MODULE 3, COURSE 3C

ROLE OF CRITERIA AND INDICATORS FOR SFM—ITTO GUIDELINES AND OTHERS, INCLUDING FOR REDUCED IMPACT LOGGING (RIL)

COURSE PLAN

Course overview

Courses on ATO/ITTO PCIs were developed and delivered under the ATO/ITTO Project PD 124/01 Rev.2 (M) titled “Promotion of Sustainable Management of African Forests”. Experience gained during the training sessions held as part of the project will be drawn upon in this course. The same will apply to the topic on the conservation and sustainable use of biodiversity in tropical production forests developed as a course under ITTO project PD456/07 Rev.4 (F).

Course targets are as follows:

- Administration and company executive managers and other experts in consultancy firms and NGOs working in the field of sustainable forest management implementation in forest management units;
- Supervisors and workers in large- and small-scale businesses

Prerequisites: Will vary according to targets and chapters

Chapter 1 No prerequisite

Chapter 2 prerequisite in relation to forest logging

Chapter 3 prerequisite in relation to environment, basic knowledge of wildlife and protected areas

Overall objectives

- Implement the *ATO-ITTO Principles, Criteria and Indicators (PCIs) for sustainable forest management of natural tropical forests in Africa* in the sustainable management of production forests in the Congo Basin
- Familiarize learners with regional guidelines and national standards on reduced impact logging and provide knowledge of reduced impact logging techniques
- Provide learners with tools for identifying, understanding, analyzing and addressing biodiversity issues inherent in the development of forest concessions in the Congo Basin. In this perspective, Course 3C aims to provide learners with theoretical knowledge and practical skills to be able to describe the key services provided by biodiversity in Central African forests and the main impacts of logging on biodiversity. Learners will also be able to understand current biodiversity practices in concessions and make use of the *ITTO/IUCN Guidelines for the Conservation and Sustainable Use of Biodiversity in Tropical Timber Production Forests* with a view to improving current approaches.

Specific objectives (in terms of skills)

Upon course completion, learners will be able to:

1. Implement the *ATO-ITTO Principles, Criteria and Indicators (PCIs) for sustainable forest management of natural tropical forests in Africa* in the sustainable management of production forests in the Congo Basin;
2. Describe the impacts of logging on biodiversity in the Congo Basin;
3. Explain regional guidelines and national standards on reduced impact logging;
4. Design and organize a reduced impact logging worksite;
5. Implement reduced impact logging techniques;
6. Explain the concept of biodiversity;
7. Explain the main categories of biodiversity conservation issues in general in the Congo Basin forests, and in Congo Basin forest concessions in particular;
8. Describe the regulatory and legislative framework relating to the maintenance of biodiversity in relevant country;
9. Contribute to the development of an integrated conservation and management plan;
10. Suggest ways to enhance biodiversity in forest concessions.

DETAILED COURSE CONTENT

Chapter 0: Course introduction

Chapter 1: ITTO Criteria and indicators for SFM: Case of ATO/ITTO Principles, criteria & Indicators (PCIs)

- 1.1 Introduction of ATO/ITTO PCIs and forest and market taxes in force in relevant timber producer country
 - 1.1.1 Background of PCIs development
 - 1.1.2 Concept of Principle, criterion & indicator, and sub-indicator
 - 1.1.3 Breakdown of principles into criteria, indicators and sub-indicators
- 1.2 Classification of ATO/ITTO PCIs
 - 1.2.1 Forest ecosystems (land area, carbon, health and vitality, biological diversity)
 - 1.2.2 Forest functions
 - 1.2.3 Development and social needs (socio-economic functions)
 - 1.2.4 Institutional framework (forest policy and law, capacity in sustainable forest management implementation)
- 1.3 National level-Principles, Criteria & Indicators
 - 1.3.1 National level-Principles
 - 1.3.2 National level-Criteria
 - 1.3.3 National level-Indicators and Sub-indicators
- 1.4 Forest Management Unit level-Principles, Criteria & Indicators
 - 1.4.1 Forest Management Unit level-Principles
 - 1.4.2 Forest Management Unit level-Criteria
 - 1.4.3 Forest Management Unit level-Indicators and Sub-indicators

Chapter 2: Reduced Impact Logging

- 2.1 Forest logging impacts/damages
 - 2.1.1 Forest logging impacts on physical environment
 - 2.1.2 Forest logging impacts on biodiversity preservation
 - 2.1.3 Forest logging impacts on local communities and indigenous people
- 2.2 Regional guidelines and national standards for reduced impact logging
- 2.3 Reduced impact logging techniques
 - 2.3.1 Controlled felling, predetermined orientation of skid trails and forest trails based on stem localization, etc.
 - 2.3.2 Equipment and machines used in the Congo Basin

Chapter 3: Conservation and sustainable use of biodiversity in tropical producing forests

- 3.1 Concept of biodiversity management in forest concessions and related issues
 - 3.1.1 General concepts of biodiversity conservation
 - 3.1.1.1 Definition and importance of biological diversity
 - 3.1.1.1.1 Change in biodiversity (speciation, extinctions, etc.)
 - 3.1.1.1.2 Ecosystem productivity and biodiversity
 - 3.1.1.1.3 Ecological integrity and biodiversity (resistance, resilience)
 - 3.1.1.1.4 Other biodiversity-related values (intangible, spiritual, etc.)
 - 3.1.1.1.5 Biodiversity services: Introduction (production services, regulation services and cultural services)
 - 3.1.1.2 Scale of comprehension (species, population, etc.)
 - 3.1.1.3 Genetic diversity
 - 3.1.1.3.1 Definitions and basic concepts
 - 3.1.1.3.2 Factors impacting gene evolution
 - 3.1.1.3.3 Genetic diversity management (anthropogenic action and conservation approach)
 - 3.1.1.4 Specific diversity: Refresher on basic concepts
 - 3.1.1.4.1 Measuring specific diversity
 - 3.1.1.4.2 Richness
 - 3.1.1.4.3 Specific richness
 - 3.1.1.4.4 Dominance
 - 3.1.1.4.5 Specific diversity indexes
 - 3.1.1.4.6 Equity
 - 3.1.1.4.7 Information theory and entropy
 - 3.1.1.5 Ecosystem diversity
 - 3.1.1.5.1 Comparison between ecosystems
 - 3.1.1.5.2 Concept of habitat
 - 3.1.2 Biodiversity preservation-related issues
 - 3.1.2.1 Species extinction: Key causes and risk factors
 - 3.1.2.1.1 Direct and indirect causes
 - 3.1.2.1.1.1 Habitat loss (encroachments, fires, fragmentation).

- 3.1.2.1.1.2 Invasive and/or exotic species
 - 3.1.2.1.1.3 Poaching and direct consumption
 - 3.1.2.1.1.4 Pollution
 - 3.1.2.1.1.5 Transhumance and livestock diseases
 - 3.1.2.2 Climate change impacts on biodiversity
 - 3.1.2.2.1 Species adaptive capacity
 - 3.1.2.2.2 Ecosystem adaptive capacity
 - 3.1.2.3 Case studies
 - 3.2 Policies, law and regulations, and conventions and treaties on biodiversity
 - 3.2.1 Biodiversity-related international commitments (CBD, CITES, Ramsar Convention, Convention on Migratory Species (CMS), etc.)
 - 3.2.2 National strategies and action plans for biodiversity and environment
 - 3.2.3 National law and policies
 - 3.3 ITTO/IUCN Guidelines for the Conservation and Sustainable Use of Biodiversity in Tropical Timber Production Forests
 - 3.3.1 Overview
 - 3.3.2 Principles: Statement and description, guidelines and priority actions
 - 3.3.2.1 Principle 1: Sovereignty and societal choice
 - 3.3.2.2 Principle 2: International commitments
 - 3.3.2.3 Principle 3: Political commitment, policies and laws
 - 3.3.2.4 Principle 4: Land use and spatial planning
 - 3.3.2.5 Principle 5: Decentralization, forest tenure and natural resource access rights
 - 3.3.2.6 Principle 6: Incentives
 - 3.3.2.7 Principle 7: Knowledge, learning, technology transfer and capacity building
 - 3.3.2.8 Principle 8: Managing tropical production forests at a landscape scale
 - 3.3.2.9 Principle 9: Biodiversity considerations at the forest management unit level
 - 3.3.2.10 Principle 10: Biodiversity conservation in planted forests
 - 3.3.2.11 Principle 11: Maintaining functioning forest ecosystems
 - 3.3.3 Monitoring mechanism
 - 3.3.3.1 International level
 - 3.3.3.2 National level
 - 3.3.3.3 Planted forest level
 - 3.4 Biodiversity conservation techniques
 - 3.4.1 Identification of conservation challenges
 - 3.4.1.1 Congo Basin level
 - 3.4.1.2 National level
 - 3.4.1.3 Forest concession level
 - 3.4.1.4 Stand level
 - 3.4.2 Approach based on enhancement

- 3.4.2.1 Based on coarse filters and fine filters (definitions and targets)
 - 3.4.2.2 Based on ecosystems
 - 3.4.2.3 Based on exceptional sites
- 3.5 Biodiversity enhancement in forest concessions
 - 3.5.1 Socio-cultural approach (cultural, archeological aspects, sacred trees, etc.).
 - 3.5.2 Conservation-based approach
 - 3.5.2.1 Thematic maps for conservation (zoning: series, conservation corridors, buffer zones, etc.)
 - 3.5.3 Economic approach
 - 3.5.3.1 Ecotourism
 - 3.5.3.2 Sustainable use
 - 3.5.4 Sharing costs and benefits of biodiversity conservation and sustainable use
 - 3.5.5 Education and outreach

TEACHING APPROACH

The course will be delivered in the form of interactive lectures aimed to introduce concepts and their implementation. Group discussions will be promoted through thematic workshops. Readings of publications suggested by trainers in connection with ITTO/ATO PCIs, reduced impact logging, and conservation and sustainable use of biodiversity in production forests.

Tutorials and practical work

Tutorials

T1: Tutorials will be held to provide learners with skills in the use of ATO/ITTO PCIs. Learners in groups of four will be requested to read a series of criteria, indicators/sub-indicators and to develop a list of relevant verifiers as well as their sources of verification.

Practical work

PW1: A visit to a logging worksite will serve as practical work. Implementation of Reduced Impact Logging (RIL) standards will be assessed during the visit.

PW2: A visit to a forest management unit (FMU) will serve as practical work. An evaluation of the wildlife management plan in the FMU will be conducted during the visit.

SCHEDULE

Table 5: Course schedule

Number of hours			Chapters	Teaching activities
Theory classes	Practical work/Tutorials	Total		
1	0	1	Chapter 0: Course introduction	Lecture
14	16	30	ITTO Criteria and indicators for SFM: Case of ATO/ITTO Principles, criteria & Indicators (PCIs)	Interactive lecture + T1
14	8	22	Chapter 2: Reduced Impact Logging	Interactive lecture + PW1
20	16	36	Chapter 3: Conservation and sustainable use of biodiversity in tropical producing forests	Interactive lecture + PW2
49	40	89	Total	

Note: Attendance to classes as well as tutorials and practical work will be mandatory.

ASSESSMENT METHOD

Knowledge assessment will be carried out on a continuous basis throughout the session, as follows:

- Continuous assessment: $3 \times 10\% = 30\%$
- Practical work and tutorials: $40\% = T1 (10\%) + PW1(15\%) + PW2(15\%)$
- Final examination: 30%

Other

Use of class notes will not be allowed during assessments.

Language ability (French/English) and presentation, both for examinations and presentations/tutorials and PW reporting, will be taken into account for assessment (5% of marks).

Any delay in submitting tutorials/PW reports will incur a 10% penalty per each day's delay.

REFERENCES AND SUGGESTED READING MATERIAL

The list of mandatory reading material will be detailed by trainer.

List of recommended reading material

1. Blaser J. and Sabogal C. 2011. Revised ITTO Guidelines for the Sustainable Management of Natural Tropical Forests. 127p: 5-18.
2. Doumenge, C., Garcia Yuste, J.E., Gartlan, S., Langrand, O. and Ndinga, A. 2001. Conservation de la biodiversité forestière en Afrique centrale atlantique: le réseau d'aires protégées est-il adéquat? Bois et Forêts des Tropiques 268(2): 5-27.
3. Durrieu L., Forni E., Mekok M. 1998. Les techniques d'exploitation à faible impact en forêt dense humide camerounaise. 24p.
4. FAO. 2016. Renforcer les critères et indicateurs pour la gestion durable des forêts et leur utilisation dans les politiques et pratiques en Afrique. 5p.
5. Fimbel, R.A., Robinson, J.G. and Grajal, A. 2001. The cutting edge: conserving wildlife in logged tropical forest. Columbia University Press. 700 p.
6. ITTO. 2001. Tropical Forest Update. 11/2. 32p.:3-20.
7. IUCN/ITTO. 2006. Guidelines for the Conservation and Sustainable Use of Biodiversity in Tropical Timber Production Forests. IUCN-ITTO. 62 p.
8. IUCN/ITTO, 2009. Guidelines for the Conservation and Sustainable Use of Biodiversity in Tropical Timber Production Forests, ITTO Series: Policy Development PS-17, 66 p.
9. Leroy M., Derroire G., Vendé J. and Leménager T. 2013. La gestion durable des forêts tropicales: De l'analyse critique du concept à l'évaluation environnementale des dispositifs de gestion. 240p.
10. Prabhu R., Colfer C. and Shepherd G. 1998. Critères et Indicateurs d'une gestion forestière durable: nouveaux résultats des recherches du CIFOR au niveau de l'Unité de gestion forestière. 24p.

III.2.4 MODULE 3, COURSE 3D

FOREST MANAGEMENT AND PLANNING TOOLS AND TECHNOLOGIES

COURSE PLAN

Course overview

This course will take up and update all components introduced in Module 2 titled "Facilitating appropriate strategies for developing management plans" developed through ITTO project PD 456/07 "Capacity building in the Congo Basin countries". As a first step, it will cover integrated management planning at the landscape scale to broaden the concept of production forest management and address it in the larger context of sustainable landscape management.

The course will target government and business executive managers and other experts in consultancy firms and NGOs working in the field of sustainable management implementation in forest management units.

Prerequisites: Will vary according to targets and chapters

Course on forest management

Overall objectives

- Familiarize learners with the essential concepts and key principles of integrated landscape management and provide knowledge of the practice of integrating conservation priorities into production forest management;
- Familiarize learners with data collection and reporting techniques in the context developing sustainable forest management plans, and develop learners' skills in critical analysis with regard to data used for developing sustainable forest management plans for forest concessions;
- Educate learners about the importance of socio-economic and environmental parameters in sustainable forest management plans
- Develop in learners' analytical skills for socio-economic and environmental data;
- Improve learners' skills and attitudes to facilitate participation in the decision-making process during the development of sustainable forest management plans
- Familiarize learners with key contents and requirements for developing sustainable forest management plans.

Specific objectives (in terms of skills)

Upon course completion, learners will be able to:

- Explain and use the "landscape"-based approach to better integrate conservation priorities into production forest management;
- Describe all preparation and development stages of management plans for forest concessions;

- Use diagnostic tools to characterize stakeholders in forest management;
- Summarize information generated by technical studies, perform a critical examination of information and integrate it in the development of sustainable forest management plans for forest concessions;
- Identify social, economic and environmental issues specific to various relevant publics;
- Define forest product value chains;
- Analyze the financial/economic profitability of forest management scenarios.
- Contribute to developing sustainable forest management plans;
- Contribute to developing a proposal of sustainable management strategy for forest concessions (or FMUs) and for the duration of the rotation (strategic planning).

DETAILED COURSE CONTENT

Chapter 0: Course introduction

Chapter 1: Planning integrated landscape management

- 1.1 Concepts of landscape for sustainable development
- 1.2 Essential concepts and principles for planning integrated landscape management
- 1.3 Landscape planning process and landscape plan content
- 1.4 Case studies

Chapter 2: Baseline information for developing forest management plans

- 2.1 Refresher on forest management concepts
- 2.2 Formulating sustainable management objectives
- 2.3 Developing management plans
 - 2.3.1. Content
 - 2.3.2. Development stages

Chapter 3: Compilation of information for developing sustainable forest management plans

- 3.1 Compiling biophysical information on the forest concession
 - 3.1.1 Localization, topography, climate
 - 3.1.2 Geology, pedology, hydrography
 - 3.1.3 Vegetation
 - 3.1.4 Wildlife
 - 3.1.5 Non-timber forest products (NTFPs)
 - 3.1.6 Organization, scope and limits of information
- 3.2 Compilation of information on forest inventories
 - 3.2.1 Reference parameters (forest strata, groups of forest tree species, etc.)
 - 3.2.2 Organization, scope and limits of information
 - 3.2.3. Case study
- 3.3 Compilation of socio-economic and environmental information

- 3.3.1 Socio-economic data
 - 3.3.1.1. Reference parameters (identification of village landholdings (*finages*), agricultural activities, etc.)
 - 3.3.1.2 Organization, scope and limits of information
 - 3.3.1.3 Case study
- 3.3.2 Environmental data
 - 3.3.2.1 Reference parameters (protected areas, flooding areas, etc.)
 - 3.3.2.2 Organization, scope and limits of information
 - 3.3.2.3 Case study
- 3.4 Compilation of information on forest uses
 - 3.4.3 Data on forest logging
 - 3.4.3.1 Reference parameters (utilized species and volumes, workforce needs, etc.)
 - 3.4.3.2 Organization, scope and limits of information
 - 3.4.3.3 Case study
 - 3.4.2. Timber processing data
 - 3.4.2.1 Reference parameters (processed volumes, workforce needs, etc.)
 - 3.4.2.2 Organization, scope and limits of information
 - 3.4.2.3 Case study
 - 3.4.3 Data on forest uses by communities
 - 3.4.3.1 Reference parameters (needs in NTFPs, etc.)
 - 3.4.3.2 Organization, scope and limits of information
 - 3.4.3.3 Case study
- 3.5 Compilation of forest mapping information
 - 3.5.1 Reference parameters (map scaling, concession and FMU limits, etc.)
 - 3.5.2 Organization, scope and limits of information
 - 3.5.3 Case studies

Chapter 4: Socio-economic and environmental issues for sustainable forest management plans

- 4.1 Socio-economic survey
 - 4.1.1 Concepts of community and village landholdings (*finages*) (various definitions)
 - 4.1.2 Socio-economic description of forest concession area
 - 4.1.3 Checklist of socio-economic indicators for socio-economic profile (selection of indicators and measurement) based on PCIs from certification reference matrices used in Central Africa (ATO/ITTO, FSC, FLEGT, OLB, etc.)
 - 4.1.4 Techniques for socio-economic surveys (primary vs. secondary data, swift survey methods) and public participation (participatory analysis)
 - 4.1.5 Identification of actors/stakeholders and social, economic and cultural issues

- 4.1.6 Basic concept of social capital for communities in terms of health (elements required for ensuring social and economic development in communities and their participation in forest resource management)
- 4.2 Forest resources value chain
 - 4.2.4 Definition of value chains and description of their components
 - 4.2.5 Value chain for timber products
 - 4.2.6 Value chain for non-timber forest products/forest products excluding timber (including concept of local knowledge)
 - 4.2.7 Value chain for intangible values (based on beyond region scale)
- 4.3 Challenges of environmental impacts in management plans
 - 4.3.4 Importance of environmental impact surveys for developing management plans
 - 4.3.5 Analysis of environmental impact surveys
- 4.4 Economic assessment
 - 4.4.4 Stages of market studies
 - 4.4.5 Basic concepts of financial and economic analysis
 - 4.4.6 Description of inputs and outputs for both analysis
 - 4.4.7 Main financial criteria used in forestry
 - 4.4.8 Risks in economic and financial analysis in forestry (methods)

Chapter 5: Consultation and negotiation for developing sustainable forest management plans

- 5.1 Communication and extension
 - 5.1.1 Communication building blocks
 - 5.1.2 Ability to elaborate for good communication
 - 5.1.3 Extension/outreach process
 - 5.1.4 Extension techniques
- 5.2 Participation of indigenous groups/local communities
 - 5.2.1 Characteristics of indigenous/local communities and their link with the land
 - 5.2.2 Assessing the involvement level of indigenous groups/local communities (Arnstein scale)
 - 5.2.3 Improving indigenous groups/local community involvement (communication strategies)
- 5.3 Negotiation and consultation
 - 5.3.1 Refresher on stakeholder characteristics, expectations and needs
 - 5.3.2 Consultation techniques
 - 5.3.3 Negotiation techniques (lobbying, etc.)
 - 5.3.4 Integrating consultation and negotiation trade-offs
 - 5.3.5 Developing communication plans
- 5.4 Incentive strategies for sustainable forest management
 - 5.4.1 Participatory forest management
 - 5.4.2 Managing land-related conflicts
 - 5.4.3 Promoting reduced impact logging

- 5.4.4 Incentive measures for ensuring population access to timber
- 5.4.5 Incentive measures generating benefits for people in compliance with existing regulations

Chapter 6: Strategy for developing sustainable forest management

- 6.1 Refresher on key elements for developing management plans for production forests
 - 6.1.1 Glossary
 - 6.1.2 Elements for data compilation
 - 6.1.2.1 Forest classification (forest stratification)
 - 6.1.2.2 Multi-resource inventory
 - 6.1.2.3 Management inventory
 - 6.1.2.4 Logging inventory
 - 6.1.2.5 Socio-economic survey
 - 6.1.2.6 Environmental impact survey
 - 6.1.3 Elements for data processing
 - 6.1.3.1 Land uses and user rights
 - 6.1.3.2 Plots (management working circles, allowable cuts, etc.)
 - 6.1.3.3 Determining allowable cut (rotation, incrementation, etc.)
 - 6.1.4 Elements for planning
 - 6.1.4.1 Approval of management plans
 - 6.1.4.2 Logging Agreements (temporary and final)
 - 6.1.4.3 Five-year management plans
 - 6.1.4.4 Annual operation plans
 - 6.1.4.5 Monitoring reports
 - 6.1.4.6 Management plan revision
- 6.2 Sustainable forest management plan outline
 - 6.2.1 Biophysical characteristics
 - 6.2.2 Socio-economic environment
 - 6.2.3 Forest status
 - 6.2.4 Proposed management
 - 6.2.4.1 Management objectives
 - 6.2.4.2 Land use and user rights
 - 6.2.4.3 Management of production working circles
 - 6.2.4.4 Five year-duration management blocs
 - 6.2.4.5 Population participation
 - 6.2.4.6 Revision of management plan and duration
 - 6.2.4.7 Five-year management plan and annual operation plan (AOP)
 - 6.2.4.8 Economic and financial balance sheet
 - 6.2.4.9 Schedule of recommended interventions and work
 - 6.2.5 Document submission
- 6.3 Proposed sustainable forest management strategies
 - 6.3.1 Integrating adopted ecosystem management principles for implementation in forests

- 6.3.2 Integrating adaptive and multiuse management principles
- 6.3.3 Mainstreaming population participation into management plans
- 6.3.5 Integrating environment protection into management plans

TEACHING APPROACH

The course will be delivered in the form of interactive lectures and will include practical training. Group discussions will be promoted through thematic workshops based on case studies. Readings of publications suggested by trainers in connection with sustainable forest management in the Congo Basin forests.

Tutorials and practical work

Tutorials

T1: Groups of three to five learners will conduct case studies on Congo Basin landscapes (TRIDOM, TNS, etc.) to illustrate the concept of integrated management.

Practical work

PW1: Processing of data series to produce compilations (inventory data, mapping data, etc.).

PW2: Field visit to conduct a swift socio-economic diagnostic (data collection, processing and analysis)

SCHEDULE

Table 6: Course schedule

Number of hours			Chapters	Teaching activities
Theory classes	Practical work/Tutorials	Total		
1	0	1	Chapter 0: Course introduction	Lecture
11	8	19	Chapter 1: Planning integrated landscape management	Interactive lecture+ T1
4	0	4	Chapter 2: Baseline information for developing forest management plans	Interactive lecture
15	30	45	Chapter 3: Compilation of information for developing sustainable forest management plans	Interactive lecture + PW1
21	30	51	Chapter 4: Socio-economic and environmental issues for sustainable forest management plans	Interactive lecture + PW2
9	20	29	Chapter 5: Consultation and negotiation for developing	Interactive lecture

			sustainable forest management plans	
15	30	45	Chapter 6: Strategy for developing sustainable forest management	Interactive lecture + PW3
76	118	194	Total	

Note: Attendance to classes as well as tutorials and practical work will be mandatory.

ASSESSMENT METHOD

Knowledge assessment will be carried out on a continuous basis throughout the session, as follows:

- Continuous assessment: $3 \times 10\% = 30\%$
- Practical work and tutorials: $30\% = \text{TD1 (5\%)} + \text{TP1(10\%)} + \text{TP2(15\%)}$
- Final examination: 40%

Other

Use of class notes will not be allowed during assessments.

Language ability (French/English) and presentation, both for examinations and presentations/tutorials and PW reporting, will be taken into account for assessment (5% of marks).

Any delay in submitting tutorials/PW reports will incur a 10% penalty per each day's delay.

REFERENCES AND SUGGESTED READING MATERIAL

The list of mandatory reading material will be detailed by trainer.

List of recommended reading material

1. ATIBT, 2005. Étude sur le plan pratique d'aménagement des forêts naturelles de production tropicales africaines - Application au cas de l'Afrique centrale, Volet 3 «Aspects faunistiques». Paris, France. (http://pfbc-cbfp.org/tl_files/archive/thematique/volet3_fr.pdf, accessed on 22 January 2013).
2. ATIBT, 2005. Étude sur le plan pratique d'aménagement des forêts naturelles de production tropicales africaines - Application au cas de l'Afrique centrale, Volet 2 «Aspects sociaux». Paris, France. (http://pfbc-cbfp.org/tl_files/archive/thematique/volet2_fr.pdf, accessed on 22 January 2013).
3. ATIBT, 2007. Étude sur le plan pratique d'aménagement des forêts naturelles de production tropicales africaines – Application au cas de l'Afrique centrale, Volet 1 «Production forestière». Paris, France. (http://www.ffem.fr/webdav/site/ffem/shared/ELEMENTS_COMMUNS/U_ADMINISTRATEUR/5-PUBLICATIONS/Biodiversité/ATIBT_Volet_I.pdf, accessed on 22 January 2013).
4. Catinot, R. 1997. L'aménagement durable des forêts denses tropicales humides. ATIBT and Éditions Scytale, Paris, 100 p.
5. Davis, L.S., Johnson, K.N., Bettinger, P.S., and Howard, T.E. 2001. Forest management: To sustain ecological, economic and social values (4th ed.). McGraw-Hill, New York. 804 p.
6. Dubourdieu, J. 1997. Manuel d'aménagement forestier. Office national des Forêts, Lavoisier, Paris, 159 p.
7. FAO, 1990. Aménagement des forêts tropicales humides en Afrique. Étude FAO Forêts 88, Rome, Italy. 180 p.
8. Grenon, F., Jetté, J.-P. et Leblanc, M. 2010. Manuel de référence pour l'aménagement écosystémique des forêts au Québec – Module 1: Fondements et démarche de la mise en œuvre. Centre d'enseignement et de recherche en foresterie de Sainte-Foy inc. (CERFO) et ministère des Ressources naturelles et de la Faune, Direction de l'environnement et de la protection des forêts, Québec, Canada. 51 p.
9. Hunter Jr., M.L. 1990. Wildlife, forests and forestry: Principles of managing forests for biological diversity. Prentice Hall, Englewood Cliffs, New Jersey. 370 p.
10. Karsenty, A. 1999. Les instruments économiques de la forêt tropicale – Le cas de l'Afrique centrale. Éditions Maison-Neuve et Larose / Éditions CIRAD, France. 125 p.
11. Mengue Medou, C. et Waaub, J.-P. 2005. Évaluation des impacts socio-économiques: Cas d'une unité forestière d'aménagement de la compagnie Leroy-Gabon. VertigO – La revue en sciences de l'environnement 6(2): 8 p.

12. Miller, F.R. and Adam, K.L. (eds.) 1992. Wise management of tropical forests. Proceedings of the Oxford conference on tropical forests 1992, Oxford Forestry Institute, Oxford, UK. 288 p.
13. Nguingiri, J.-C. (ed.). 2001. Guide pour la formation en gestion participative des ressources naturelles. UICNBRAC, Yaounde, Cameroon. 160 p.
14. Nguingiri, J.-C. 1999. Les approches participatives dans la gestion des écosystèmes forestiers d'Afrique centrale – Revue des initiatives existantes. Occasional paper No 23. CIFOR, Bogor, Indonesia. 24 p. (http://www.cifor.org/publications/pdf_files/OccPapers/OP-23.pdf, accessed on 25 January 2013).
15. Oglethorpe, J.A.E. (ed.). 2002. Adaptive management: From theory to practice. IUCN, Gland, Switzerland and Cambridge, UK. 166 p.
16. Sabogal, C., Guariguata, M.R., Broadhead, J., Lescuyer, G., Savilaakso, S., Essoungou, J.N. and Sist, P. 2013. Multiple-use forest management in the humid tropics – Opportunities and challenges for sustainable forest management. FAO Forestry Paper 173, Rome, Italy. 101 p.

III.2.5 MODULE 3, COURSE 3E

CERTIFICATION SYSTEMS AND REQUIREMENTS

COURSE PLAN

Course overview

This course will draw on and update all elements introduced in Module 1, Course 1E titled “Sustainable forest management (SFM): Overview based on ITTO Criteria & Indicators” developed through ITTO project PD 456/07 “Capacity building in the Congo Basin countries”.

The course will target:

- Administration and business executive managers and other experts in consultancy firms and NGOs working in the field of sustainable management implementation in forest management units
- Internal auditors in logging/agro-business companies responsible certification promotion.
- Anyone wishing to become auditor/certification officer in the field of sustainable forest management or any other value chain.

Prerequisites

Prerequisites will vary according to targets.

Course 3A: Issues related to legal and sustainable timber supply chains

Course 3C: Role of SFM Criteria and Indicators—ITTO Guidelines and others, including on Reduced Impact Logging (RIL)

Overall objectives

- Familiarize learners with existing certification systems at the international level and in the Congo Basin;
- Enable learners to effectively contribute to work on timber traceability and socio-economic surveys.

Specific objectives (in terms of skills)

Upon course completion, learners will be able to:

- Explain existing forest certification standards at the international level and at the level of the Congo Basin countries
- Explain the various stages and requirements towards forest products certification;
- Contribute to the development of environmental monitoring systems (ISO 14001);
- Propose a traceability system for harvested timber;
- Design, monitor and evaluate socio-economic and environmental surveys;

- Audit forest management units (FMU) or timber processing units (TPU) as part of forest certification.

DETAILED COURSE CONTENT

Chapter 0: Course introduction

Chapter 1: Concepts of certification and forest traceability

- 1.1. Concepts and principles of management and forest product certification
- 1.2. Overview of forest traceability concept

Chapter 2: Reference systems in forest certification

- 2.1. Refresher on internationally recognized forest certification systems
- 2.2. Forest certification systems in the Congo Basin
 - 2.2.1. Systems under implementation
 - 2.2.1.1. Forest Stewardship Council (FSC)
 - 2.2.1.2. VLO/VLC (Verification of Legal Origin/Verification of Legal Compliance, Smartwood – Rainforest Alliance)
 - 2.2.1.3. PEFC (Pan European Forest Certification/Program for Endorsement of Forest Certification Schemes).
 - 2.2.1.4. PAFC (Pan African Forest Certification, OAB/OIBT)
 - 2.2.1.5. Keurhout standards (Netherlands Government/Netherlands Timber Trade Association).
 - 2.2.1.6. ISO 14001 (International Organization for Standardization).
 - 2.2.1.7. TLTV/SGS Certificates (Timber Legality Traceability Verification/*Société générale de surveillance - SGS Environnement*)
 - 2.2.1.8. Certificates of origin OLB/BVQI (Timber Origin and Legality/Veritas Quality International Bureau, Veritas Certification Bureau - Eurocertifor)
 - 2.2.1.9. FLEGT/VPA (Forest law enforcement, governance and trade/Voluntary partnership agreements)
 - 2.2.2. Description and comparison of ITTO principles
 - 2.2.3. Indicator assessment

Chapter 3: Monitoring and traceability system for harvested timber

- 3.1. Definition and concept of traceability (key characteristics, objectives, purpose, forms, bottom up and top down traceability, challenges and risks, basic principles)
- 3.2. Refresher on indicators of certification system
- 3.3. Description of timber traceability system at national level and business level
 - 3.3.1. From logged areas to log landings in forests (logs)
 - 3.3.2. From log landings in forests to sawmills or shipping ports (logs)
 - 3.3.3. Primary processing products (sawing, peeling, slicing)

- 3.3.4. Secondary processing products (veneer, plywood, etc.) from sawmills to local markets or shipping ports
- 3.4. Standards and methods for indicator verification
- 3.5. Description of international traceability system

Chapter 4: Conception, monitoring and evaluation of socio-economic and environmental aspects

- 4.1. Methods for implementing environmental monitoring systems (ISO 14001).
 - 4.1.1. Refresher on forest environment protection-related indicators
 - 4.1.2. Description of environmental monitoring methods (plant and wildlife diversity, soils, waterways, etc.).
 - 4.1.3. Verification standards and methodology for indicators
- 4.2. Monitoring and evaluation of socio-economic impacts from forest logging
 - 4.2.1. Refresher on socio-economic indicators for certification systems
 - 4.1.2. Survey methodology and data analysis
 - 4.2.2.1. Monitoring and evaluation of socio-anthropological impacts
 - 4.2.2.2. Monitoring and evaluation of socio-economic impacts
 - 4.2.3. Verification standards and methodology for indicators

Chapter 5: Certification auditing for forest management units (FMU)/timber processing units (TPU)

- 5.1 Pre-auditing activities
 - 5.1.1 Preparing the audit team
 - 5.1.2 Auditing plan
 - 5.1.3 Preparing the business to be audited
- 5.2 Activities during audit
 - 5.2.1 Inception meeting
 - 5.2.2 Principle for collecting data
 - 5.2.3 Data collection
- 5.3 Post-audit activities
 - 5.3.1 Closing meeting
 - 5.3.2 Audit report
 - 5.3.3 Audit report flow
 - 5.3.4 Audit report structure

TEACHING APPROACH

The course will be delivered in the form of interactive lectures.

Tutorials and practical work

Tutorials

T1: Analysis of timber chain of custody implemented in relevant country.

T2: Case study on logging companies and timber processing units (TPU).

Practical work

PW: Auditing exercise in FMUs or TPUs.

SCHEDULE

Table 7: Course schedule

Number of hours			Chapters	
Theory classes	Practical work/Tutorials	Total		Teaching activities
1	0	1	Chapter 0: Course introduction	Lecture
1	0	1	Chapter 1: Concepts of certification and forest traceability	Interactive lecture + T1
12	4	16	Chapter 2: Reference systems in forest certification	Interactive lecture
4	4	8	Chapter 3: Monitoring and traceability system for harvested timber	Interactive lecture + PW1
8	4	12	Chapter 4: Conception, monitoring and evaluation of socio-economic and environmental aspects	Interactive lecture + PW2
4	8	12	Chapter 5: Certification auditing for forest management units (FMU)/timber processing units (TPU)	Interactive lecture
30	20	50	Total	

Note: Attendance to classes as well as tutorials and practical work will be mandatory.

ASSESSMENT METHOD

Knowledge assessment will be carried out on a continuous basis throughout the session, as follows:

- Continuous assessment: $3 \times 10\% = 30\%$
- Practical work and tutorials: $30\% = \text{TD1 (5\%)} + \text{TP1(10\%)} + \text{TP2(15\%)}$
- Final assessment: 40%

Other

Use of class notes will not be allowed during assessments.

Language ability (French/English) and presentation, both for examinations and presentations/tutorials and PW reporting, will be taken into account for assessment (5% of marks).

Any delay in submitting tutorials/PW reports will incur a 10% penalty per each day's delay.

REFERENCES AND SUGGESTED READING MATERIAL

The list of mandatory reading material will be detailed by trainer.

List of recommended reading material

1. ATIBT. 2014. Études sur le plan pratique de l'aménagement des forêts naturelles de production tropicales africaines volet certification. 162p.
2. Bureau Veritas. 2008. Description du processus de certification FSC gestion forestière GP01. 26p.
3. CIEFE. 2011. Certification forestière FSC livret de sensibilisation. 36p.
4. Delvingt, 2012. Les certifications forestières, outils de promotion de la légalité et de la gestion forestière durable. Conférence présentée à l'École Régionale d'Aménagement Intégré des Forêts et Territoires Tropicaux (ERAIFT), Kinshasa, December 2012, 75p
5. Eloundou C., Demaze M. and Djellouli Y. 2008. Certification forestière et gestion durable des forêts tropicales: une laborieuse application en Afrique centrale. 15p.
6. Hiol Hiol F. 2011 État des forêts du bassin du Congo, communication au Séminaire international: "Gestion des forêts comme outil de coopération et développement rural en Afrique centrale", Madrid +5, 17–18 November 2011.
7. Lescuyer G. et al. Certification et gestion forestière: Enjeux et perspectives pour les forêts du Bassin du Congo. 7p.
8. Tadjuidje, M.H., 2009. La certification forestière dans le bassin du Congo, XIIIth World Forest Congress, Buenos Aires, Argentina, 18-23 October, 10p.
9. Teketay D., Mbololo Abada M., Severin K. Kalonga and Ahimin O. 2016. Certification forestière en Afrique: réalisations, défis et opportunités. 156p.
10. Vandenhoute M. and Heuse E. 2006. Aménagement forestier Traçabilité du bois et Certification État des lieux des progrès enregistrés au Cameroun. 71p: 45-62.

IV. REFERENCES

ADB, 2018. Développement intégré et durable de la filière bois dans le bassin du Congo: opportunités, défis et recommandations opérationnelles; vision stratégique et industrialisation de la filière bois en Afrique centrale – Horizon 2030; 308 pages.

ATO and ITTO. 2003. ATO/ITTO Principles, Criteria and Indicators for the Sustainable Management of Tropical Natural Forests in Africa; ITTO Policy Development Series No. 14; ISBN 4 902045 04 4; 28 pages.

ATO and ITTO. 2005. Auditing manual for the implementation of ATO-ITTO Principles, Criteria and Indicators for sustainable management of African natural tropical forests – Forest Management Unit Level – Project Promotion of Sustainable Management of African forests; 49 pages.

FAO. 2003. Évaluation des besoins en formation dans le secteur forestier en Afrique centrale; 57 pages; Viale delle Terme di Caracalla, 00100 Rome, Italy

FAO. 2003. Code régional d'exploitation forestière à faible impact dans les forêts denses tropicales humides d'Afrique centrale et de l'ouest; 146 pages

FAO. 2007. Intégrer les questions de genre dans le secteur forestier en Afrique. Document de travail sur les politiques et les institutions forestières No. 18. Rome, Italy.

HIOL HIOL. 2006. Actualisation des besoins de formation en aménagement forestier durable dans le bassin du Congo; International Tropical Timber Organization (ITTO), Implementation of Council Decision 10/XXXII; 47 pages.

ITTO and IUCN. 2009. ITTO/IUCN Guidelines for the Conservation and Sustainable Use of Biodiversity in Tropical Timber Production Forests; PS-17; ISBN 4-902045-41-9; 120 pages.

ITTO and IUCN. 2005. Restoring Forest Landscapes – An Introduction to the Art and Science of Forest Landscape Restoration; ITTO Technical Series No. 23; ISBN 4 902045 257; 153 pages.

PAPESAC. 2012. Rapport atelier «Certification forestière, des métiers aux formations», Entente pour l'éco-certification des bois africains.

Pro-invest. 2014. Étude diagnostique de la formation technique et professionnelle et la présentation d'un plan d'action dans les métiers du Bois au Cameroun, PCFC, Cameroon.

RIFFEAC and FR Mi. 2016. Document de cadrage des besoins prioritaires en emploi type et en compétences dans le secteur forêt et environnement dans les trois pays de l'espace COMIFAC; Projet d'appui au renforcement de l'adéquation formation-emploi (PARAFE) dans le secteur forêt-environnement en Afrique centrale; Yaounde, Cameroon; 29 pages.

RIFFEAC. 2017. “Capacity building for sustainable management of tropical rainforests and biodiversity conservation in the ITTO Congo Basin countries” Project PD 456/07 Rev.4 (F); University Module; 152 pages.

RIFFEAC. 2017. “Capacity building for sustainable management of tropical rainforests and biodiversity conservation in the ITTO Congo Basin countries”. Project PD 456/07 Rev.4 (F); Technical Module; 106 pages.