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A newsletter from the International Tropical Timber Organization to promote the conservation and sustainable development of tropical forests

Indicating progress

The founders of ITTO faced a challenge shortly after establishing the Organization in the 1980s. They had negotiated a far-reaching international accord to promote sustainable forest management (SFM) in the tropics, developed guidelines for SFM, and undertaken a ground-breaking study that determined tropical SFM was almost non-existent. But they had no way to measure the progress they hoped and expected would be made in the future towards the Organization's overarching goal. This gave rise to discussions about the need for a way to measure such progress and ultimately led to the publication of ITTO's *Criteria for the sustainable management of natural tropical forests* nearly 25 years ago.

Over the ensuing years, ITTO has continued to develop its pioneering concept of criteria and indicators for

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Images: Progress towards SFM in this Indonesian forest is monitored and reported on using ITTO's C&I. *Photo: T. Bruder* (cover); tree marking for forest management in Peru's Amazon. *Photo: P. Santiago* (above)

... Editorial continued

SFM. The original *Criteria* published in 1990 evolved into the ITTO criteria and indicators (C&I) a few years later, with the *Revised ITTO criteria and indicators for the sustainable management of tropical forests including reporting format* published in 2005. Throughout this period, ITTO's focus has continued to be on the field-level application of the C&I, to allow countries to assess and report progress towards SFM, and to improve forest management in general. As Caswell points out in this issue in her report on the field-level implementation of C&I, ITTO has devoted around US$30 million to promoting the implementation of C&I over its history, through nearly 30 national training workshops that have reached over 1500 forest management stakeholders and via projects throughout the tropics to assist with the development and implementation of national-level C&I based on the ITTO framework. ITTO's 2005 and 2011 reports on the *Status of tropical forest management* were largely based on reports submitted using the C&I reporting format.

The utility of C&I as a forest management tool was increasingly recognized by the international community following the UNCED meeting in Rio de Janeiro in 1992. Several international C&I processes arose globally, covering different regions and/or forest types. ITTO collaborated with several of these processes, providing ongoing support for those in the producing regions of Africa (see Ahimin's article this issue on the ATO-ITTO PC&I) and Latin America (Tarapoto process). ITTO also collaborated with C&I processes in the developed world, namely the pan-European process (now coordinated by FOREST EUROPE, see article by Inhaizer this issue) and the Montreal Process covering most non-European developed countries with temperate and boreal forests. This collaboration has led to the development of the Collaborative Forest Resources Questionnaire (CFRQ), a joint effort to collect information on forests and forest management under the framework of the FAO Global Forest Resources Assessment. The CFRQ brings ITTO together with FAO as well as FOREST EUROPE, the Montreal Process, United Nations Economic Commission for Europe (UNECE) and the Observatory of Central African Forests (OFAC) in an effort to reduce the reporting burden on countries imposed by the various information requests on forests, and to improve the overall consistency of responses to such requests. The CFRQ was distributed to countries for the first time in 2013 and responses to it will be used in reports to be issued by the partner agencies over the next few years, including ITTO's next *Status of tropical forest management* report.

The proliferation of C&I sets over the past two decades gave rise to criticism that too much attention was being paid to the process of developing the sets and not enough to their implementation. However even in processes where no implementation of the agreed C&I sets ever took place, the process of developing them led to a better understanding and agreement of the concept of SFM and how it can be measured. The process of developing C&I also fed into the deliberations on forestry in the UN General Assembly, contributing to the definition of SFM adopted by that body in 2007.

ITTO will soon embark on another revision of its C&I, taking into account developments in international forest policy over the past decade and the approval and publication in mid-2014 of its *Voluntary guidelines for the sustainable management of natural tropical forests*. This continuing evolution of ITTO's C&I will be accompanied by continued support to countries to implement them in the field, thereby contributing to the sustainable management of tropical forests.

Steve Johnson
Editor

21 March
International Day of Forests

The impacts of criteria and indicators

ITTO's long-running work to develop and implement C&I has helped strengthen tropical forest management

by Stephanie J. Caswell

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Reduced impact: ITTO's C&I help to guide harvesting and forest management operations in a concession in Suriname. *Photo: ITTO*

Criteria and indicators (C&I) for sustainable forest management (SFM) are arguably the most important policy instrument developed to operationalize SFM since the concept gained global recognition in the run-up to the 1992 Rio Earth Summit (ITTO 2011). Criteria represent the essential social, economic, environmental and policy elements of SFM, and indicators provide ways to measure the criteria. ITTO pioneered the development of C&I in the early 1990s (ITTO 1992) as a tool for assessing the condition of natural tropical forests in the Organization's producer member countries and to help identify weaknesses in forest practices and the improvements needed. The Organization has since revised its C&I (most recently in 2005) and provided over US$30 million to help member countries implement C&I at various levels.

Based on ITTO's early work and the outcomes of the Rio Earth Summit, other C&I initiatives were launched around the world and, in 1997, C&I were endorsed by the Intergovernmental Panel on Forests as tools to monitor, assess and report trends in forest conditions and progress toward SFM. By 2000, nine regional and international C&I processes involving 150 countries had been initiated. While the sets of C&I developed by these processes differed in various ways, they all reflected a holistic approach to forests as ecosystems with multiple values beyond wood and fibre production.

Today, it is generally recognized that C&I have contributed to a common understanding, within and among countries, of what is meant by SFM, and that C&I provide a common approach to assessing forest trends and progress towards SFM and a platform for exchanging knowledge, experiences and lessons learned. However, little information has been compiled on the ways in which C&I have been operationalized and how they have contributed to improved forest policies and management practices.

To help address these gaps, ITTO commissioned a study in 2011–2012 to gain a better understanding of the experiences of countries worldwide in using C&I and of the impacts of C&I on SFM, as well as to identify trends, developments and emerging issues relevant to C&I (Caswell et al. 2014). This article summarizes the study's main findings, as well as its proposals for increasing the impacts of the ITTO C&I in the field.

Scope of the study

The study focused on the following five active C&I processes, which together involve 90 countries with tropical, temperate or boreal forests:

- the ITTO C&I for the sustainable management of natural tropical forests (ITTO 2005);
- the African Timber Organization (ATO)/ITTO principles, criteria and indicators (PC&I) for the sustainable management of African natural tropical forests (ATO/ITTO 2003), which are the product of a highly successful collaboration between ITTO and African tropical timber producers (see article page 11);
- the Tarapoto Process on C&I for the sustainability of Amazonian forests, coordinated by the Amazon Cooperation Treaty (ACTO);
- the pan-European C&I for SFM, coordinated by FOREST EUROPE (see article page 15); and
- the Montreal Process C&I for the conservation and sustainable management of temperate and boreal forests, developed by the Montreal Process Working Group.

These sets of C&I are conceptually similar but differ—sometimes significantly—in scale (e.g. regional, national or forest management unit—FMU—level), emphasis and level of detail. For example:

- ITTO has developed C&I at both the national and FMU levels. Seven criteria and 48 indicators apply at both levels; an additional nine indicators apply at the national level only.
- The ATO/ITTO PC&I are highly detailed and normative in nature.[1] The PC&I comprise four principles (one at the national level and three at the FMU level), under which are 20 national-level and FMU-level criteria, 90 indicators and 145 sub-indicators.
- The Tarapoto Process focuses on a core set of seven criteria (one at the regional level, three at the national level and three at the FMU level) and 15 indicators as priorities for field validation; these priority C&I are drawn from the more detailed C&I contained in the 1995 Tarapoto Proposal.
- The pan-European C&I comprise six regional/national-level criteria and 52 quantitative and qualitative indicators. No FMU-level C&I are included.
- The Montreal Process C&I include seven national-level criteria with 54 indicators.[2] Again, no FMU-level C&I are included.

In addition to variations among C&I processes, countries within and across processes differ significantly in terms of their forest governance structures (e.g. from highly centralized to decentralized); forest ownership patterns (e.g. from state ownership to many small private owners); existing forest policy frameworks and forestry traditions; and forest types, extents and distributions. These factors, together with differences in capacity, affect how countries use and apply C&I.[3]

Methodology

Because not all C&I processes have FMU-level C&I, there is no common framework for assessing field-level uses and impacts of C&I across countries. This posed a challenge for the analysis. Based on consultations with the ITTO secretariat, it was decided that the most effective and efficient way to obtain factual information from a wide range of countries and C&I users at various levels on the use and application of C&I was to develop two surveys targeted at:

1. government officials with responsibilities—at the national or subnational (e.g. state, provincial or local) levels—for forest policy, planning, regulation or management; and
2. private forest stakeholders, including companies, associations and other operators subject to government policies and regulations, as well as forest certification programs.

The first survey was distributed to about 100 government officials in 40 countries based on input from ITTO and C&I process focal points. The second survey was sent to private and other non-government stakeholders in 70 countries based on contact information drawn from ITTO and consultant databases, internet searches and personal contacts. While survey responses were the foundation of the C&I study, the study also drew on ex-post evaluations of ITTO-funded C&I projects, regional and international forest assessments undertaken by FAO, ITTO and FOREST EUROPE, and the outputs of recent C&I process collaborative meetings.

Government survey results

Forty-six officials from 25 countries responded to the government survey, including 17 officials from ten ITTO producer countries (mainly in Latin America)[4], 25 responses from eleven ITTO consumer countries associated with the pan-European or Montreal C&I processes[5], and four responses from non-ITTO countries.[6] Together, responding forest authorities own, manage or regulate about 1 billion hectares (ha) of the world's forests, of which 40% is in the tropics. Since this represents about 25% of the world's forests and an estimated 45–50% of production forests, the study's authors considered that the responses provided a good overall picture of the range of C&I uses and impacts across countries. The study drew on ITTO ex-post evaluations and success stories (ITTO 2011) to bring forward experiences from African and Asian producer members not represented in survey responses.[7]

C&I as a framework for forest monitoring, assessment and reporting

Within the ITTO, ATO/ITTO and Tarapoto processes:

- Countries are generally—although not consistently—using C&I as a framework for monitoring, assessment and reporting (MAR) at the national level and for reporting to regional and international organizations, such as ACTO, ITTO (for its periodic tropical forest assessment reports) and FAO (for its periodic global forest resources assessments). Both FAO and ITTO noted considerable improvement in the quality of information provided by countries as part of those organizations' most recent assessments (FAO 2010; ITTO 2011).

1 The C&I used by the other four processes are formulated as neutral rather than performance measures.
2 The Montreal Process includes Argentina, Australia, Canada, Chile, China, Japan, Korea, Mexico, New Zealand, the Russian Federation, the United States and Uruguay.
3 The pan-European and Montreal processes have not developed FMU-level C&I because of such differences among participating countries.
4 Brazil, Colombia, Côte d'Ivoire, Guatemala, Guyana, Honduras, Malaysia, Mexico (also a member of the Montreal Process), Peru and Togo.
5 Australia, Canada, China, Finland, Japan, Korea, New Zealand, Norway, Sweden, the United Kingdom and the United States.
6 Argentina, Chile, the Russian Federation and Slovenia.
7 Ghana, Gabon, Indonesia, the Philippines and Thailand.

- Several countries have developed their own sets of C&I based on the ITTO C&I to reflect their specific circumstances and forest ecosystems (e.g. mangroves).
- A number of countries, often with ITTO assistance, have used C&I frameworks to strengthen national and FMU baseline data and forest inventories and to build databases on social and environmental indicators.
- Some countries are using FMU C&I to monitor and evaluate FMU management based on forest management plans or other operational plans; evaluate and report on progress toward SFM at broader levels by aggregating FMU-level data; and/or report on certified forest areas. ITTO FMU C&I are typically used for monitoring ITTO-financed projects.

Within the pan-European and Montreal processes:

- C&I are used widely as the framework for periodic MAR at the national level and for country reporting at the regional and global levels, including for FAO's global forest resources assessments.
- Process-level C&I have often been stepped-down or otherwise adapted to national circumstances (e.g. by developing national-level C&I).
- A number of state/provincial forest authorities have identified subsets of C&I (e.g. core indicators) for use as a MAR framework, including in some cases at the FMU level.
- C&I are widely used to organize, compile, present and communicate existing forest-related data and information.

Application of C&I in forest policies, programs, plans and regulations

A number of countries have operationalized C&I by incorporating them in various ways and at various levels into forest policies, plans and regulations, sometimes in response to information generated by C&I-based MAR. For example, individual ITTO producers, often facilitated by ITTO training and project support, have applied national and FMU-level C&I as a basis or framework for:

- forest-related legislation and regulations at the national, local or FMU levels;
- forest-related planning at the provincial, catchment or FMU levels;
- developing and approving forest management plans and monitoring and evaluating compliance;
- establishing best management practices and other technical standards, guidelines, procedures and manuals;
- formulating the terms and auditing of concession contracts, licences and logging permits and evaluating performance;
- developing legality and chain-of-custody control and verification systems;
- carrying out environmental monitoring and impact assessments; and
- developing national forest certification schemes.

In European and Montreal Process countries, C&I have often been integrated into or otherwise helped shape national forest programs, strategies, plans and guidelines. Some countries have also used C&I to:

- improve forest laws and regulations at the national, local and FMU levels;
- develop national or subnational (e.g. provincial) forestry standards and best management practices for experimental or model forests;
- assist private forest owners to develop FMU management plans;
- evaluate regulatory compliance and effectiveness; and
- regulate wood-harvesting quotas.

Stakeholder involvement in government C&I applications

Nearly all respondents have made efforts to engage stakeholders in C&I activities, including through roundtables, committees and dialogues at the national, provincial/state and local levels. Many officials considered that the meaningful involvement of stakeholders, while often challenging, is essential for the effective use and uptake of C&I. Several European and Montreal Process countries emphasized that stakeholder participation is a basic principle of their wider forest management planning, assessment, reporting and regulatory processes.

Challenges

The three greatest challenges faced by governments in the use of C&I are:

- limited financial and technical resources, especially for collecting data on social and environmental indicators (while all responding countries could report on some indicators, very few could report on all indicators);
- poor stakeholder understanding of the concept and purpose of C&I (including confusion about the differences between C&I and certification); and
- conflict among stakeholders on the use and management of forest resources.

ITTO producers also noted a lack of political commitment as a serious constraint, while European and Montreal Process respondents identified multiple levels of forest authorities (e.g. federal, state and local) as a frequent challenge. Other challenges were more country-specific and included issues related to land tenure, limited forest mandates, a lack of intersectoral coordination, agricultural incursions into forests, and the presence in forests of armed groups.

It was also pointed out that some process-level indicators were redundant, unsuited to national or FMU

circumstances, or overly complex, especially for use by indigenous peoples, local communities and small-scale operators. A few respondents recommended updating older C&I sets based on lessons learned and global developments, particularly those related to climate change and bioenergy.

Impacts of C&I on SFM

Despite challenges in implementing C&I, 59% of responding officials considered that the application of C&I had improved forest management practices either greatly (13%) or moderately (46%); another 22% reported that C&I had slightly improved SFM but that other factors were also relevant. The remainder did not believe that C&I had made a difference in forest management in their countries, usually because other tools were in place to assess forest conditions and management and to promote SFM. Of the 81% who responded positively, it was most often noted that C&I had contributed to SFM (to a greater or lesser extent) by providing a framework or basis for:

- developing a common global understanding of SFM and, in turn, catalyzing improved forest policies, programs and strategies;
- increasing awareness and appreciation of non-timber forest benefits and values;
- improving and expanding forest monitoring and assessment;
- developing management plans and standards and monitoring compliance;
- communicating trends in forest conditions to policymakers and the public;
- communicating and engaging with stakeholders; and
- improving forest databases, inventories and systems for collecting, managing, retrieving, updating and analyzing data.

Innovative applications of C&I by governments

Survey responses revealed that countries are using C&I frameworks in innovative ways that have had a positive indirect impact on SFM. For example, C&I frameworks have been used to help identify forest research needs and priorities; develop education initiatives; prepare environmental assessments and management plans for projects affecting forests; and, in one case, create a conservation bank for generating forest financing from industry, non-governmental organizations and others.

Stakeholder survey results

Twenty-four responses to the stakeholder survey were received from:

- eight tropical timber-producing companies managing 2 million ha of natural forest in Bolivia, Brazil, Cameroon, Ghana and Malaysia (Sarawak);
- four industry associations with 760 members representing at least 10 million ha of natural forest in Bolivia, Brazil and Malaysia (Sarawak);
- four plantation companies managing 222 500 ha in Australia, Bolivia, Ecuador and Mexico;
- one national non-governmental organization (the Foundation for People and Community Development, FPCD) working in community production forests in Papua New Guinea;
- two family forest owner associations—the International Family Forest Alliance (IFFA), whose member organizations represent 25 million families that own an estimated 20–25% of the world's forests, primarily in Europe and North America, and the Danish Forest Association, an IFFA member; and
- five national/regional forest certification programs covering 94 million ha in Australia, Brazil, Cameroon, Malaysia and North America.[8]

Despite their small number, the responses represent a broad cross-section of forest stakeholders and a significant forest area. They may well reflect stakeholder awareness of, and experiences with, C&I more broadly, especially in the tropics.

Harvesting in natural tropical forests

The tropical timber companies and industry associations responding to the survey all noted that forest authorities required their forest operations to be planned and carried out under approved forest management plans consistent with SFM. Most were familiar with the ITTO C&I and, depending on the country, with either the ATO/ITTO PC&I or the Tarapoto C&I. Many had been involved in government discussions on C&I, and several said they had benefited directly or indirectly from ITTO-sponsored C&I training. One respondent had used ITTO's C&I to train forest managers and workers and establish university curricula. Forest Stewardship Council (FSC)-certified operators followed the FSC principles and criteria for MAR but noted that the ITTO and ATO/ITTO FMU C&I had paved the way for FSC certification. One FSC-certified company continued to use FMU C&I to assess high-conservation-value forests and forest protective functions. Non-certified operators continued to rely on FMU C&I and expressed interest in receiving C&I training, including as a first step towards certification.

Harvesting in tropical plantations

The four responding plantation companies reported that their operations were required to be carried out under approved management plans and that other internal and external procedures, standards and controls often also applied. All companies were certified under the FSC or the

8 The Australian Forest Standard; CERFLOR (Brazil); the Cameroon Forest Certification Initiative; the Malaysian Timber Certification Council; and the Sustainable Forestry Initiative (Canada and the United States).

Programme for the Endorsement of Forest Certification (PEFC), or were in the process of becoming certified and were following FSC standards. Only the operations in Bolivia and Ecuador were aware of C&I.

Community and family forestry

FPCD is a long-time observer at ITTO meetings and is familiar with ITTO's work on C&I. However, the organization has developed its own Indigenous Community Forestry Group Certification Scheme based on Papua New Guinea's FSC national standards, which are simpler to use than ITTO's FMU-level C&I and reflect the local context.

Member organizations of the IFFA have typically been involved in developing national FSC or PEFC standards, and many family harvesting operations are certified. The IFFA uses the pan-European and Montreal Process C&I frameworks and local and traditional knowledge as guides to promoting SFM, multiple-use approaches and locally controlled forests in a variety of international fora.

Certification programs

The five responding certification programs are independent entities that set standards for forest management and chain-of-custody certifications. All five use standards based on one or more of the C&I frameworks, and four have been endorsed by the PEFC, which is also based on C&I. The area of forest certified under these programs has increased significantly in the last decade and is likely to continue to expand.

Key trends and developments related to forest management

The following global trends, developments and emerging issues are particularly relevant to forest management, including future C&I applications, reviews and updates.

Expanding area of forests under SFM

According to FAO (2010), the area of forest covered by management plans has increased steadily and now exceeds 1.6 billion ha globally. Based on data collected from over 100 countries, FAO (2010) concluded that "significant progress has been made over the last ten years" toward SFM. This finding is echoed in a recent ITTO study (Blaser et al. 2011), which estimated that 52 million ha of production-focused natural tropical forests were under SFM in 2010, an increase of 50% since 2005, and that 131 million ha were covered by forest management plans, compared with 96 million ha in 2005. While major drivers of the increases in area under forest management plans and SFM were certification and, in the tropics, climate-change initiatives, government responses to the C&I survey reported here indicate that improved C&I-based forest policy, management and databases were also factors. As noted above, 81% of responses indicated that C&I had had at least some level of impact on SFM in their countries.

New interest in biofuels

Rising energy costs and concerns over greenhouse gas emissions from fossil fuels have generated interest in the production of forest-based biofuels as an alternative energy source. Since biofuels are among the products flowing from forests, current sets of national and FMU C&I include a number of indicators relevant to sustainable biofuel production (e.g. land available for production, growing stock, value/volume of wood products, wood consumption, and the impact of economic use on resource availability). Building on these indicators, the International Energy Agency and FAO recently developed PC&I for intensive sustainable woodfuel production and harvesting. Inputs from ITTO and other C&I processes to the future development of such PC&I would be useful.

C&I and climate change

REDD aims to create a financial value for the carbon stored in forests and thereby to offer incentives to developing countries to reduce greenhouse gas emissions from deforestation and forest degradation, which account for an estimated 20% of annual global emissions. Concerns that REDD may view and value forests primarily for their carbon storage benefits and emphasize forest preservation over active management have led to REDD+, which adds, among other things, "sustainable management of forests" as an eligible approach. Since C&I include indicators relevant to forest carbon (e.g. growing stock, age structure, annual removals, annual harvest, forest carbon pools, and carbon storage and fluxes), some countries are using these indicators and datasets in carbon calculations and methodologies. Greater recognition of the role of C&I in this context, as well as further development of carbon-related forest indicators and datasets, could help operationalize SFM aspects of REDD+.

The legal, policy and institutional components of C&I have provided a foundation for an ongoing initiative by FAO and the World Bank's PROFOR program to develop a "framework for assessing and monitoring forest governance" in the REDD+ context. Inputs from ITTO and other C&I processes in the future development of this framework would be useful.

Strategic plan for biodiversity 2011–2020

Several of the 20 Aichi Biodiversity Targets within the Convention on Biological Diversity's new strategic plan for biodiversity encompass forests. An "indicative list of indicators" has been developed to assess global and national trends towards the targets. Inputs from ITTO and FAO could help identify measurable forest-related global indicators based on the aggregation of national C&I data for international forest assessments.

Conclusion

Since they were pioneered by ITTO in the early 1990s, C&I have helped countries and the international community

to understand and operationalize the evolving concept of SFM. Differences among countries in terms of forest governance structures, ownership patterns, existing policy frameworks and forestry traditions, as well as capacity issues, affect how countries use and apply C&I. While process-level C&I provide a common reference framework for participating countries, such countries often need to adapt or step-down process-level C&I to reflect conditions and circumstances at the national and FMU levels.

Forest monitoring, assessment and reporting

ITTO producers (often with ITTO support) and other countries have made progress in using C&I for MAR. This is reflected in improved forest inventories, databases and systems of data collection and analysis and the availability of information at the national, subnational and FMU levels. Such improvements have helped officials and FMU managers identify weaknesses in forest management and make adjustments where needed. Improvements in the quality, coverage and consistency of C&I data have enabled more comprehensive regional and global forest assessments. Countries using C&I for MAR tend to be well positioned to respond to external forest-related reporting requests.

Contribution to SFM

The area of forests under SFM has increased significantly in recent years, including in the tropics. While certification and climate-change initiatives have contributed to this positive trend, the increased use of C&I has also been an important factor.

C&I have contributed to improved forest management in a variety of ways, including by increasing awareness of forest benefits beyond timber production and by highlighting the importance of policy and management frameworks that integrate the social, economic and environmental values of forests. Specific benefits vary from country to country. The impact of C&I on SFM has generally been greater in countries that—with stakeholder involvement—have incorporated C&I approaches into legislation, policies, programs, strategies, guidelines and standards that govern forest practices.

FMU-level C&I have provided a basis on which ITTO producers, often with ITTO support, have formulated, approved and monitored compliance with forest management plans and best management practices and with concession contracts, agreements and permits. C&I have contributed to (and in many cases provided a basis for) forest certification. The application of FMU-level C&I has helped private operators move toward certification.

Challenges encountered

Despite good progress, all countries, particularly tropical producers and other developing countries, face challenges in applying C&I, ranging from insufficient capacity and commitment to inadequate policy frameworks and stakeholder engagement. The nature and extent of the challenges vary by country. Some can only be addressed internally by raising the priority of forests on national agendas. Others can be facilitated through greater international cooperation, partnerships and collaborative C&I initiatives.

There is a continuing need to strengthen the capacity of countries to collect data and report on indicators, and to integrate C&I into policies and programs at an operational level. At the same time, existing indicator sets may be overly complex, redundant or unsuited to national circumstances. FMU-level indicators in particular may benefit from a review of their suitability for practical use by local communities and small enterprises.

Global developments and emerging issues

C&I for SFM are relevant to wider forest-related developments and issues, including the sustainable production of forest-based biofuels, forest carbon calculations at various levels, measuring progress toward biodiversity targets, and serving as models for assessing the sustainable management of other natural resources. The role of C&I in addressing forest-related global challenges is increasingly evident and warrants further attention, including input from ITTO and other C&I processes.

ITTO leadership

ITTO has been, by far, the single biggest supporter of C&I training, testing and implementation in ITTO producer countries. In some cases, further ITTO assistance is needed to adapt C&I to national/FMU circumstances, engage stakeholders and strengthen databases and monitoring systems. Other potential sources of C&I financing, including FAO, the Global Environment Facility and the World Bank, could contribute significantly to national C&I efforts and complement ITTO support.

ITTO's C&I would benefit from review and update to take into account the experiences of member countries, progress in other C&I processes, and other relevant trends and developments. Given ITTO's long experience with C&I, greater collaboration with FAO, other members of the Collaborative Partnership on Forests (CPF) and other C&I processes would promote further learning, innovation and cooperative activities and increase the contribution of C&I to local, national and global sustainability.

Key recommendations

To continue and strengthen ITTO's work and leadership on C&I, the study proposed that ITTO consider the following actions.

Strengthen the impact of the ITTO C&I in the field

- Organize additional national and subregional consultations involving private stakeholders to focus

strategically on the uptake of C&I at the FMU level. Such consultations could identify ways to meet specific challenges, such as by:

  - adapting the ITTO C&I to suit the circumstances of individual countries at the FMU level;
  - establishing mechanisms for effective stakeholder communication and outreach;
  - identifying capacity-building priorities for data collection and analysis;
  - establishing demonstration forests for FMU C&I applications; and
  - exploring linkages between FMU C&I and applicable certification standards, and the potential for harmonization.

- Incorporate C&I uptake into components of ITTO's thematic programs that address forest-related MAR and progress toward SFM.

Review ITTO's national and FMU C&I

- Initiate a process to comprehensively review and (if needed) improve the ITTO C&I based on lessons learned and recent developments, taking into account ITTO's revised guidelines for the sustainable management of natural tropical forests and other relevant guidelines; recent indicator updates by other C&I processes, in particular the Montreal Process; the seven thematic elements of SFM; trends in certification and the local control of forests; and relevant global developments and emerging issues related to, for example, climate, bioenergy and biodiversity. Consideration should be given to:
  - streamlining aspects of the national-level and FMU-level C&I;
  - identifying a core set of indicators for use by indigenous peoples and local communities;
  - the further development or grouping of indicators on sustainable woodfuel production, the contribution of forests to carbon cycles, and forest governance;
  - exploring linkages between FMU-level C&I and certification standards; and
  - exploring connections among the ITTO, ATO/ITTO and Tarapoto sets of C&I and the feasibility and merits of greater convergence.

Strengthen partnerships and collaboration with CPF members and C&I processes

- Engage with the International Energy Agency, FAO and the World Bank's PROFOR on their respective initiatives on assessing and monitoring forest governance in the context of REDD+ and developing PC&I for sustainable woodfuel production.
- Work with FAO and the secretariat of the Convention on Biological Diversity to identify indicators for the forest-related components of the Aichi Biodiversity Targets, for which C&I baseline information is available through ITTO and FAO data-collection processes.
- In collaboration with FAO, C&I processes, the Global Environment Facility, the World Bank and other CPF members, organize a joint expert consultation to identify ways to improve and expand international financial, technical and scientific cooperation on C&I, including by tapping into climate-related sources of funding, and provide a framework for ongoing communication and consultations on C&I and related SFM issues.
- Through the ITTO thematic programs and projects, as well as projects financed through bilateral cooperation, FAO and the Global Environment Facility, encourage ITTO members to give greater priority to the implementation of C&I at the FMU level.

Next steps

Activity 10 of the ITTO Biennial Work Programme 2013–2014 includes three targets for moving forward on the above recommendations. Under Target (a), 2–4 national C&I training workshops will be convened, incorporating auditing, certification and international reporting requirements in the curricula.

Under Target (b), an expert meeting will be held to review the ITTO C&I in light of the experience gained in compiling ITTO's status of tropical forest management reports (the most recent of which was published as Blaser et al. 2011), recommendations from national C&I workshops, revisions of ITTO guidelines and policy papers, a review of the field-level implementation of C&I carried out by ITTO in 2010–2011, and relevant international developments (e.g. in the area of climate change).

Under Target (c), the ITTO secretariat will participate in international meetings and initiatives related to C&I, including the Collaborative Partnership on Forests Task Force on Streamlining Forest-related Reporting, meetings of other C&I processes, and initiatives to promote synergies between ITTO's status of tropical forest management reports and FAO's global forest resources assessments.

Given the major impact of the ITTO C&I on shaping forest policy and practice in the tropics, it is to be hoped that ITTO will receive sufficient contributions from members to fully fund these activities and continue the development of the ITTO C&I.

Acknowledgements

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ITTO VACANCY ANNOUNCEMENT No. 73
(DEADLINE FOR APPLICATION: 30 APRIL 2014)

Position/Title	Level (Grade)	Duty Station	Date for Entry on Duty	Duration of Assignment
EXECUTIVE DIRECTOR	ASG	YOKOHAMA, JAPAN	6 November, 2015	FIXED TERM: FOUR YEARS (RENEWABLE)

The International Tropical Timber Organization (ITTO), a commodity organization headquartered in Yokohama, Japan, is in the process of appointing a new Executive Director. The ITTO mission is to promote the expansion and diversification of international trade in tropical timber from sustainably managed and legally harvested forests and to promote the sustainable management of tropical timber producing forests. The Executive Director is the chief administrative officer of the International Tropical Timber Organization and is responsible to the International Tropical Timber Council for the administration and operation of the International Tropical Timber Agreement, 2006, in accordance with decisions of the Council. The ITTO explicitly encourages applications from qualified female candidates. Candidates who are citizens of ITTO member countries (see www.itto.int) with the following qualifications may apply.

1. Competencies

Demonstrates:

(i) Professionalism: Professional competence and mastery of subject matter, is conscientious and efficient in meeting commitments, observing deadlines and achieving results.
(ii) Accountability: Ability to operate in compliance with organizational rules and regulations, to deliver outputs within prescribed time, cost and quality standards.
(iii) Communication: Ability to communicate effectively orally and in writing. Listens to others, correctly interprets messages from others and responds appropriately. Openness in sharing information and keeping people informed.
(iv) Networking: Ability to create and maintain a network of external contacts and coalitions with other relevant organizations, in a manner that enables the ITTO to play a leadership role internationally on matters relevant to its mandate.
(v) Leadership: Experienced in proactively developing goals and strategies to accomplish the organization's objectives.
(vi) Vision and innovation: Creates an environment that fosters innovation and innovative thinking. Empowers others to translate vision into results.
(vii) Skill in managing performance: Delegates the appropriate responsibility, accountability and decision-making authority. Makes sure that roles, responsibilities and reporting lines are clear to each staff member. Monitors progress against milestones.
(viii) Ethical standards: Committed to the highest ethical standards in furtherance of his/her mission and the objectives of the ITTO.
(ix) Gender balance sensitivity: Committed to promoting equal opportunities.
(x) Diplomatic and negotiation skills, including experience in working with high-ranking government and industry representatives.

2. Professional Experience

(i) Managerial experience: a proven track record and at least 15 years of experience in managing programs, staff and finances, in matters relevant to forestry, trade, environment or other equivalent field with proven experience in strategic planning;
(ii) Specific experience: demonstrated experience in the field of sustainable forest management and timber trade would be a distinct advantage;
(iii) International experience: previous work at the international level and experience in dealing with international organizations; and
(iv) Partnership building and fundraising experience: Demonstrated experience in creating strategic partnerships/networks and promoting initiatives with partner organizations. Demonstrated experience in mobilization of financial resources would be a distinct advantage.

3. Education

Master's or Ph.D. degree in forestry, natural resource management and conservation, economics, business administration, or any other relevant field.

4. Language

Proven ability in both oral and written communication in one of the official languages of ITTO (English, French and Spanish) and preferably a working knowledge in the other two official languages. Good command of English would be a distinct advantage.

5. Salary and Emoluments

Salary is equivalent to that of an Assistant Secretary General (ASG) in the scale of the United Nations, including benefits such as removal expenses, home leave travel every 24 months, children's education grant, rental subsidies, etc.

6. Conflict of Interest

Candidates should have no vested financial interest in the timber industry or timber trade and related activities.

7. Applications

Written applications including a cover letter explaining how the candidate meets the required qualifications, a completed United Nations Personal History form (form P.11), a curriculum vitae and additional supporting materials related to the job qualifications and a recent photo should be received at ITTO headquarters by 30 April 2014 by 17:00 hours (Japan time). Applications may be submitted electronically or by mail or fax and should be sent to:
Executive Director, International Tropical Timber Organization
International Organizations Center, 5th Floor Pacifico-Yokohama,
1-1-1, Minato-Mirai, Nishi-ku, Yokohama, Japan 220-0012
Tel: (81-45) 223-1110 Fax: (81-45) 223-1111 E-mail: itto@itto.int

Africa's process for implementing PC&I

A three-phase ITTO project to promote principles, criteria and indicators in African forests has had a long-term impact on the forest sectors of many African countries

by Olivier Ahimin

Project coordinator
(ahiminolivier@yahoo.fr)

Testing: Field verification of the PC&I in Gabon. *Photo: O. Ahimin*

ITTO project PD 124 Rev. 2 (M) "Promotion of sustainable management of African forests" commenced in August 2003 and is now in its final phase. The project was originally intended to be implemented together with the African Timber Organization (ATO), a regional body with which ITTO collaborated in 2000–2001 to develop a regional set of principles, criteria and indicators (PC&I) using the ITTO C&I as an overarching framework. With the demise of ATO and its operational activities, the project has been directly implemented by ITTO since 2012. The project's development objective is to promote the sustainable management of African forests through the application and implementation of the *ATO/ITTO principles, criteria and indicators for the sustainable management of African natural tropical forests* (ATO & ITTO 2003, hereafter referred to as the ATO/ITTO PC&I), with the support and participation of all stakeholder groups. This article reports on the major results achieved by the project.

Key aspects of ITTO project PD 124 Rev. 2 (M)

Development objective:

Promote sustainable management of African forests through the application and implementation of the ATO/ITTO PC&I, with the support and participation of all stakeholder groups.

Specific objectives:

Establish key elements of an adequate capacity to implement the ATO/ITTO PC&I at the national level in the African member countries of ITTO.

Establish key elements of an adequate capacity for effective regional-level cooperation through the ATO to support individual member countries in implementing ATO/ITTO PC&I.

Complex nature of project:

10 countries: Cameroon, Central African Republic, Congo, Côte d Ivoire, Democratic Republic of the Congo, Gabon, Ghana, Liberia, Nigeria and Togo (new countries under ITTA 2006 since 2013: Benin, Mali, Mozambique)

10 expected outputs; 78 activities

Total budget: US$4 184 678

The gradual mobilization of financing has meant that the project has been implemented in three phases:

Phase 1: August 2003–June 2007

Phase 2: January 2008–December 2010

Phase 3: April 2011–2016 (2015-16 work pending final tranche of funds).

Major project outcomes

Development of PC&I

All ten member countries participating since the project's inception now have sets of PC&I derived from the ATO/ITTO PC&I. Seven have PC&I validated for natural forests, one has PC&I validated for forest plantations, and two have PC&I validated for both natural forests and forest plantations. The process of developing PC&I involved the following steps.

Preliminary survey of stakeholders. Prior to embarking on the national-level development of PC&I for use in evaluating sustainable forest management (SFM), countrywide surveys were conducted with a view to identifying SFM stakeholders. Groups considered to be stakeholders were legal or physical entities using forests or forest products and entities affected by such use. A clear description of actions and impacts was established for each of the identified stakeholders.

Establishment of multi-stakeholder forums. The multi-stakeholder forums comprise representatives of forest management stakeholders at the national level. They may include observers who can be physical or legal

entities. The multi-stakeholder forums concept is based on a decentralization model designed to foster multi-stakeholder dialogues at both the national and local levels.

Multi-stakeholder forums are organized in chapters or chambers comprising forest stakeholders with similar types of activity or areas of interest. They may be non-official groups—i.e. established only to formulate standards—or official groups. Official groups may take the form of:

- an independent entity—i.e. be a non-governmental organization or association governed according to articles of association and rules of procedure duly approved by a relevant national-level authority; or
- an entity established by order or decree of the institution in charge of forest management or a higher body.

Drafting the first PC&I draft document. In each participating country in which a multi-stakeholder forum had been established, an expert (the "senior expert") with broad experience in forest management-related fields was recruited at the national level to analyze the ATO/ITTO PC&I framework and evaluate its suitability for national conditions. The senior expert's report constituted the first PC&I draft document for that country.

Review by experts and production of the second PC&I draft document. In each country, the first PC&I draft document produced by the senior expert was reviewed by other experts specializing in the following specific fields:

- agroforestry and forest management (Principle II);
- conservation, ecology and biodiversity (Principle III); and
- economic, social and cultural aspects in relation to local populations and forest workers (Principle IV).

Each specialist expert reviewed the criteria, indicators and sub-indicators of the relevant principle. Similarly to the senior expert, the main task of the specialist experts was to verify all these elements on the basis of clarity, relevance and adaptability to national conditions and to ascertain their appropriateness for evaluating accurately the management-related aspects of forest ecosystems and social systems.

The document resulting from the experts' review was submitted to multi-stakeholder forum members for evaluation and the production of the second PC&I draft document.

Public consultation and production of the third PC&I draft document. The second PC&I draft document was forwarded to all stakeholders for comment. Not all stakeholders participated in the meetings of the multi-stakeholder forums, but all had a right to express their views on the PC&I. The document was sent in various formats (hard and electronic) and by various means (post, direct mail, email, etc.).

The duration of public consultation was 60 calendar days or more. If needed, experts and multi-stakeholder forum members were available to provide key stakeholders with additional information to enhance document evaluation and input.

Following public consultation, experts and multi-stakeholder forum members reviewed the various inputs of stakeholders and incorporated those they considered relevant. The document resulting from the public consultation constituted the third PC&I draft document.

Field-testing and fourth PC&I draft document. The diverse inputs that led to the production of the first to third PC&I draft documents were generally of a theoretical nature based on the actual or assumed experiences of experts and other stakeholders. To determine whether the draft PC&I could be applied in the field, field-testing was necessary; indicators and sub-indicators could be modified, reformulated, added or deleted as a result of the testing. Sites were selected for testing the PC&I that were representative of the diversity of the country's forest ecosystems and management and use types and of the variety of social and cultural systems. An international consultant was recruited to review the PC&I draft document and ascertain its compliance with relevant international guidelines, and to undertake the field-testing with the support of national experts. The field-testing stage resulted in the production of the fourth PC&I draft document.

National validation workshop and production of final PC&I document. The fourth PC&I draft document was submitted to all stakeholders at national workshops attended by most of the stakeholders interested or involved in the process. National and international consultants explained the process that had led to document production, focusing on the main modifications and why they were made. Stakeholders appraised the documents at national workshops and validated them if no major objection or opposition was raised. The documents resulting from the workshops were then considered final; they were printed for dissemination among stakeholders.

Use of PC&I

Various activities initiated under the project, at both the national and regional levels, promoted the use of the national-level PC&I with the aim of increasing the implementation of SFM in the field.

National forestry auditors training. Under the project, training for national-level forest auditors was conducted regionally using the ATO/ITTO PC&I as the reference framework. Three training sessions of trainers were organized—two for French-speaking countries and one for English-speaking countries. A total of 65 trainers were trained in the ten member countries.

National training sessions were conducted to follow up the regional-level training. In total, 240 auditors were trained in these national training sessions, covering all aspects of assessing forest management. The project strategy for its training component was to ensure that each participating country had the necessary skills for training forest auditors; this type of training continues to be in high demand among stakeholders.

Production of national reports on progress towards SFM. Among other things, the PC&I are designed for use in the production of national reports on progress towards SFM on the basis of Principle 1 ("sustainable forest utilization and maintenance of the multiple functions of forests are a high political priority"). Such reports prepared by participating countries allowed an evaluation of the legal, regulatory, institutional and operational provisions for promoting SFM at the national level.

The evaluation focused on:

- national objectives, the legal and regulatory framework, and action plans for realizing national objectives;
- the existing institutional framework for realizing SFM-related objectives;
- the (human and equipment) means and resources available for SFM implementation;
- the economic and tax policies in place for ensuring the sustainability of forest enterprises; and
- the control, monitoring and evaluation measures in place for management operations after the formulation of sustainable management documents and their application in the field.

Based on the country evaluations, reforms were undertaken (or are planned) where they were found to be necessary to meet the requirements of Principle 1.

Auditing implementation of management plans. Field evaluations of selected forest concessions or other forest management regimes were conducted in three of the ten participating countries during the first stage of the project's final phase. Teams of auditors were established for conducting evaluations in the field; a sample result for a concessionaire in Gabon is shown in Table 1.

For each principle, auditors evaluated the relevant indicators and sub-indicators in the field. Following a review of the documents provided by managers, interviews with the staff, and field inspections, auditors evaluated the management performance for each indicator and sub-indicator, with three possible grades: "complete compliance", "non-compliance" or "partial compliance". The first audits constitute a baseline study; subsequent audits, to be undertaken on a yearly basis and continuing under the currently ongoing stage of the project, evaluate the extent to which non-compliance has been remedied and the corrective actions prescribed by the auditors have been implemented.

Table 1: Example of audit results for a concessionaire in Gabon

Principle 2: The forest management unit, designated for whatever form of land use, is sustainably managed with a view to supplying goods and services				
Criterion 2.1: Forest management complies with the legislation in force, and also with all the international treaties ratified by Gabon		NC	PC	C
Indicator 2.1.1: Forest management respects all local and national laws, and meets all administrative requirements	Sub-indicator 2.1.1.1: Existence of written notification of management plan approval by the ministry in charge to the concession operator			X
	Sub-indicator 2.1.1.2: Existence of terms of reference for forest logging in CFADs (i.e. forest concessions)	X		
	Sub-indicator 2.1.1.3: Existence of record of contract terms between operator and local populations	X		
Indicator 2.1.2: All taxes, royalties and other fiscal payments established by law are paid	Sub-indicator 2.1.2.1: Existence of receipts proving payment of payable taxes and royalties	X		
Indicator 2.1.3: Management operations are compliant with existing national technical standards	Sub-indicator 2.1.3.1: Inventory procedure is compliant with established standards			X
	Sub-indicator 2.1.3.2: Mapping is compliant with technical standards		X	
	Sub-indicator 2.1.3.3: Management plan formulation is compliant with existing regulations			X
	Sub-indicator 2.1.3.4: Planned techniques for reduced impact logging are compliant with the national technical manual			X

NC = non-compliance; PC = partial compliance; C = compliance

Table 2 shows the levels of compliance in audited companies, by principle and country. Three companies in Gabon have been subject to a second audit. These audits using the PC&I are much appreciated in the countries where they have been carried out to date. The project will carry out follow-up audits in these countries in the current stage of the project and extend this work to more countries.

Project impacts on policies, laws and management, and trade processes

The project has had the following impacts on policies, laws and the trade:

- National-level PC&I are being used by forest administrations in participating countries through the development of SFM-related manuals and standards.
- Forest Stewardship Council (FSC) certification audit firms now consider the ATO/ITTO PC&I to be the regional reference framework for SFM and are using them in the development of the FSC reference framework for certification audit missions.

Table 2: Results of forest evaluations, by site and principle

		Level of compliance at each site (%)														
		Cameroon			Côte d Ivoire				Gabon							
		1	2	3	1	2	3	4	1	2	3	4	5	6	7	8
I	P2	42	63	35	57	68	65	66	60	53	30	45	18	32	34	55
	P3	41	75	40	84	70	67	78	49	58	27	53	21	50	65	79
	P4	48	93	23	73	43	32	55	33	78	22	48	49	40	22	42
	Average	44	77	33	71	60	55	66	47	63	26	49	29	41	40	59
II	P2									56	33	54				
	P3									77	37	59				
	P4									47	18	67				
	Average									60	29	60				

Note: P2 = Principle 2; P3 = Principle 3; P4 = Principle 4; I = first audit; II = second audit.

- The ATO/ITTO PC&I served as the basis for developing the subregional FSC standards in the Congo Basin, which were validated in 2012.
- Most of the legality grids[1] used in countries where voluntary partnership agreements (VPAs) have been concluded with the European Union are based on Principle 1 of the ATO/ITTO PC&I.
- The development of national-level PC&I has also helped prepare countries for the forest law enforcement, governance and trade process in those countries in which VPAs have been agreed.
- The ATO/ITTO PC&I have been integrated into the monitoring/evaluation systems of initiatives taken towards the independent monitoring of forest logging legality certification (e.g. the Forest Concession Monitoring System for Central Africa and the Worldwide Fund for Nature (WWF)–TRAFFIC Wildlife Trade Monitoring Network).
- The partnership between the project and the WWF Central Africa Regional Programme Office has contributed significantly to project implementation in the five countries of Central Africa.
- Training courses in forest management auditing based on the ATO/ITTO PC&I have raised considerable enthusiasm and interest; the demand for such training courses is very high among forest stakeholders.
- Trained personnel are now part of an African pool of auditors who are being recruited by the FSC and auditing companies dealing with chain-of-custody certification and who are responsible for certifying legality compliance.
- Audits based on the ATO/ITTO PC&I constitute an alternative option for companies (small, medium-sized and large), certified or not, and for governments, in measuring progress towards SFM.
- Dialogue between forestry administrations and other stakeholders is now more productive in most of the participating countries as a result of the goodwill and working methods generated by the national multi-stakeholder forums established under the project.
- Requests for forestry auditing have increased among private operators and administrations.
- The concept of pan-African certification is being revived based on the PC&I now in place in participating countries.
- Countries that recently joined ITTO (Benin, Mali and Mozambique) have expressed strong interest in benefiting from project activities after observing its impacts on the management of the forest sector in neighbouring countries.

Outlook

The planned duration of the project was six years, but it has been extended due to difficulties related to the mobilization of finance and other reasons, including instability in several of the target countries over the project's life. It has now reached its penultimate stage of implementation. As of January 2014, over 87% of the total planned financing (US$4 184 678) had been mobilized, and project objectives have been realized to the same extent. Another US$500 000 is required to complete all project activities in participating countries and to establish an institutional framework at the regional level for ensuring coordination and monitoring of SFM-related actions across the participating countries.

Reference

ATO & ITTO 2003. *ATO/ITTO principles, criteria and indicators for the sustainable management of African natural tropical forests.* Policy Development Series No. 14. ITTO, Yokohama, Japan.

1 A legality grid is a matrix that shows the regulatory references, indicators and verifiers of timber legality within the context of a VPA.

Implementing criteria and indicators in Europe

The pan-European C&I serve a useful purpose, but could be improved

by Hubert Inhaizer

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Indicator: Forest biodiversity conservation is an important component of the pan-European C&I set. *Photo: Fotolia*

In the wake of the United Nations Conference on Environment and Development in Rio de Janeiro in 1992, several international processes and initiatives developed criteria and indicators (C&I) as a policy instrument to evaluate and report on progress towards sustainable forest management (SFM). In Europe, the initiative to promote and commit to SFM is led by FOREST EUROPE, formerly known as the Ministerial Conference on the Protection of Forests in Europe (MCPFE). A set of C&I for SFM in Europe (known as the pan-European C&I) was established in the 1990s and adopted at the third MCPFE in Lisbon in 1998. At the fourth MCPFE in Vienna in 2003, an improved set of six criteria and 35 quantitative indicators (describing forest status and changes) and 17 qualitative indicators (describing the national forest policies, institutions and instruments used to move towards SFM) was endorsed.

Until recently, however, insufficient information has been available on how the pan-European C&I have been used and what their real impact has been. Policymakers and administrative bodies, as well as professionals and the general public, want to know whether observed trends are sustainable, whether the policy systems in place are effective, and whether their efforts to implement the pan-European C&I have made a difference. This article reports on a study (the "CI-SFM" project) by the European Forest Institute that is the first effort to collect information on the implementation of the pan-European C&I in the 46 signatory states of the FOREST EUROPE process. The study concerns how and to what extent the C&I set has been used at the pan-European and national levels, investigates challenges and gaps in its implementation, and explores opportunities for further improvement.

Defining the pan-European C&I

The lack of a formal statement of the objectives of the pan-European C&I makes it difficult to define how the set is being implemented and to assess whether such implementation has been successful. Therefore, the study began with an analysis and conceptualization of the term "C&I implementation". A working definition of the pan-European C&I was developed based on a review of relevant MCPFE resolutions and documents as well as the publications of other international C&I processes, and this working definition was used and tested in the course of the project. This process made it possible to develop an improved definition of the pan-European C&I for discussion, further revision and approval at the policy level, which should help give direction to future work.

The working definition includes five major applications of the pan-European C&I:

1. as a framework for dialogue and communication;
2. as a tool for monitoring and reporting;
3. as a tool for assessing progress towards SFM;
4. for use in forest policy; and
5. in the provision of information to other indicator sets and cross-sectoral data.

Methods used in the study

The information required to address the project objectives was collected through a literature review, interviews with experts inside and outside the forest sector, an enquiry on national and subnational assessments, regional workshops and a pan-European forum on implementing C&I. The working definition was used as a framework to collect and structure the information throughout the study.

This ensured a comprehensive and balanced approach, not favouring any application over another. The key findings of the report are based on the perspectives of the experts interviewed, the FOREST EUROPE national correspondents who completed the enquiry on national assessments, and participants in project events. Each group used different vocabularies and expressed different viewpoints, approaches and goals, thus providing important insights into the implementation of the pan-European C&I in each of the five applications.

Key findings

The pan-European C&I have served as a framework for dialogue and communication by providing stimulus and support for communication within the forest sector, especially in terms of setting and streamlining the forestry debate. In particular, the pan-European C&I have facilitated deliberation and consultation between policymakers and forest-sector stakeholders, thus promoting stronger stakeholder participation in forest policy processes. The results of the various analyses also signal that the pan-European C&I have been instrumental in defining the content of SFM, and they have provided structure to forest policy in the pan-European region.

However, the C&I set is considered complex, static and too focused on matters that are of interest only to the forest sector. This complexity creates barriers in communicating forest-sector issues to the general public and to other sectors (such as energy, environment and climate change) because the information and rationale embedded in the set is difficult to understand for non-forestry stakeholders. The lack and fragmentation of communication channels between forest administrations and relevant institutions, as well as the sporadic nature of C&I-based communication activities, appear to be other major limitations to broader outreach by the forest sector.

The pan-European C&I have served as an adequate tool for monitoring and reporting on SFM. Politically endorsed, the C&I have shaped and stabilized international reporting in the region, which is important for the long-term development of national forest inventories and other data collection and analysis systems, including those originating in other sectors (e.g. national accounts). The pan-European C&I have contributed conceptually and practically to improving the comparability of forest information among European countries by setting a common reporting framework, which also reflects the global structure of the seven thematic areas approved by the United Nations and applied in FAO's global forest resources assessment. The pan-European C&I have helped improve the availability and quality of information and promoted a broader understanding of forest-related information in European and national policymaking. In addition, the C&I approach has led to improved data availability and quality in areas that previously were not covered in forest-sector statistics.

However, there is broad consensus among experts and FOREST EUROPE national correspondents that the collection of large amounts of data, in particular those related to sub-indicators and other parameters, imposes a considerable and questionable burden on data-collection agencies while making it more difficult to achieve data completeness. There are also recurring challenges in ensuring acceptable data verification and validation processes and institutional challenges in monitoring and reporting relating to the maintenance and regularity of the applied monitoring instruments, capacity, education and training, and coordination among national and international data providers.

The pan-European C&I have made a limited contribution to assessing progress towards SFM by providing time trends for a first assessment step. Two assessment prototypes were presented as pilots in the *State of Europe´s forests* reports published in 2007 and 2011. Despite the progress and the two pilot approaches, however, there is a clear notion that assessment procedures based on C&I are hindered by their structural and conceptual shortcomings. Thresholds and trade-offs for individual indicators have not yet been developed.

In general, there is an acknowledged need for a well-developed and approved assessment methodology that allows a balanced approach to the use of the pan-European C&I in assessing progress towards SFM. To respond to this need, the United Nations Economic Commission for Europe (UNECE)/FAO is leading an effort which builds on the experience gained in the pilots presented in *State of Europe's forests*. Through a transparent process, UNECE/FAO has developed a method that will be applied on a pilot basis in the next edition of *State of Europe's forests* in 2015.

A clear political commitment to support the assessment of SFM would give this effort more impact. The Pan-European Operational Level Guidelines (PEOLG) have certainly influenced certification schemes, notably the Programme for the Endorsement of Forest Certification (usually known by its acronym, PEFC) by providing reference frames and stimulating assessment procedures both within countries and at a regional level. Thus the pan-European C&I, on which the PEOLG is based, have had an indirect influence on forest management.

The pan-European C&I have facilitated the development and adaptation of national policy instruments, in many instances serving as a reference framework for forest-related policies. The C&I set is perceived as providing a comprehensive framework for multifunctional forest management. By means of its implicit normative power, an increased political commitment to accept and support C&I and integrate them into national policy instruments has been observed. For example, the C&I concept is included in many national forest programs and in some cases has been integrated into national legislative and policy instruments.

Also, by shaping the debate on SFM at the national level, the pan-European C&I have supported new modes of governance in national forest policymaking, at least indirectly. In broader terms, the pan-European C&I are now an accepted tool to stimulate and promote SFM and implement policies at the national level. However, there is wide variation in the methods and quality of adaptation of the pan-European C&I at the national level. The pan-European C&I process provides little guidance for national implementation. Its non-legally binding nature also does not ensure the wide implementation of the C&I in national forest policies, programs and laws, although the incentives are tangible in the countries where they have been considered. Some indicators might be used on a selective, interest-driven basis, but that does not allow the complexity of SFM to be addressed. The study shows that operational linkages between the policy and forest management unit levels are scarce, yet strong linkages are essential for assessing the compliance of forest operations with policies as well as the impact of policies at the operational level.

The pan-European C&I have generated only limited information of intersectoral relevance. Data collected according to the pan-European C&I or national/subnational C&I sets based on the pan-European C&I have rarely been used in other sectors or in more general indicators for assessing change in societies and economies. Collaboration and attempts at harmonization among C&I processes in forestry (e.g. the Montreal Process, the ITTO C&I process and FAO's global forest resources assessment) exist, particularly for the assessment of SFM, and communication is ongoing on conceptual questions. There are few examples of linkages between processes in different sectors (i.e. sectors other than the forest sector) at the national, European Union or pan-European levels. In many cases, however, forest-sector data are not considered relevant by the "non-forest" processes, or they are not expressed in a form applicable for use. One of the reasons for these reservations is the use of concepts and definitions that are only partially harmonized with those of other sectors. In summary, other sectors are reserved in their responses to forest-sector issues and there are communication deficits (in both directions) on inter-sectoral data needs.

Despite the progress that has been made in various approaches for implementing the pan-European C&I, improvements are needed if they are to be considered as powerful tools for promoting SFM at the subnational, national and pan-European levels. The CI-SFM team made a number of recommendations to enable such improvements, which are listed below; detailed descriptions of the recommendations are available in the full report.

Recommendations for C&I implementation at national and subnational levels

1. Review implementation at the national and subnational level
2. Promote smart use of C&I
3. Develop capacity in the field of C&I
4. Develop or enhance the use of C&I at the subnational level
5. Use C&I indirectly to improve practice at the forest management unit level

Recommendations for implementation at pan-European level

1. Formulate objectives for a revised set of pan-European C&I
2. Revise the pan-European set of indicators
3. Develop harmonized methods for assessing the sustainability of forest management at the national and subnational levels using C&I
4. Develop understanding and use of the qualitative indicators
5. Develop subsets of indicators or composite indicators to address specific policy issues
6. Build bridges to other sectors

Conclusion

The recommendations listed above seek to address barriers to C&I and to strengthen the process for developing and using them—not only as a tool for monitoring and reporting, but also for policymaking at the national and pan-European levels. A number of the proposed actions require further investigation to better capture and understand the complexity of the indicators and to help build capacity for more effective implementation. The recommendations support the work of FOREST EUROPE, particularly its work program in relation to the further development and improvement of SFM and its tools, and they provide a sound basis for targeted exchange at the political and scientific levels.

The full report on which this article is based is available at: www.efi.int/files/attachments/publications/efi_c-i_report_implementing_criteria_net_final.pdf. *More information on the CI-SFM project can be obtained at http://ci-sfm.org*

ITTO's knowledge management strategy

The improved management of its vast accumulated knowledge will help ITTO achieve its mission

by Riff Fullan
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and
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ITTO consultants

Tree of knowledge: ITTO's many outputs will form a key component of its knowledge management strategy. *Graphic: ITTO*

ITTO's project teams and project partners have accumulated immense knowledge on, for example, forest management and conservation, forest industry, the trade of timber and non-timber forest products, and issues linked to community development, biodiversity conservation, poverty alleviation and the development of small and medium-sized enterprises. In recognition of the need to make best use of this knowledge and to increase knowledge generation, exchange and learning among ITTO stakeholders, the ITTO Strategic Action Plan 2013–2018 identifies, as a priority, the development of a strategy on knowledge management (KM), as well as guidelines on KM. This article looks at the development of such a strategy for ITTO.

The KM development approach

The methodology for developing a KM strategy combined the authors' familiarity and engagement with ITTO, a deep understanding of the evolution of and prevailing wisdom on KM for development, and an approach that strove to engage the ITTO secretariat and other stakeholders in reflections on ITTO's mandate and working modalities and their significance in the development of a KM strategy. The purpose was to derive a multidimensional appreciation of the ITTO context and to begin a longer-term process of KM development that ultimately would be driven by the people and institutions most crucial to its success.

The main elements of the work were: developing a research agenda in consultation with ITTO's Planning, Monitoring and Evaluation Officer; gathering feedback on KM-related issues from key ITTO stakeholders; and drafting a KM strategy action plan based on this feedback and on the state of the art in KM for development.[1]

The three-phase KM strategy action plan, described in more detail below, aims to ensure the effective development and implementation of ITTO's KM strategy. It was developed on the basis of wide consultation both within and outside ITTO, an assessment of ITTO's current KM context, and an understanding of the kinds of learning taking place among ITTO members and partners. The implementation of the KM strategy, through the action plan, should ensure that such learning is shared effectively, and it should assist ITTO in incorporating guidance on KM obtained from its stakeholders.

What is knowledge management?

There are numerous possible definitions of the term "knowledge management". Knowledge is understood to reside mostly in the minds of people and in their individual and collective practices (in institutions, networks and communities). It can only readily be observed in its application (i.e. in physical or mental activity), and it can best be shared through action (e.g. collaborative work, on-the-job learning and training).[2]

KM is the organization of relevant information, knowledge and knowledge processes to fulfil core institutional goals. As an institutional pursuit, KM is not the creation or sharing of knowledge itself; rather, it is the management of a conducive environment in which such creation and sharing can occur among individuals and groups in the course of their work.

1 The main sources for current thinking on KM for development are listed in the references at the end of this article.
2 See Fullan (2010) for a fuller consideration of the nature of knowledge.

ITTO's current KM areas

ITTO undertakes a range of KM-related activities, such as:

- managing the production of documentation (in terms of both inputs and outputs) and implementing decisions and reporting related to the deliberations of the International Tropical Timber Council (ITTC);
- managing processes related to contracting, monitoring, evaluation and reporting on projects and activities conducted as part of the regular ITTO project cycle and the more recent thematic programs (as well as fellowships awarded to individuals);
- producing outputs on a regular basis related to sustainable forest management and the trade of tropical timber, including the *Tropical Forest Update*, the biweekly Market Information Service, and the *Annual Review and Assessment of the World Timber Situation* (now biennial); and
- undertaking various additional activities identified in the Biennial Work Programme.

Although ITTO has not previously had an explicit KM strategy, a great deal of its day-to-day work can be considered to be KM. This work has two basic components: processes, and technical infrastructure. The most significant processes in place are those that manage workflows around the deliberations of the ITTC, the production of ITTO publications, and transactions related to ITTO-supported projects and activities. The ITTO secretariat has put a number of information technology tools and platforms in place to support its work; because the various tools were created at different times and for different purposes, the overall level of interconnectedness (and technical compatibility) is limited or—in some cases—non-existent.

The main challenges to be addressed in ITTO's KM strategy are: 1) the management of information and workflows related to projects and activities; 2) the effective capitalization of experiences and learning that occur in the implementation of ITTO projects and activities; 3) making the large variety of ITTO information outputs readily accessible online; and 4) the need to develop a strategic approach to KM. The ITTO KM strategy is aimed at meeting these challenges.

Developing the ITTO KM strategy

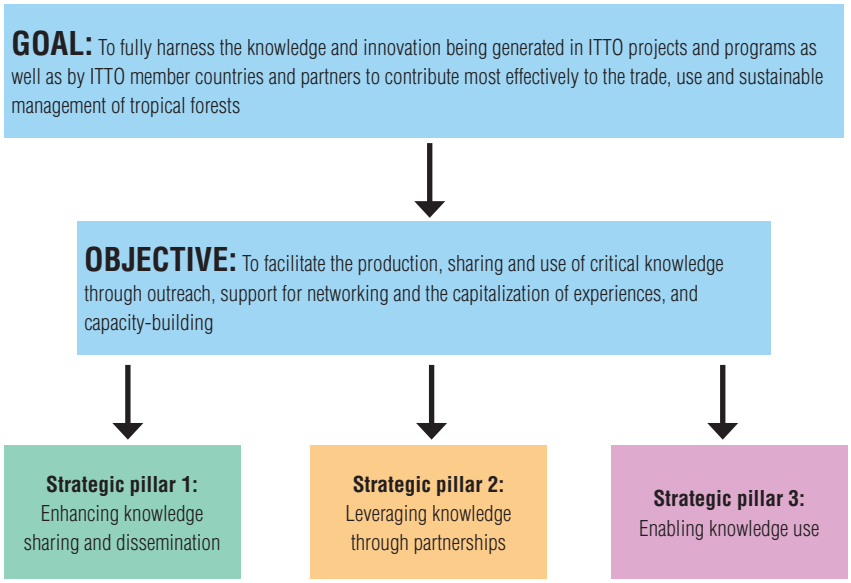
The ITTO KM strategy will make knowledge a key deliverable by which ITTO can improve its effectiveness in achieving its mission. The overall goal of the strategy is:

> To fully harness the knowledge and innovation being generated in ITTO projects and programs as well as by ITTO member countries and partners to contribute most effectively to the trade, use and sustainable management of tropical forests.

The strategy's more specific objective is to facilitate the production, sharing and use of critical knowledge through outreach, support for networking and the capitalization of experiences, and capacity-building.

The achievement of the overall goal and specific objective is supported by three strategic pillars: enhancing knowledge sharing and dissemination; leveraging knowledge through partnerships; and enabling knowledge use (Figure 1).

Figure 1: Approach to developing the ITTO KM strategy



The ITTO KM strategy action plan comprises an iterative, phased approach designed to provide opportunities for reflection and adjustment and to enable the strategy to evolve through the incorporation of new insights. The three phases are designed to culminate in a mature KM strategy spanning 2015–2018. Within this iterative approach, the main recommended actions focus on the three strategic pillars.

- **Strategic pillar 1: enhancing knowledge sharing and dissemination.** The ITTO website is by far the most significant vehicle for sharing ITTO knowledge and learning and it receives the most attention in the KM strategy action plan, followed by the creation of a wide range of ITTO knowledge outputs.
- **Strategic pillar 2: leveraging knowledge through partnerships.** This is the most underexploited area of ITTO influence. ITTO's engagement in a variety of global-level partnerships, as well as with many national and regional partners, provides a foundation on which the Organization could play a significantly stronger knowledge-brokering role, especially by facilitating, supporting and building capacity in networks and communities of practice.

- **Strategic pillar 3: enabling knowledge use.** This pillar is aimed at building appropriate knowledge capacities and institutional structures to fully realize ITTO's potential.

The full implementation of the activities of pillars 1 and 2 requires a level of capacity within ITTO that only partly exists currently and is in need of development. Pillar 3 exists to ensure that such capacities are ready to be deployed as needed.

Taken together, the recommended actions to be implemented over the three phases of the action plan will progressively anchor the KM strategy in the practices, people and institutions that constitute ITTO. They will also ensure that ITTO's KM continues to benefit from a built-in flexibility and responsiveness in the face of likely ongoing change in the institutional environment.

Putting the ITTO KM strategy into action

The ITTO KM strategy action plan comprises three phases, as follows:

Phase 1. With a duration of about four months, Phase 1 is aimed at delivering immediate benefits through activities that can be undertaken without further planning or consultation. The focus is mostly on achievables at the level of the ITTO secretariat and on creating conditions for the effective implementation of phases 1 and 2. Phase 1 involves a re-examination of the Organization's information infrastructure and related processes (strategic pillar 1) to:

- create a requirements specification for the management of core ITTO information through its website;
- identify the main additional process-related barriers to improving the flow of content to the website; and
- explore the possibilities for the online engagement of partners, members and other interested parties in dialogues and information exchange around key topics of interest to ITTO.

Phase 1 also includes actions to strengthen the knowledge-related capacities of the secretariat (strategic pillar 3), with two components: creating a mechanism for maximizing the retention of institutional memory, beginning with the secretariat; and taking a proactive approach to building the capacity of staff.

Phase 1 also involves improving the ITTO working environment by, for example, breaking down divisional "silos", enhancing the physical layout of ITTO offices, and exploring the streamlining of institutional processes and structures (strategic pillar 3). Two structural issues should be examined (together) with a view to improving links between ITTO committees, panels and the secretariat, as well as the management of information and workflow related to these entities: merging the thematic program advisory committees and the Expert Panel for Project Appraisal; and aligning the committees of the ITTC with the new secretariat structure.

Phase 2. The second phase of the KM strategy action plan is envisaged as an 8-month process that begins to tackle longer-term KM challenges that require sustained effort and the engagement of various partners. The goals of Phase 2 are to consolidate early gains, reflect on planning and experience so far, and put the main planks of Phase 3 together. It involves three sets of activities: redeveloping the ITTO website; planning targeted interventions to strengthen learning; and validating and extending the KM strategy for the remainder of the ITTO Strategic Action Plan (2015–2018). The redevelopment of the ITTO website (strategic pillar 1) in Phase 2 will build on the requirements specification created in the first phase (re-examination of information infrastructure and related processes). Targeted interventions to strengthen learning (strategic pillars 2 and 3) will include measures to emphasize the learning elements of project planning, monitoring and evaluation[3] and the identification of broader learning opportunities.

The validation and extension of the ITTO KM strategy for the remaining period of the ITTO Strategic Action Plan (supporting all three strategic pillars) are crucial for its overall development. To be robust, the KM strategy must build on earlier experiences: the secretariat, the ITTC and ITTO's partners, therefore, will need to review progress on the actions undertaken in Phase 1 and the early stages of Phase 2 in order to customize the resulting Phase 3 strategy to the Organization's needs.

Phase 3. The specific goals and activities of Phase 3 will be identified through the validation of phases 1 and 2 to generate a KM strategy for the period 2015–2018. The KM strategy should be linked closely to the ITTO Biennial Work Programme 2015–2016, the specific activities of which will provide many opportunities for implementing the KM strategy.

In general, the KM strategy should focus on facilitating collaborative learning and knowledge-sharing processes at the field, regional and global levels in 2015–2018. At the field level, ITTO-funded projects will remain the core sources of knowledge relevant to ITTO´s activities; at the regional level, opportunities for consolidation are expected to arise through, for example, the development of manuals and guidelines and the sharing of project results. At the global level, ITTO's role as a facilitator of dialogue and international cooperation among tropical timber producers and consumers on the sustainable management of tropical forests and a sustainable tropical timber trade will be strengthened through its improved KM practices

3 See Simula et al. (2001) for specific recommendations related to project planning, monitoring and evaluation.

at all levels. Activities started in previous phases, such as improved website management, the retention of institutional memory and the training of staff in KM, will continue.

Conclusion

ITTO supports a wide variety of projects and activities and manages a substantial volume of information related to the conservation and sustainable management, use and trade of tropical forest resources. It also plays an important role in linking producer and consumer countries and promoting international collaboration.

In many ways, knowledge and learning are the life-blood of ITTO. To maximize the impact of its work, therefore, it is crucial that ITTO takes a strategic approach to KM and learning. ITTO has a great deal of experience, expertise and dedication in building knowledge and learning, and the immediate challenge is to channel and build on existing knowledge resources in strategic ways. This is the aim of the ITTO KM strategy.

Rather than attempting to tackle all challenges, big and small, simultaneously and with the same level of energy and resources, the plan is to break down the required actions into a manageable and logical sequence. The actions start with the smallest and most immediate challenges and build to address the more complex and longer-term, and they are designed to bolster each other and to create what will eventually be self-sustaining momentum.

The fundamental aim is to move from providing support for traditional dialogues, project/activity collaboration and information provision towards a more networked way of working. This will move knowledge and learning to a central position in the Organization's structure and place responsibility for their generation and use in the hands of the people and institutions best placed to accomplish this.

The draft report of the ITTO knowledge management strategy and action plan (with executive summaries in French and Spanish) can be downloaded at: www.itto.int/council_documents

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Readers write

Dears Sirs,

The ITTO Tropical Forest Update, Vol. 22(2), focused on keeping track in order to monitor wood flows to mills and ports and for marketing of forest products. I would like to congratulate such efforts and I noted excellent works, as for example, the "tracking system proposed for community forests in Cameroon" (Fig. 1, p. 7) and "tracking methodology used for saw timber originating from communiity forests" (Fig. 2, p. 8) both figures presented in the article "Tracking Cameroon's FLEGT timber". However, I have some concern regarding such efforts which they raise some questions to me that I would like to share with you.

1. How much does it cost to implement and carried out such tracking systems?

2. Can people, particularly, communities afford such costs?

3. Do the community and the countries have the necessary expertise and resources to implement and carry out such systems? These complex systems generate a great opportunity to consultant companies.

4. Is the market willing to pay for the wood and forest products harvested applying these tracking systems?

5. Are agricultural products subject to such tracking systems? Why just forest activity should be submitted to such systems?

6. It seems to me that such systems lead to generate an unfavorable environment to the development of economic forest activities and, although indirectly, such efforts, by the end, contribute to conversion of forest covered areas to agricultural activities, including pasture once these activities are not subject to such bureaucratic and restrictive systems.

7. Why not to develop systems that can fit the real world? Systems that can be implemented and carried out according to actual local context and that generate and lead to a friendly environment to the development of forest economic activities?

8. Forestry activities are per se a long term activity and as such they require among other things legal stability that can assure to the entrepreneur that his activity will not become unviable due to a restriction imposed by legislation.

Regards,
Sebastiao Kengen (skengen@terra.com.br)
Brazil

Editor's note: ITTO has undertaken significant work on the issues raised in this letter, some of which may be reported in future TFUs. In the meantime, the TFU welcomes reader input (including name/email address) on this or other issues for possible publication.

Fellowship report

Population dynamics of commercial tree species after selective logging in Myanmar

by Rosy Newin

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Marked: A forest worker demarcates an experimental plot at the study site. *Photo: R. Newin*

The moist deciduous forests in the Bago Mountains of Myanmar have the best growth rates and highest stockings of teak (*Tectona grandis*) of any forest in the country (Kermode 1964). The Bago Mountain forests, including the Kabaung Reserved Forest, comprise 11.3% of the country's total teak-bearing forests (Aung Thant Zin 2000). Natural teak-bearing forests are Myanmar's primary source of forest products, and the extraction of teak and other commercial hardwood species is a major source of foreign exchange revenue.

The recruitment of tree regeneration is a critical step in securing sustained wood production in naturally managed tropical forests. Selective logging is one of the main silvicultural practices in Myanmar, and a detailed understanding of regeneration following selective logging is therefore important for sustainability. However, there is a lack of empirical studies on the impacts of logging on forest stands and tree regeneration in the Kabaung Reserved Forest. This study, which was conducted with the assistance of an ITTO fellowship grant, was designed to help fill this gap.

Objectives and study site

The study had two objectives: to determine stand structure after selective logging; and to evaluate the effect of selective logging on tree regeneration.

The Bago Mountains are located near the townships of Taungoo and Oktwin in Taungoo District in the southern part of Myanmar's central basin at approximately 18°50'–19°09'N and 95°50'–96°12'E . Natural teak-bearing forests in the Bago Mountains have been managed under the Myanmar Selection System (MSS) since 1856 (Ko Ko Gyi and Kyaw Tint 1995), and the MSS is still the main regime used for managing natural teak-bearing forests. Under the MSS, the felling cycle is 30 years, and the minimum exploitable diameters at breast height (dbh) are 73 cm in moist forests and 63 cm in dry forests. Various tending operations are carried out to help restore the forests prior to the start of the next harvest cycle. The goal of this system is to sustainably harvest teak-bearing forests every 30 years.

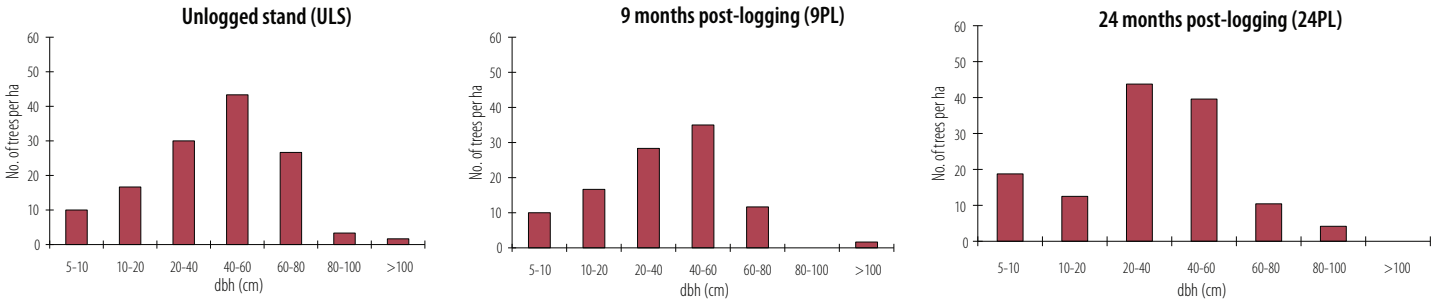
Study species

Two species were studied. Teak is Myanmar's most important species in terms of timber production and plantation development programs. It is recognized as a light-demanding species (Troup 1921), and it is resistant to fire. Pyinkado (*Xylia xylocarpa*), also known as Myanmar ironwood, is a shade-tolerant species, particularly at young stages of its lifecycle; it is a natural associate of teak but is not fire-resistant. Pyinkado is a popular commercial species because of its strength, durability and relative abundance (Thant Shin 2006). It is one of the most sought-after species in Myanmar for house and bridge construction and for railway sleepers.

Materials and methods

One sample plot (60 m x 80 m) was established in each of the following in the Kabaung Reserved Forest: an unlogged stand (ULS); a stand nine months after logging (9PL); and a stand 24 months after logging (24PL). Each of these plots was divided into twelve 20 m x 20 m subplots. In each subplot, all living trees with height ≥ 1.3 m were tagged and identified and their stem dbh was measured; shoots (<1.3 m height) were counted and tagged and their diameter and height measured. Four canopy photos using a fisheye

Figure 1: Structure of logged and unlogged stands



lens (Nikon FC-E8) were taken at a height of 1 m in interior locations in each subplot. The images were analyzed using Gap Light Analyzer (Simon Fraser University, Institute of Ecosystem Studies). The significance of differences in the density and height of shoots in subplots among disturbance types was tested by one-way ANOVA. A *post hoc* Tukey test was used to compare disturbance categories. Statistical analyses were carried out with SPSS 16.0.

Results and discussion

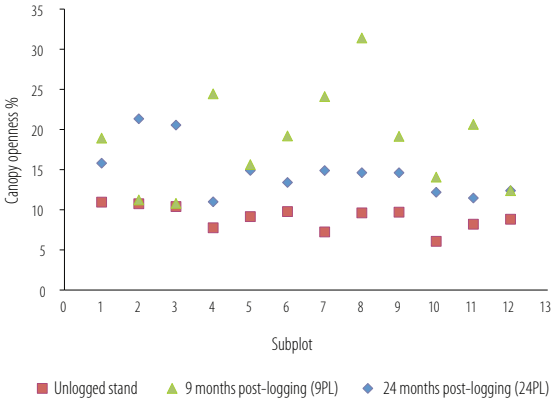
Stand structure after selective logging

Figure 1 shows the stand structure of logged and unlogged stands. The 9PL and 24PL plots contained fewer trees in the 60–80 cm diameter classes than the ULS plot, because logging had removed most trees in that diameter class (thus indicating that logging had adhered to the MSS prescription of harvesting trees with dbh ≥ 73 cm).

Canopy openness in logged and unlogged areas

Figure 2 shows that canopy openness was significantly different in the ULS plot compared with the 9PL and 24PL plots ($P < 0.05$). In most subplots, canopy openness was higher than 20% in 9PL but less than 15% in 24PL, although, overall, canopy openness in the two logged-over plots was not significantly different ($P = .082$). The lower canopy openness in 24PL compared with 9PL shows the rapid rate of canopy recovery in logged stands in Myanmar.

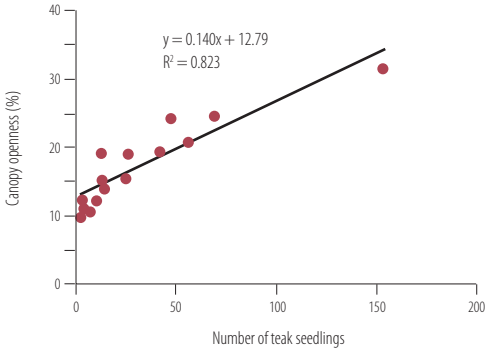
Figure 2: Canopy openness in logged and unlogged stands



Relationship between canopy openness and teak regeneration

Figure 3 shows that canopy openness is positively correlated with the number of teak seedlings, consistent with the fact that teak is a light-demanding species.

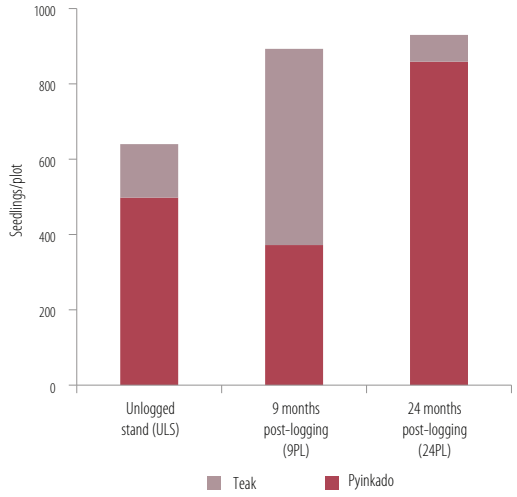
Figure 3: Canopy openness and regeneration



Density of teak and pyinkado seedlings in logged and unlogged areas

Figure 4 shows that the density of teak seedlings was highest in the 9PL plot, where canopy openness was highest. However, the density of teak seedlings was lower in the 24PL plot, and the density of pyinkado, a shade-tolerant species, was much higher.

Figure 4. Density of teak and pyinkado seedlings



Closing in: Canopy cover of moist deciduous teak forest in experimental plots, Bago Mountains, Myanmar: unlogged (left), nine months after logging (middle), and 24 months after logging. *Photos: R. Newin*

Although canopy openness was higher in the 24PL plot than the ULS plot, the density of teak seedlings at these sites was not significantly different. The density of undergrowth is highly variable in tropical moist deciduous forests, and if the canopy is opened it can become very dense, effectively preventing tree regeneration (Kermode 1964). In the study area, field observations indicated that the 24PL plot had the highest density of competing vegetation, especially bamboo seedlings, accounting for the much lower density of teak seedlings in 24PL compared with 9PL and also for the similar density of teak seedlings between ULS and 24PL.

Distribution pattern of tree seedlings in logged and unlogged areas

Figure 5 shows that the height of seedlings in the 9PL and 24PL plots was higher than in the ULS plot. This finding is consistent with the findings of Hla Maung Thein et al. (2007), who found that the combination of logging and bamboo flowering that creates high canopy openness can stimulate the recruitment of saplings into pole-sized trees. Sist and Nguyen-The' (2002) found that canopy opening from logging stimulated tree growth in the first four years after logging.

Factors affecting the future survival and growth of seedlings

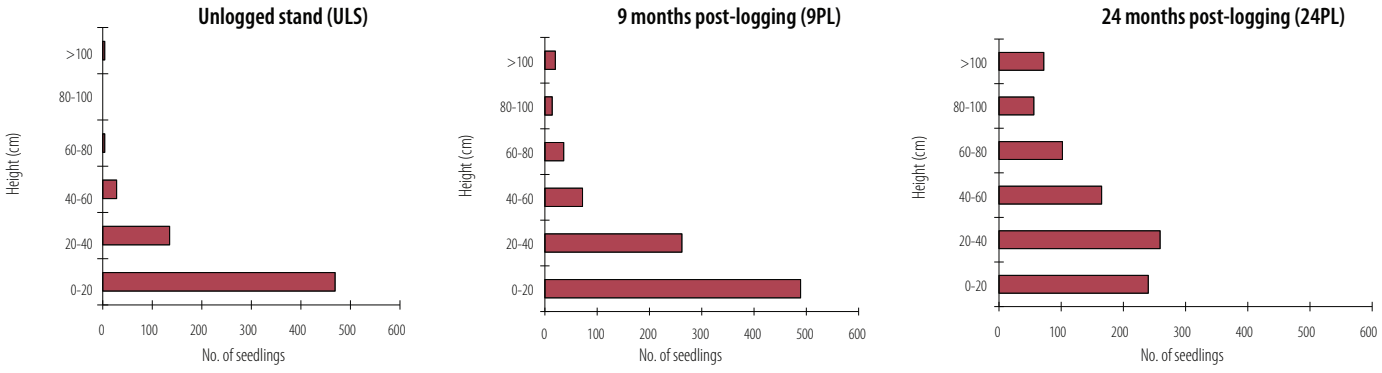
Forest fires and bamboo flowering are the two most important factors for natural forest regeneration (Ko Ko Gyi and Kyaw Tint 1995). Forest fires are normal occurrences in natural teak forests, and usually only the surface layer of litter on the forest floor burns. The fires do not cause severe damage to large, resistant trees, but they can kill small seedlings and saplings. Forest fires therefore cause reductions in the number of teak and pyinkado seedlings and consequently reduce the number of saplings and pole-sized trees (Saw Kelvin Keh 2004). However, many teak seedlings have been found to survive fire; teak is fairly resistant to the effects of fire and shows rapid recovery after fire (Troup 1921). In the early seedling stage, surface fires may destroy aboveground shoots, but the root stool produces a new shoot if rain occurs soon after the fire. If this process recurs over several years until conditions are favorable, the root will develop sufficiently to produce a vigorous shoot that can escape the damage caused by surface fires. In contrast, fires kill most pyinkado seedlings, a fire-sensitive species.

Another important factor for promoting natural regeneration in teak-bearing forests is the timing of bamboo flowering. Generally, bamboo is the main understory species in natural teak-bearing forests, and the middle layer of the study site was dominated by bamboo (according to field observations). Bamboo flowering occurs in a cycle of 30–60 years, depending on the bamboo species, after which the bamboos die. The death of a bamboo plant creates a large opening that can increase the amount of light reaching the forest floor, facilitating forest regeneration, especially of teak (Marod et al. 1999).

Conclusion

This study analyzed stand structure and tree seedling density in logged and unlogged stands. According to the stand structure analysis, the logging operations appeared to follow the standard MSS. A comparison of canopy openness in 9PL and 24PL indicated that canopy cover recovers rapidly after logging. This study provides evidence that teak had higher rates of regeneration in the 9PL plot, where light intensity was relatively high and there was a low density of competing vegetation. The number of teak seedlings was much lower in the ULS and 24PL plots compared with the

Figure 5: Structure of tree seedlings in the three plots



New fellowships

Twenty-three fellowships were awarded by the International Tropical Timber Organization in the 2013 Autumn Cycle. The newest group of fellowship recipients represents 14 different countries and includes eight female fellows. The total amount awarded to these new fellows was US$151 445. 49th Session Fellowship awardees are:

Ms. Abdullah, Azlinawati Abdullah (Malaysia) Ph.D. research on "Environmental Education for Primary School Students in Malaysia and Japan: Knowledge and Awareness of the Forest and Water" at Universiti Kebangsaan Malaysia in Selangor, Malaysia; **Mr. Akpona, Hugues Adéloui (Benin)** Preparation of Technical Document on "Integrated Analysis of the Operation of the Timber and Service in Benin: State, Projections, Prospects and Implications for Sustainable Forest Management"; **Mr. Ansah, Kingsley Bekoe (Ghana)** Manual on "Livelihoods Impact Assessment of the Ghana-EU Voluntary Partnership Agreement as a Tool to Ensure Social Safeguard of Vulnerable Group in the Timber Sector in Ghana"; **Mr. Afelu, Bareremna (Togo)** Ph.D. research on "Forest Ecosystems of Togo: Vulnerability and Adaptation to Fire" at the University of Lome in Lome, Togo; **Mr. Boakye, Mickey (Ghana)** Master's research on "Coarse Woody Debris in Post Logging Chronosequence at Bobiri Forest Reserve" at Forestry Research Institute of Ghana (FORIG)/University of Eastern Finland in Kumasi, Ghana; **Mr. Dancé, Raúl Javier (Peru)** Master's Program in Wood Science & Engineering at the Oregon State University in Corvallis, U.S.A.; **Mr. Etongo Bau, Daniel (Cameroon)** Ph.D. research on "Land Use Dynamics, Environmental Entitlements and Options for Sustainable Forest Management in Southern Burkina Faso" at Helsinki University in Helsinki, Finland; **Mr. Garcia del Aguila, Erick Robinson (Peru)** XXVI International Intensive Course on Diversified Management of Tropical Natural Forests at CATIE, Turrialba, Costa Rica; **Mr. George, Rajee (India)** Short Course in "Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) Applying System Analysis and Spatial Decision Support Tools" at ITC in University of Twente in Enschede, the Netherlands; **Mr. Ghosh, Abhishek (India)** Master's Program in Forestry at Forest Research Institute (Deemed) University in Dehradun, India; **Ms. Gusman, Elizabeth del Carmen (Ecuador)** Ph.D. research on "Functional Diversity and Phylogenetic Diversity in the Dry Forests of Southern Ecuador" at the Polytechnic University of Madrid in Madrid, Spain; **Mr. Kouame, N'goran Reymond (Côte d'Ivoire)** Master's Program in Remote Sensing and GIS at Centre Universitaire de Recherche d'Application en Télédétection (CURAT) in Abidjan, Cote d'Ivoire; **Mr. Koudegnan, Comlan Mawussi (Togo)** Ph.D. research on "Apiculture in the Combat against Climate Change in the Ecological Zone IV of Togo" at the University of Lome in Lome, Togo; **Ms. Lazos Ruíz, Adi Estela (Mexico)** Technical training in "Nursery Management, Intensive Management of Trees and Scientific Dissemination" at Botanical Garden of Rio de Janeiro in Rio de Janeiro, Brazil; **Mr. Paricha, Sanjaya Kumar (India)** International course in "Landscape Functions and People: Strategic Approaches for Climate Smart, Sustainable and Productive Landscapes" in Bangkok, Thailand organized by Wageningen UR Centre for Development Innovation, the Netherlands; **Ms. Plata Fajardo, Ana Milena (Colombia)** Terrestrial Carbon Accounting Certificate Program at the University of California, San Diego, U.S.A.; **Ms. Ramírez Pérez, Mariana (Mexico)** Participation in the 14th World Conference on Timber Engineering and Study Visit to FPI Innovations and Laval University in Quebec, Canada; **Mr. Tahnur, Muhammad (Indonesia)** Master's research on "Marketing Strategy of Molding Product by Using Raw Materials of People Forest" at Hasanuddin University of Makassar in Makassar, Indonesia; **Ms. Tchana Nyabeu, Nadege Mariette (Cameroon)** Master's research on "Domestication, Integrated Management and Study Program of Production and Marketing of Non-Timber Forest Product Neglected for Multiple Usage: Case of *Tetracarpidium conophorum*, Euphorbiaceae (Müll. Arg) Hutch & Dalz in the Village Production Systems in Cameroon" at Higher Institute of Environmental Sciences in Yaounde, Cameroon; **Mr. Teshwar, Ankush (India)** Master's Program in Forestry at Forest Research Institute (Deemed) University in Dehradun, India; **Mr. Tieyiri, Joseph Vii-kpenibe (Ghana)** Master's Program in Bio-Economy and Natural Resources & Executive Master's Program in Business Administration at Forestry Research Institute of Ghana (FORIG)/ University of Eastern Finland in Kumasi, Ghana; **Ms. Xicay Franco, Onelia Rosa María (Guatemala)** Master's Program in Integrated Management of Watershed at CATIE in Turiallba, Costa Rica; **Mr. Zung, Ting (Myanmar)** Master's research on "A Study of the Impacts of Shifting Cultivation on the Environment and Local people in Kachin State, Myanmar" at Nagoya University in Nagoya, Japan

ITTO Fellowship Program

ITTO offers fellowships through the Freezailah Fellowship Fund to promote human resource development and to strengthen professional tropical forestry and related expertise in member countries. The goal is to promote the sustainable management of tropical forests, the efficient use and processing of tropical timber, and better economic information about the international trade in tropical timber.

The next deadline for fellowship applications is August 2014 for proposed activities starting in early 2015 (exact dates will be posted on www.itto.int).

To apply or for further details, visit www.itto.int or contact Dr Chisato Aoki, ITTO Fellowship Officer; fellowship@itto.int; Fax 81 45 223 1111 (see page 2 for ITTO's postal address).

Fellowship report Cont'd from page 24

9PL plot; therefore, activities designed to increase light and control competing vegetation may be necessary in the ULS and 24PL plots to promote satisfactory teak regeneration.

Acknowledgements

The author thanks the ITTO Fellowship Programme for its financial support and the local people in the village of Kayinmathe for their kind support and collaboration during field work.

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Market trends

The EU's revised GSP scheme will have mixed impacts on tropical hardwood plywood markets, but other forces are also at work

by Mike Adams

MIS coordinator
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Amendments to the European Union (EU) Generalised System of Preferences (GSP) scheme will affect the EU's market for veneer and plywood. As of 1 January 2014, 87 of the countries under the previous scheme no longer benefit from GSP status. The GSP reduces the duties payable on imports from developing countries as a means of giving them advantageous access to EU markets.

The EU adopted a reformed GSP law on 31 October 2012 but it came into force only on 1 January 2014 to give the trade time to adapt to the new scheme. The reformed GSP is intended to focus support on countries most in need.

When discussing the changes to the GSP, the EU identified a range of imported products that had become so competitive that they no longer needed support to be exported successfully to the EU. These products will not receive GSP support between 1 January 2014 and 31 December 2016, when the list will be reviewed. Malaysia, Gabon and the Russian Federation have lost their GSP status as of 1 January 2014; EU import duties for both plywood and veneer products from these countries have therefore increased to 3.5–7%.

Cameroon, Côte d'Ivoire and Ghana have also lost their GSP status, but these countries have other trade arrangements in place with the EU. Brazil lost its GSP status, but this will not change anything for that country's wood products (i.e. those listed in Chapter 44 of the Harmonized Commodity Description and Coding System) because they were already specifically excluded from the GSP, having achieved a sustained significant volume of trade to the EU.

Countries retaining their GSP status under the reformed GSP scheme include the Democratic Republic of the Congo, Liberia and Myanmar. China also retains its GSP status but, as with Brazil, this specifically excludes wood products listed in Chapter 44, so effectively there is no change.

EU GSP+ to improve business environment

The driving philosophy behind the changes to the EU GSP was the realization that, given the rise of emerging economies, the traditional grouping of "developing countries" was outdated and that tailor-made trade and development policies were needed that go beyond tariff reductions to tackle the major problem of improving the "business environment".

Many people see the EU GSP scheme as a powerful tool for economic development by providing the world's poorest countries with preferential access to the EU's market of 500 million consumers. The new scheme will have fewer beneficiaries (90 countries) to obtain more impact in those countries most in need. At the same time, "GSP+" will provide more support to countries that are serious about implementing international human rights, labour rights, environment and good governance conventions.

To help smooth the transition for exporting companies, the European Commission has prepared a practical GSP guide explaining the trade regime that now applies to particular products shipped to the EU from a given country. The guide (available at www.trade.ec.europa.eu/doclib/docs/2013/december/tradoc_152012.pdf) also provides information on the trade regime that applies to goods arriving in the EU as of 1 January 2014.

The EU GSP changes in a nutshell

- Of the current 177 beneficiary countries, 90 will continue to benefit from the EU GSP.
- 67 countries will benefit from other arrangements that provide privileged access to the EU but will no longer be part of the GSP.
- 20 countries will stop benefiting from preferential access to the EU. These countries are now high and upper-middle income countries and their exports will attract the same tariffs applicable to all other developed countries.

For more information see www.trade.ec.europa.eu/doclib/press/index.cfm?id=773.

EU tropical plywood imports down

The EU imported 214 100 m^3 of tropical hardwood plywood in the first nine months of 2013, 4.2% lower than in the same period in 2012. Tropical plywood imports from China increased by 10%, to 79 000 m^3, and those from Indonesia were stable, at 54 000 m^3. Volumes fell, however, from Malaysia (by 8.4%, to 29 700 m^3) and Gabon (by 9.2%, to 28 900 m^3). Imports of tropical hardwood plywood rose in Belgium, the UK and France but declined in Germany, Italy and the Netherlands.

The EU imported 1.39 million m^3 of plywood faced with other (non-tropical) hardwoods in the period January–September 2013, which was 5.1% lower than in the same period in 2012. Figure 1 shows that the EU's imports from China declined substantially, but those from the Russian Federation increased slightly.

Patchy demand for Chinese plywood

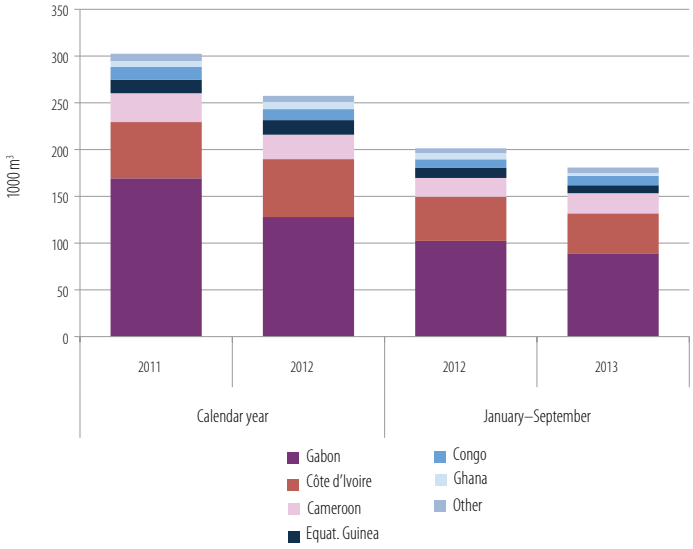
The volume of plywood imported into the EU from China in the nine-month period January–September 2013 was 632 600 m^3, 10.8% lower than in the same period in 2012. European demand for hardwood plywood manufactured in China was patchy in the second half of 2013.

Various issues contributed to uncertainty in the hardwood plywood market during the period. Freight rates were volatile. In August, China imposed a 6% VAT requirement on both the costs incurred between the mill and the ship and on prepaid freight. Wet weather in some parts of China in autumn led to delays in eucalyptus and poplar logging. This, in turn, added to the cost of transportation for those mills forced to source logs from greater distances. The market also continued to be affected by concern for legality verification following enforcement of the EU Timber Regulation. European importers concentrated their purchases on larger Chinese mills, which were better able to provide legality documentation.

Figure 1: EU27 imports of other hardwood plywood, by main producer country

Source: FII Ltd analysis of Eurostat data

Figure 2: EU27 imports of tropical hardwood veneer, by main producer country



Source: FII Ltd analysis of Eurostat data

Upturn in EU demand for Malaysian plywood

While imports of Malaysian plywood into the EU declined in January–September 2013, reports suggest that there was a slight upturn in demand in the last quarter of the year. This was particularly true of Belgium, Germany and the UK, while demand in France and the Netherlands remained low.

The short-term increase in demand in parts of Europe helped lengthen delivery times for Malaysian plywood. As they did for Chinese plywood, volatile container rates led to significant variations in CIF prices for Malaysian plywood delivered to Europe, although FOB prices remained quite stable.

Prices for Malaysian plywood are typically up to one-third higher than prices for Chinese substitutes. However, there is rising interest in Malaysian plywood among importers, who are seeking products guaranteed to meet European technical performance standards.

Enforcement of the EU Construction Products Regulation from 1 July 2013 means that CE-Marking demonstrating conformance to the EN13986 standard is now mandatory for all plywood used in structural applications in the EU. Importers were also keen to beat the rise in import duties on Malaysian plywood following the change in GSP status as of 1 January 2014.

EU market for okoume plywood still very slow

Expectations that orders for okoume plywood manufactured in Gabon might pick up in the second half of 2013 in advance of the rise in import duties from 1 January 2014 were not realised. Demand for okoume plywood in Europe remained very weak, with slow buying in both the French and Dutch construction sectors. There was also little or no recovery in demand for okoume plywood in the Italian boat-manufacturing sector in 2013.

Margins in the European okoume plywood manufacturing sector are extremely thin. In the face of slow demand, French manufacturers have been unable to raise selling prices. Despite low demand, delivery times for okoume plywood into the EU market increased due to log supply and transport problems in Gabon over the summer months and a significant reduction in production, both in Europe and Gabon. This was particularly true of products certified by the Forest Stewardship Council (FSC), for which there has been slightly firmer demand since the coming into force of the EU Timber Regulation in March 2013.

Tropical hardwood veneer imports down

The EU imported 180 800 m³ of hardwood veneer in January–September 2013, down by 10.2% compared with the same period in 2012. Imports from Gabon fell by 13%, to 89 100 m³, and imports from Côte d'Ivoire were down 9.5%, to 42 700 m³. These losses were only partly offset by a rise in imports from Cameroon, which were up by 7.3%, to 21 500 m³, in the period (Figure 2).

Imports of tropical hardwood veneer into France declined by 14.9%, to 75 100 m³, in January–September 2013, and imports into Spain fell by 12.1%, to 24 100 m³. However, after a very weak 2012, there was a 17.7% rise in imports into Italy in January–September 2013, to 41 100 m³.

The decline in EU imports of tropical hardwood veneer in January–September 2013 was due partly to weak demand in end-use sectors for decorative sliced products. Sales to the European door and furniture manufacturers were weak all year. There has also been only slow demand from projects featuring large interiors, such as hotel, shop and bank refurbishments.

While sales of sliced veneers to board manufacturers and higher-value speciality sectors such as automobile and yacht manufacturing are relatively stable, these have been insufficient to offset declines in the larger industrial sectors. In fact, an increase in sales for veneered board manufacturers may have been partly at the expense of direct sales of veneers to joiners. Prices for sliced veneer are under intense pressure in the European market.

The market situation is little better for rotary tropical hardwood veneers used for plywood and flooring manufacturing in Europe. Market conditions in the European engineered wood-flooring sector remain weak, and there is a continuing trend to substitute alternative materials for tropical woods.

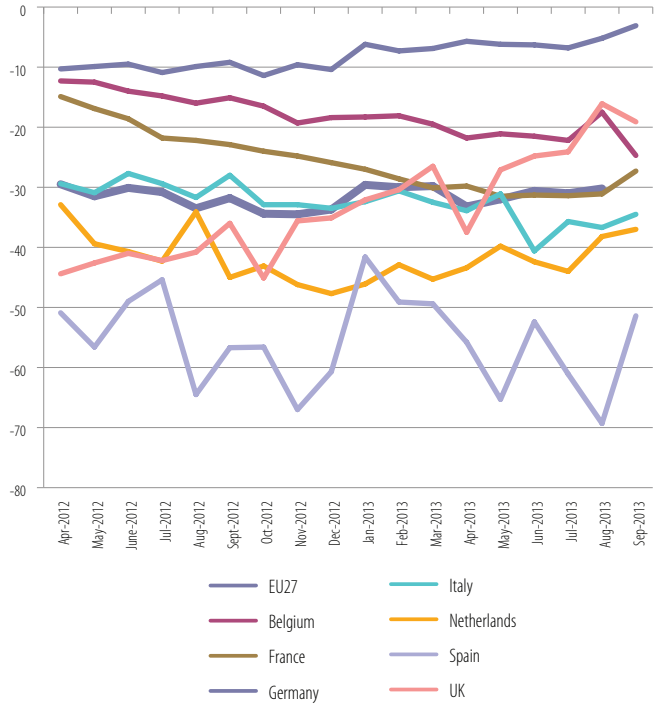
The EU imported 127 900 m^3 of temperate hardwood veneers in January–September 2013, 5.9% down on the same period in 2012. Due to recent inward investment, the Ukraine is becoming a more important external supplier of hardwood veneer to the EU. According to data from the United Nations Economic Commission for Europe's Committee on Forests and Forest Industry, veneer production in the Ukraine has been rising in recent years and the country is exporting a wide range of sliced, rotary and reconstituted (fine-line) veneers into the EU. In January–September 2013, imports from the Ukraine were 31 100 m^3, 4.7% up on the same period in 2012.

Meanwhile, EU imports of temperate hardwood veneer from the United States fell by 4.3%, to 29 200 m^3, and those from the Russian Federation fell by 9.2%, to 20 400 m^3. Temperate hardwood veneer imports rose in Austria, Germany and Poland but fell in Italy and Spain.

New report indicates long-term decline in European construction

Demand for plywood and veneer is closely linked to activity in the construction and house-building sectors, and a recent report suggests only poor prospects for long-term growth in these sectors in Western Europe. *Global construction 2025* by research firms Global Construction Perspectives and Oxford Economics predicts that the region's construction market will be 5% smaller in 2025 than in 2007 because of the combined impact of declining real wages and increasing unemployment, which are having a negative impact on house-building; moreover, high levels of public debt will restrict the availability of funds for public investment in infrastructure. The report forecasts that construction output growth will struggle to reach 2% in any year between now and 2025. Figure 3 shows the low level of confidence of the construction sector in almost all EU countries.

Figure 3: Eurostat construction confidence index



Source: Eurostat

The news is better for the UK, however, because of a pressing need there for new homes and renewed infrastructure and also the apparent willingness of Chinese and Middle Eastern sovereign wealth funds to invest in UK infrastructure and real estate. *Global construction 2025* forecasts that UK construction output will grow by an average of 2.1% per year to 2025 and concludes that, by 2025, the size of the UK market will rival that of Germany's, with outputs of US$315 billion and US$342 billion, respectively.

There are also good prospects in Eastern Europe, where the population is expected to decline by an average of 0.2% per year to 2025. *Global construction 2025* predicts that strong economic growth will lead to increased construction demand in the subregion and that construction output will grow by 4.6% per year (on average) to 2025, marginally higher than the global average. There will be marked differences among Eastern European countries, however. The best performers, the Russian Federation and Turkey, are predicted to obtain average annual growth exceeding 5%. The Russian Federation is expected to move from being the ninth-largest construction market in the world in 2012 to the sixth-largest by 2025. Growth in Turkey is forecast to be higher than in the Russian Federation, driven by rapid urbanization and the need to replace and upgrade the country's housing stock.

Recently funded projects

Funding of the projects and pre-project summarized below was announced at the 49th session of the International Tropical Timber Council in November 2013. Further details including full project documents are available on www.itto.int. In addition to these projects, funding of over US$7 million was announced for various activities under the 2013-2014 ITTO Biennial Work Programme (BWP), most notably a nearly US$5.5 million grant from the European Union to implement an independent market monitoring system for legal timber being placed on the EU market under its FLEGT-licensing scheme. More details on these BWP activities will be provided in the next issue of the TFU.

Promotion of sustainable management of African forests, Phase III Stage 2

Project number: PD 124/01 Rev.4 (M) (III 2)

Budget: Japan: US$600 000
ITTO total: US$600 000

Implementing agency: ITTO

This project was formulated pursuant to ITTC Decision 4(XXIX) to develop a framework of cooperation between ITTO and the ATO for the promotion and application of the ATO/ITTO principles, criteria and indicators for the sustainable management of African forests, with the aim of promoting credible assessment and certification systems. With the demise of ATO as an operational entity, the project has been implemented by ITTO since 2012, an arrangement that will continue for this penultimate stage of the project (see related article, page 11).

Forest seeds management and conservation: rehabilitation and restoration of degraded forests in Côte d'Ivoire with the involvement of local communities (refugees, internally displaced people and local populations)

Project number: PD 419/06 Rev.3 (F) EXT.-TICAD5

Budget: Japan: US$1 800 000
ITTO total: US$1 800 000

Implementing agency: Société de Développement des Forêts (SODEFOR)

The project will include the rehabilitation of 2000 ha of forest land degraded during Côte d'Ivoire's civil strife from 2002-2011. Rehabilitation activities will be undertaken through the establishment of taungya agroforestry plantations with the involvement of local populations (displaced persons and refugees), the production and dissemination of high-quality seeds and seedlings to local communities, the subcontracting of forest rehabilitation work to local communities and the distribution of processing equipment for the marketing of food products to improve the living conditions of these communities.

Strengthening mangrove ecosystem conservation in the biosphere reserve of north-western Peru

Project number: PD 601/11 Rev.3 (F)

Budget: Japan: US$490 067, USA: US$6 223
ITTO total: US$496 290

Implementing agency: Mecanismos de Desarrollo Alterno (Alternative Development Mechanisms)

The main activities to be implemented in this project are: training of regional and local government officers in environmental standards and regulations; legal recognition of new protected areas in mangrove ecosystems; strengthening the management of the natural protected area of Tumbes Mangroves; implementation of participatory management mechanisms; training of local communities in resource management and environmental education campaigns; studies for the establishment of revenue-raising mechanisms to ensure mangrove-forest sustainability; and the promotion and support of business plans for the use of resources in ways that help mitigate threats to mangrove ecosystems.

Tropical forest governance in the region of Darien, Panama

Project number: PD 602/11 Rev.3 (F)

Budget: Japan: US$300 402, USA: US$50 000
ITTO total: US$350 402

Implementing agency: WWF – Panama office

The main aim of this project is to support the implementation of the national Strategy for Illegal Logging Prevention and Control. Illegal logging is widespread in the country, and its negative effects hinder sustainable forest management through unfair price competition and the non-payment of stumpage fees and also lead to the loss of forest cover and biodiversity, including in the Darien National Park and other protected areas.

Development of quality-of-governance standards for reducing emissions from deforestation and forest degradation (REDD) in Papua New Guinea

Project number: PD 682/13 Rev.1 (F)

Budget: Japan: US$149 744
ITTO total: US$149 744

Implementing agencies: Australian Centre for Sustainable Catchments at the University of Southern Queensland, in close collaboration with the PNG Forest Authority

The development objective of this project is to strengthen the governance of REDD+ strategy development and implementation in Papua New Guinea to achieve climate-change mitigation and national development goals through the sustainable management and enhancement of forest resources.

Strengthening the performance of the wood-processing sector in Guyana through building local capacity and the enhancing of national systems that promote forest products trade and sustainable utilization of forest resources

Project number: PD 687/13 Rev.1 (I)

Budget: Japan: US$200 068, USA: US$50 000
ITTO total: US$250 068

Implementing agency: Guyana Forestry Commission

This project will help build the capacity of stakeholders (management, operators and regulators) in the forest sector to improve sustainability, efficiency and competitiveness and enhance the national system for inspection and certification that will facilitate the local sale and export of lumber.

Implementation and operationalization of a national information system for the sustainable management of forest resources (Côte d'Ivoire)

Project number: PD 692/13 Rev.1 (M)

Budget: Japan: US$205 708, USA: US$84 833
ITTO total: US$290 541

Implementing agency: Department of Information Technologies, Statistics and Archives at the Ministry of the Environment, Water and Forests

The implementation of this project will achieve the full computerization of the forest statistics data collection and processing system and thereby contribute to improving decision-making in the forest sector.

Community-based restoration and sustainable management of vulnerable forests of the Rewa Delta, Viti Levu (Fiji)

Project number: PD 696/13 Rev.2 (F)

Budget: Japan: US$310 576
ITTO total: US$310 576

Implementing agency: Fiji Department of Forests, Ministry of Fisheries and Forests

This project seeks to reduce pressure on vulnerable forests through the establishment of demonstration sites for the rehabilitation and sustainable management of coastal and mangrove wetlands. The target communities are in the provinces of Rewa and Tailevu.

Promoting conservation of selected high-value indigenous species of Sumatra

Project number: PD 710/13 Rev.1 (F)

Budget: Japan: US$479 976
ITTO total: US$479 976

Implementing agency: Forest Research Institute, Forestry Research and Development Agency, Indonesian Ministry of Forestry

The overall objective of this project is to contribute to the sustainable management, conservation and use of high-value indigenous species in Sumatra. The specific objective is to improve conservation by revitalizing the existing conservation and regeneration program and increasing control of the harvesting of high-value Sumatran tropical indigenous species.

Recent editions

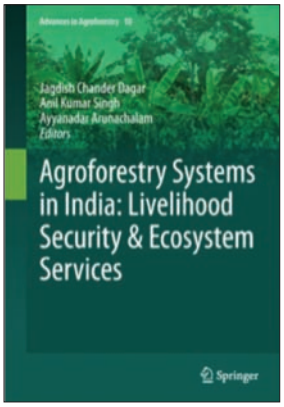
Compiled by Ken Sato

Pretzsch, J., Darr, D., Uibrig, H. and Auch, E. eds., 2014. *Forests and rural development.* Springer Dordrecht, Heidelberg, New York and London.

ISBN (print): 978-3-642-41403-9; ISBN (ebook): 978-3-642-41404-6

Available at: www.springer.com/life+sciences/forestry/book/978-3-642-41403-9

This book provides an overview of the complex challenges and opportunities related to forest-based rural development in the tropics and subtropics. Applying a socioecological perspective, the book traces the changing paradigms of forestry in rural development, summarizes the major aspects of the rural development challenge in forest areas, and documents innovative approaches in fields such as land use, technology and organizational development, rural advisory services, financing mechanisms, participative planning, and forest governance. Calling for an approach that balances market forces with government interventions, the book shows that forests in rural areas have the potential to provide a solid foundation for a green global economy.



Dagar, J.C, Singh, A.K. and Arunachalam, A. 2013. *Agroforestry systems in India: livelihood security & ecosystem services.* FAO Forestry Advances in Agroforestry, Vol. 10. Springer Dordrecht, Heidelberg, New York and London.

ISBN (print): 978-81-322-1661-2; ISBN (ebook): 978-81-322-1662-9

Available at: www.springer.com/life+sciences/book/978-81-322-1661-2

This book, the first attempt to compile Indian research on agroforestry, represents a bold step towards authoritative accounts of agroforestry in different ecoregions of South and Southeast Asia. It will be useful for researchers, scientists, students and policymakers, not only those involved in the discipline of agroforestry but also those in related disciplines, such as agriculture, fisheries, forestry, biological sciences, environmental sciences (including climate change), natural resource management, ecology and social sciences.

Baycheva, T., Inhaizer, H., Lier, M., Prins, K. and Wolfslehner, B., eds. 2013. *Implementing criteria and indicators for sustainable forest management in Europe.* European Forest Institute, Joensuu, Finland, and Barcelona, Spain.

ISBN (print): 978-952-5980-04-2; ISBN (ebook): 978-952-5980-05-9

Available at: www.efi.int/files/attachments/publications/efi_c-i_report_implementing_criteria_net_final.pdf

This report is based on a European Forest Institute project on implementing criteria and indicators for sustainable forest management (C&I) in Europe (see article on page 15). It provides a guide through the various development phases and uses of C&I, starting by exploring their general conceptual base and finishing with an analysis of the pan-European experience spanning more than ten years. The report provides solid background information for future decisions, including on a potential revision of the pan-European C&I and improving their use as a tool to facilitate the implementation and communication of sustainable forest management at all levels.

Recently funded projects Cont'd from page 29

Capacity building on reduced impact logging (RIL) in dry inland forest in the permanent forest of Peninsular Malaysia

Project number: PD 722/13 Rev.1 (I)

Budget: Japan: US$226 041

ITTO total: US$226 041

Implementing agency: Forestry Department of Peninsular Malaysia

The objective of this project is to strengthen human resource development in Peninsular Malaysia through a capacity-building program to produce an adequate number of qualified skilled personnel, both on the staff of state forestry departments and in the private sector. The project will focus on personnel training and will concentrate on activities such as field-training for forest workers and seminars for professional development.

Feasibility study on the certification of ONAB's national plantation estates (Benin)

Project number: PPD 167/13 Rev.1 (M)

Budget: USA: US$68 794, Republic of Korea: US$20 000

ITTO total: US$88 794

Implementing agency: Office Nationale du Bois (ONAB)

This pre-project aims to contribute to the sustainable management of forest resources through the certification of forest products from natural forests and plantations in Benin under sustainable management plans. Specifically, it aims to gather the necessary information for formulating a project proposal to promote forest certification in Benin.

Development of a program to strengthen the traceability of legally sourced forest products in Guatemala

Project number: TFL-PPD 040/13 Rev.2 (M)

ITTO total budget: US$ 74,586

Implementing agency: Instituto Nacional de Bosques (INAB)

It is estimated that more than 95% of forest product flows in Guatemala are extracted out of the control of the government. The lack of information on the domestic market for forest products is widespread and leads to a lack of transparency. This pre-project, funded under ITTO's TFLET thematic programme in 2013, aims to:

- improve the traceability and legality of forest products from Guatemalan forests; and
- analyze the traceability and legality conditions of forest products in Guatemala and develop a project proposal to establish effective monitoring and control mechanisms.

Topical and tropical

Compiled by Ken Sato

Colombia to protect remote region bordering Venezuela

The Colombian government is reportedly planning to create a new protected area in a remote part of the country bordering Venezuela. According to *El Espectador*, Colombia's President Juan Manuel Santos plans to declare an area of the *Estrella Fluvial de Inirida* river a Ramsar Wetland of International Importance. The Ramsar designation would effectively prohibit mining in 253 000 hectares of the wetlands in the Guainia region. Guainia is home to at least 15 indigenous communities and a wealth of wildlife, including at least 470 fish species, some of which are exported for the freshwater aquarium trade. Mining is seen as the region's biggest challenge in conserving habitat and biodiversity.

Source: www.news.mongabay.com/2014/0113-colombia-estrella-fluvial-del-inirida.html

African countries unite against illegal timber trade in Congo Basin

Governments of Africa's main timber-producing countries, the timber industry and civil-society organizations have agreed to jointly combat illegal timber trade in the Congo Basin, FAO announced after an international wood industry meeting in Brazzaville, Republic of the Congo, last October.

By adopting the Brazzaville Declaration in October, representatives of six African countries—the Republic of the Congo, Cameroon, the Central African Republic, the Democratic Republic of the Congo, Côte d'Ivoire and Gabon—the timber industry and civil-society organizations committed to the sustainable and legal development of the wood industry in the region.

Source: www.fao.org/forestry/eu-flegt/84682/en

Mangroves lose ground in Myanmar

Mangrove cover in Myanmar's Ayeyarwady Delta declined by nearly two-thirds between 1978 and 2011, leaving coastal areas more vulnerable to disasters such as Cyclone Nargis, which killed 138 000 people in 2008, according to a recent study in *Global Environmental Change*.

The research, which is based on remote sensing and field data, found that dense mangrove cover in the Ayeyarwady Delta declined from 2623 km² in 1978 to less than 1000 km² in 2011, an annual deforestation rate of 3% over the period. Most of the mangrove loss was due to agricultural expansion, primarily for rice production.

Source: www.news.mongabay.com/2013/1126-myanmar-mangroves.html

Cameroon grants lease for new oil-palm plantation

The Government of Cameroon has granted a three-year provisional lease for an oil-palm project, according to mongabay.com. The project, by US-based Herakles Farms, involves the conversion of 20 000 ha of land to oil-palm plantations, less than one-third of the 73 000 ha the company had originally hoped to turn into oil palm. Environmental groups oppose the project, claiming that it will destroy wildlife-rich forest. The project was halted last May by Cameroon's Ministry of Forestry and Wildlife due to environmental concerns.

Source: www.news.mongabay.com/2013/1126-herakles-approved-in-cameroon.html

Oil-palm company fined US$30 million for destroying orangutan forest

An Indonesian court has fined an oil-palm company for violating environmental laws when it cleared protected peat forest that is a stronghold for endangered orangutans in Indonesia's Aceh Province.

In January 2014, the Meulaboh District Court concluded that PT Kallista Alam had illegally cleared and burned forest within the protected Tripa peat swamp in northwestern Sumatra. The company has been ordered to pay 114.3 billion rupiah (US$9.4 million) in compensation and 251.7 billion rupiah (US$20.6 million) to restore damaged areas.

By moving forward with forest clearing without proper permits or sign-off by nearby communities, Kallista Alam violated a nationwide moratorium on new plantation and logging concessions, a presidential decree on the conversion of peat moss areas, and the sanctity of a high-conservation-value area known for its orangutan population. The actions sparked international outrage, with more than 1.5 million people signing online petitions calling for greater protection of Aceh's forests.

Source: www.news.mongabay.com/2014/0109-aceh-tripa-court-decision.html

Older trees grow faster and store more carbon

A study reported in the journal *Nature* has found that, for most species, bigger trees increase their growth rates and sequester more carbon as they age. An international research group reported that 97 percent of 403 tropical and temperate species studied grow more quickly the older they get. The research group used records from studies on six continents involving repeated measurements of 673 046 individual trees, some data series going back more than 80 years. Large, old trees do not act simply as senescent carbon reservoirs, reported the research group, but actively fix large amounts of carbon compared with smaller trees, contrary to long-standing beliefs that large old trees are unproductive. While the finding applies to individual trees, it may not hold true for stands of trees, said the research group.

Sources: www.sciencedaily.com/releases/2014/01/140115132740.htm; www.nature.com/nature/journal/vaop/ncurrent/full/nature12914.html

Meetings

20 March 2014
World Forests Summit 2014
Stockholm, Sweden
Contact: www.economistinsights.com/sustainability-resources/event/world-forests-summit-2014

25-29 March 2014
10th Session of the Intergovernmental Panel on Climate Change (IPCC) Working Group II and 38th Plenary Session of the IPCC
Yokohama, Japan
Contact: IPCC-Sec@wmo.int; www.ipcc.ch

2-4 April 2014
Forest Change 2014
Freising, Germany
Contact: knoke@forst.wzw.tum.de; www.fchange2014.wzw.tum.de

7-10 April 2014
International Forum on Payments for Ecosystem Services from Tropical Forests
San Jose, Costa Rica
Contacts: ma@itto.int; eva.muller@fao.org; www.fao.org/forestry/84884/en/

7-12 April 2014
12th Session of IPCC Working Group III and 39th Plenary Session of the IPCC
Berlin, Germany
Contact: IPCC-Sec@wmo.int; www.ipcc.ch

4-8 May 2014
21st meeting of the CITES Plants Committee
Veracruz, Mexico
Contact: www.cites.org

5-6 May 2014
Forest Asia Conference
Jakarta, Indonesia
Contact: Adinda Hasan, a.hasan@cgiar.org; www.cifor.org/forestsasia

13-15 May 2014
Sustainable Resource Management for Climate Change Mitigation and Social Security
Chandigarh, India
Contact: www.ists.in/newsdetails.php?nid=21

14-17 May 2014
Insects to Feed the World
Ede, Netherlands
Contact: www.wageningenur.nl//en/show/Insects-to-feed-the-World.htm

15-16 May 2014
Wilder By Design? Managing Landscape Change and Future Ecologies
Sheffield, UK
Contact: info@hallamec.plus.com; www.ukeconet.org/events/event/wilder-by-design

21-23 May 2014
3rd Expoforest 2014
São Paulo, Brazil
Contact: expoforest@expoforest.com.br; www.expoforest.com.br

25-30 May 2014
46th Council Meeting and Assembly of the Global Environment Facility
Cancun, Mexico
Contact: secretariat@thegef.org; www.thegef.org

4-6 June 2014
3rd Forest Science Forum and 12th International Conference on Bio-based Composites in Pan-Pacific Region
Beijing, China
Contact: Feng Caiyun, bjmaryfeng@163.com

4-6 June 2014
Carrefour International du Bois
Nantes, France
Contact: www.timbershow.com

8-14 June 2014
20th World Congress of Soil Science
Jeju, Republic of Korea
Contact: www.20wcss.org

10-11 June 2014
55th Session of the FAO Advisory Committee on Sustainable Forest-based Industries
St Petersburg, Russian Federation
Contact: www.fao.org/forestry/industries/9530/en

16-20 June 2014
5th Meeting of the Working Group on Review of Implementation of the Convention on Biological Diversity
Montreal, Canada
Contact: secretariat@cbd.int; www.cbd.int/meetings

23-27 June 2014
22nd Session of the FAO Committee on Forestry
Rome, Italy
Contact: peter.csoka@fao.org; www.fao.org/ forestry/57758/en/

23-27 June 2014
57th International Convention of the Society of Wood Science and Technology: Sustainable Resources and Technology for Forest Products I
Zvolen, Slovakia
Contact: Victoria Herian, vicki@swst.org; www.swst.org/meetings/AM14

7-11 July 2014
65th meeting of the CITES Standing Committee
CICG, Geneva, Switzerland
Contact: www.cites.org

21-23 July 2014
International Poplar Symposium VI
Vancouver, Canada
Contact: www.2014ipsvi.com

6-21 August 2014
42nd International Forestry Students' Symposium
British Columbia, Canada
Contact: www.ifss2014.ca

10-14 August 2014
World Conference on Timber Engineering
Quebec City, Canada
Contact: wcte2014@agoracom.qc.ca; www.wcte2014.ca

18-22 August 2014
Traveling Workshop on Changing Forests Dynamics in Harsh Environments
Quebec City, Canada
Contact: Jacques Larouche, Jacques.larouche@nrcan.gc.ca; www.cef-cfr.ca

25-28 August 2014
8th International Forest Vegetation Management Conference
Halmstad, Sweden
Contact: www.treesandstars.com/vmc8

25-29 August 2014
2014 IUFRO Forest Tree Breeding Conference
Prague, Czech Republic
Contact: iufrobreeding2014@guarant.cz; www.iufrobreeding2014.org

22-23 September 2014
2014 World Conference on Indigenous Peoples
New York, USA
Contact: www.undesadspd.org/IndigenousPeoples/WorldConference.aspx

23-25 September 2014
5th Biomass Pellets Trade & Power Event
Seoul, Republic of Korea
Contact: www.cmtevents.com/aboutevent.aspx?ev=140916; hafizah@cmtsp.com.sg

23-26 September 2014
5th Forest Engineering Conference and 47th International Symposium on Forestry Mechanisation
Gerardmer, France
Contact: fec2014@fcba.fr; fec2014.fcba.fr

24-26 September 2014
3rd International Conference on Processing Technologies for the Forest and Bio-based Products Industries
Kuchl/Salzburg, Austria
Contact: Marius Barbu, marcat@gmx.at; ptfbpi2014.fh-salzburg.ac.at

27-30 September 2014
International Conference on Forests, Soils and Rural Livelihoods in a Changing Climate
Dhulikhel, Nepal
Contact: www.ku.edu.np/env/index.php?go=news

29 September-3 October 2014
Seventh meeting of the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety
Pyeongchang, Republic of Korea
Contact: www.cbd.int

5-11 October 2014
XXIV IUFRO World Congress: Sustaining Forests, Sustaining People: The Role of Research
Salt Lake City, USA
Contact: www.iufro2014.com

6-17 October 2014
Twelfth meeting of the Conference of the Parties to the Convention on Biological Diversity and First meeting of the Conference of the Parties serving as the meeting of the Parties to the Nagoya Protocol on Access and Benefit-sharing
Pyeongchang, Republic of Korea
Contact: www.cbd.int

14-16 October 2014
2nd Restoring Forests Congress: What Constitutes Success in the 21st Century?
Lafayette, USA
Contact: www.purdue.edu/fnrrf

20-24 October 2014
VI Latin American Forest Congress "Latin America in harmony with the sustainability of the forest resources and the environment"
Michoacan, Mexico
Contact: conflat.mexico2014@gmail.com

22-24 October 2014
IARU Sustainability Science Congress
Copenhagen, Denmark
Contact: Niels Elers Koch, nek@life.ku.dk; www.sustainability.ku.dk/iarucongress2014

3-8 November 2014
50th Session of the International Tropical Timber Council and Associated Sessions of the Committees
Yokohama, Japan
Contact: itto@itto.int; www.itto.int

4-7 November 2014
2014 ForestSAT conference
Riva del Garda, Italy
Contact: www.forestsat2014.com

12-19 November 2014
IUCN World Parks Congress
Sydney, Australia
Contact: www.worldparkscongress.org

26-28 November 2014
First International Environmental Forum for Basin Organizations
Bangkok, Thailand
Contact: www.unep.org/delc/forumbasinorganizations/tabid/102143/Default.aspx

1-12 December 2014
UNFCCC COP 20/CMP 10 - Twentieth session of the Conference of the Parties and the tenth session of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
Lima, Peru
Contact: www.unfccc.int/meetings/rio_conventions_calendar/items/2659.php

27 June-1 July 2015
10th World Bamboo Congress: Bamboo for a Greener Future
Damyang, Republic of Korea
Contact: Susanne Lucas, susannelucas@gmail.com; www.worldbamboocongress.org

7-11 September 2015
XIV Forestry World Congress
Durban, South Africa
Contact: WFC-XIV-info@fao.org

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