



# TROPICAL FOREST

## U · P · D · A · T · E

A Newsletter from the International Tropical Timber Organization to Promote Conservation and Sustainable Development of Tropical Forests

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## The Certification Question

Some time ago this editorial suggested that the emerging timber certification phenomenon was like a butterfly flapping its wings – it could start a chain of events that might lead to a forest policy hurricane.

Six years later we're yet to see a hurricane, but the certification breeze is certainly causing a stir. The reason for this can be seen on the Forest Stewardship Council website (and see profile on page 20): the area of FSC-accredited certified forest had reached 16.9 million hectares by the end of February this year – and is growing rapidly.



Forest operations in this concession near Itacoatiara in the Brazilian Amazon are certified. Photo: A. Sarre

Certification is now considered an important element in the development of international forest policy. Kanowski and his co-authors canvass outstanding issues on pages 2–6 and outline the range of policy responses that might be made by the international community. On page 9, a coalition of German importers and exporters suggests that certification is acting as a non-tariff barrier to trade and calls for action through the World Trade Organization. Certification initiatives in Malaysia and Indonesia are described on pages 7–8.

The rapid growth of certification raises a host of questions. Perhaps the most important of all – for those of us concerned with sustainability – is this: is certification bringing about better forest management? Asked another way, will we see the rate of certification plateau once all the good operations are certified, or will a sort of certification 'suction' effect continue to lift management standards?

Few data are available from which to derive answers to such questions. One case-study from Guatemala is described on pages 10–12, and this newsletter would certainly be interested to learn of more.

ITTO continues to address certification issues in its forum. Experienced certification investigators Markku Simula and Edward Osei Nseykire will provide the

International Tropical Timber Council with a report on systems for auditing sustainable forest management at its XXVIII session in May. The report will assist Council members to keep abreast of developments in the field and to take the international policy debate forward.

Meanwhile, FSC data hint at recent improvements in tropical forest management. For example, around 840,000 hectares of natural forests are certified in Latin American ITTO member countries Bolivia, Brazil and Honduras. In 1989, the ITTO publication *No timber without trees* found only 75,000 hectares of sustainably managed forest in the entire region. It appears, then, that forest management has improved significantly in the last decade or so, albeit from a very small base. It also seems certain that with some tropical countries now establishing certification structures and improving forest management practices, the area of certified tropical forests will increase rapidly in the next few years.

But is certification leading to better forest management or vice versa? The answer, as the song goes, is blowin' in the wind.

Alastair Sarre  
Editor

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- ◆ Community forestry in Guatemala
- ◆ ITTO's project Work
- ◆ China market ascending

# Issues in Certification

***Timber certification is here to stay. But many issues are still to be resolved – including the most appropriate role of government***

by Peter Kanowski<sup>1</sup>, Darren Sinclair<sup>2</sup> and Blair Freeman<sup>3</sup>

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In the six years since its introduction, certification has evolved from an activity sponsored by environmental non-governmental organisations on the fringes of forest policy to assume a more widely supported and increasingly central role. Its emergence as a market-based mechanism in support of sustainable forest management presents challenges and offers opportunities for all parties with interests in forests. Here we discuss some of the most pressing issues that must be addressed if certification is to play an optimal role in promoting better forest management.

## Certification Schemes

Certification schemes may be categorised according to whether they are based on performance or process standards.

*Performance standards* specify performance levels for various aspects of forest management. They are the basis of the Forest Stewardship Council (FSC) scheme (see p 20), and of some emerging national (eg Indonesia (see p 8), Malaysia (see p 7), Brazil and Finland) and regional schemes. Most performance-based schemes also include elements of the process approach.

*Process standards:* The International Standards Organisation (ISO) 14001/14004 and the Eco-Management and Audit Scheme (EMAS) environmental management system (EMS) standards are the benchmark for the system-based approaches promoted by many forest industry groups. They are generic, process-based standards that provide a systematic approach to developing, implementing, monitoring and reviewing environmental policies, but they do not prescribe environmental performance standards. They do not provide forest management certification themselves and do not permit product labelling; however, they have been used by a number of companies as a step towards gaining certification (Bass and Simula 1999).

## Extent of Certification

Almost all forests awarded independent third-party certification to date have been certified under the FSC scheme. Pilot-scale testing and auditing have begun for other certification schemes, such as those in Brazil, Finland, Indonesia and Malaysia, but large-scale certification – whilst imminent in some

cases – remains limited. By February 2000, about 16.9 million hectares of forest had been certified under the FSC scheme (see table page 20).

## Markets for Certified Products

Markets for certified products are strongest in Western Europe and the USA; certification has not gained any meaningful market share in Japan or in the other principal Asian markets. The development of markets in Europe and North America has been led by ‘buyers groups’ of forest product retailers and traders. The most significant members of such buyers groups are the retail home improvement chains; the largest of these in the USA, Home Depot, recently joined the USA buyers’ group, the Certified Forest Products Council.

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## Emerging Trends

A number of trends are emerging as certification schemes and the debate about them mature. These have implications for future arrangements.

### ***The dominance of northern countries***

Despite the origins of certification in concerns (real or imagined) about the unsustainable logging of tropical forests, the vast majority of certifications to date have occurred in Europe and North America, accounting for two-thirds of the total certified forest area under the FSC scheme. Of the remaining FSC certifications, half are in Central and South America. Most other well-advanced certification schemes are all located in northern countries.

### ***The dominance of industrial forests***

Another striking feature of the international experience of certification to date is the dominance of industrial forests. Again using the FSC example, two-thirds of the total area of forests certified globally is industrial. The next largest category of forest type is state-owned and run operations, accounting for 30 per cent of the total certified area. This leaves non-industrial, non-state forestry enterprises – predominantly small-scale private and community forestry – as generally under-represented in certification.

### ***The shift to performance-based certification***

Increasingly, process-based schemes are beginning to incorporate performance targets; correspondingly, performance-based schemes acknowledge the benefits of EMS. There is now a clear trend towards convergence of many of the elements of various certification schemes.

### ***The importance of retailers and traders***

Although it is intended that certification should be market-driven, with educated consumers sending price signals through the supply chain to the forest industries and forest managers, experience suggests that it is unlikely this consumer signal will occur in the absence of a commitment by retailers and traders. The influence of buyers groups, both in exercising a preference for certified timber and in communicating that preference to their customers, has been instrumental in the



development of markets for certified timber products. It seems likely that retailers and traders will continue to play a key role in promoting certification.

## Credibility

Credibility is a precondition for any successful certification scheme. It is determined by:

- the *quality of assessment* of forest management and chain of custody: this is usually addressed by the accreditation of certifiers against transparent and verifiable criteria;
- the *absence of conflicts of interest*: the imperative of avoiding possible conflicts of interest is shifting the emphasis in certification away from first- and second-party schemes to independent third-party certification;
- *acceptability to all key stakeholders*: because of the disparate interests in certification, reaching consensus about the acceptability of key elements of certification schemes – particularly forest management standards – has proved difficult; and
- the *impact* of certification in improving forest management. All parties acknowledge that certification will lose credibility unless it clearly helps deliver improved forest management (adapted from Bass and Simula 1999).

## The Proliferation of Certification Schemes

One of the important features of certification has been the proliferation of schemes; for example, there are currently three distinct schemes in the United States. Much of this proliferation is due to initiatives developed by forest industry or forest owner groups who wish to gain certification for their forest management but nevertheless are concerned they will cede too much control to environmental NGOs through participation in the FSC scheme. Similarly, some governments – including those of Finland, Malaysia and Indonesia – have been active in the development of certification schemes as alternatives to those promoted by other interests.

### ***Benefits of proliferation***

It might be argued that since certification is fundamentally a market-based policy instrument, proliferation is an inevitable, indeed desirable, outcome. Proliferation might lead to the development of more efficient and effective approaches to certification as rival schemes jockey for market share; one consequence might be lower certification costs for forest operators. It might also stimulate the development of more sophisticated principles, criteria and performance indicators, as rivals learn from the experiences of others. It is possible there will be technology and knowledge transfer between different schemes, fostering efficiency and

mutual development. All these forces could engender a ‘race for the top’, in which competition forces improvement in both certification processes and forest management. Proliferation might also result in particular schemes emerging to cover niches occupied by smaller growers. Thus, in economic terms, greater competition may lead to greater efficiencies in the marketplace.

### **Costs of proliferation**

The major potential disadvantage of a highly fragmented certification landscape is that it could lead to

confusion in the market. Experience with consumer-product labelling campaigns suggests that for a label to be successful it must hold a dominant position in the mind of the consumer. The risk of competing schemes is that consumers may become confused and disillusioned and will consequently discount the validity of the entire concept. Proliferation also poses a dilemma for forest owners, managers and industries who have to choose between competing schemes: their choice of scheme may have significant commercial implications in the longer term, depending on which schemes find market acceptance.

It is apparent that many actors involved in certification are sufficiently concerned with the risks of proliferation to begin exploring how it might be addressed. This exploration has generated dialogue about – and initiatives directed at – ‘mutual recognition’.

## **Nascent Mutual Recognition Initiatives**

Mutual recognition is defined here as the acceptance by a given certification scheme of other schemes. Mutual recognition already exists in a variety of forms: a number of initiatives – described below – have developed a de facto set of criteria for benchmarking different certification schemes, a first step towards mutual recognition.

*Forest Stewardship Council:* The FSC functions as an accreditation and verification organisation for certifiers and for national and regional certification standards and processes, which must be consistent with the FSC principles and

criteria. In other words, it has established a defacto international framework for ‘mutual recognition’ between national and regional processes and between certifiers.

Supporters of FSC certification are concerned that mutual recognition should not diminish FSC standards. Many supporters of alternative certification initiatives interpret this

*‘... the vast majority of certifications to date have occurred in Europe and North America, accounting for two-thirds of the total certified forest area ...’*

concern, rightly or wrongly, as an attempt to maintain the dominant role of the FSC in certification. However, the FSC has committed itself to collaboration with the Malaysian and

Indonesian certification initiatives, with the eventual objective that certification by either party in those countries might be recognised by both parties (FSC UK 1999).

*Retailers:* In the majority of cases, retail buyers groups have committed themselves to a single certification scheme, generally the FSC. Recently, however, there has been a shift from sole recognition of one certification scheme to a stated preference for a single scheme complemented by recognition of other schemes that are seen to have equal credibility. The reasons for this are varied, but include: the desire not to unfairly exclude suppliers that are not aligned to a particular scheme; concern about anti-competitive practices and possible legal liability; and the sheer difficulty of obtaining enough certified timber from one scheme to meet their market needs.

*Industry associations:* The proliferation of certification schemes has the potential to adversely affect the members of industry associations if, for example, they are excluded from certain markets because they do not qualify for a particular certification label. Mutual recognition is one way of avoiding this possibility and has therefore been promoted by a number of industry associations.

*Non-industrial forest owners:* Groups of small forest owners have felt increasingly disenfranchised by the growth of certification.

Their concern is that the needs and circumstances of smaller growers as well as regional variations in sustainable forest management are not easily accommodated in the dominant certification schemes. Given this perspective, it is possible that smaller growers would have a preference for a certification approach that seeks to recognise their achievements and particularities rather than imposing a set of externally derived parameters. In effect, this is consistent with a mutual-recognition approach to certification.

*Governments:* The agreement of forest management standards is perhaps the most contentious element of certification schemes, and one in which governments have played a strong role. Separately from certification, many national governments have cooperated to develop a limited number of common international frameworks for criteria and indicators of sustainable forest management – under the Central American, Dry Zone African, ITTO, Helsinki, Montreal, Near East and Tarapoto processes. These have provided the context in which many national governments have led or catalysed the development of national frameworks or standards consistent with those agreed internationally. Governments have promoted dialogue between national initiatives and international certification schemes in the hope of eventual mutual recognition.

## **Possible Criteria for Mutual Recognition**

Various certification actors have proposed criteria against which emerging mutual recognition initiatives should be assessed. We compiled such criteria from the Intergovernmental Panel on

Forests, the UK Forest Certification Working Group (UK FCWG), the Confederation of European Paper Industries (CEPI), the Pan European Forest

Certification scheme (PEFC), the World Bank/WWF Forest Alliance and the Global Forest Policy Project.

### **Policy convergence**

Perhaps the most striking feature of the approaches taken by these forums is the broad agreement on which issues should be addressed,

*‘The influence of buyers groups ... has been instrumental in the development of markets for certified timber products.’*

even if this agreement does not necessarily extend to the way in which they are resolved. For example, all the approaches identify accessibility and scope, certification arrangements, stakeholder participation and review mechanisms as mutual recognition criteria. Further, the issues of accreditation, type of standards (whether performance or process) and transparency and accountability are included in most approaches. There is also some agreement on the ways in which some of these issues should be resolved. For example, there is a general consensus on the following criteria:

- certification schemes should not discriminate against different types of forests or forest owners/operators;
- certification should be conducted by independent organisations;
- certification criteria should be regularly reviewed and updated;
- certification processes should be transparent; and
- certification should be cost-effective.

### Policy divergence

The different actors engaged in the development of mutual recognition will inevitably have different emphases, which can generate contrasting criteria or approaches to key issues. The most obvious difference between approaches is that of stakeholder involvement. The CEPI and PEFC proposals, for example, have subtle but significant differences to the UK FCWG and World Bank/WWF Forest Alliance proposals in describing stakeholder involvement. Clearly, the degree and nature of stakeholder engagement is an issue on which some divergence remains in the context of mutual recognition.

In addition to those criteria that differ across approaches, some approaches adopt criteria that are simply not canvassed in the others. This does not necessarily give rise to conflict – although it has the potential to do so – as it may merely reflect different stages of mutual recognition development and sophistication.

## The Roles of Governments

Although certification is a market-based initiative, governments have played a diversity of roles in its emergence. The nature of government involvement has varied greatly between jurisdictions, encompassing both direct and indirect engagement. Given the diversity of national circumstances, this diversity of government roles is likely to remain a feature of certification and labelling.

The appropriate role of governments in certification has been and remains a vexed issue. In particular, there continue to be questions – both of principle and practice – about the extent to which governments should involve themselves in initiatives that were explicitly developed to operate independently of traditional government interventions and which are intended to stand or fall in the marketplace. There is also debate about the nexus between the role of governments in certification and their commitments to the World Trade Organization’s Agreement on Technical Barriers to Trade.

Nevertheless, governments clearly have a public policy role in relation to forests and their management. It might be argued that – irrespective of its origins – certification has now grown to such an extent, with such significant public policy impacts, that not only should governments have a role in determining its progress and operation, it is incumbent upon them to do so. Here, we consider three forms of potential government involvement in certification and mutual recognition: policy; standard setting; and direct engagement.



What role should governments play? Photo: A.Sarre

**Policy:** There are numerous opportunities for governments to create a policy environment conducive to the development and implementation of certification and mutual recognition. At the highest level, governments need to create a consistent policy environment; as Simula (1999 draft) notes, “market based certification must be compatible with macro-level and sectoral policies”. For example, at the domestic level, it would be possible to align legislative requirements for sustainable forest management with certification and mutual recognition schemes. At the international level, certification schemes developed to be consistent with the provisions of the World Trade Organization, particularly those relating to technical barriers to trade, would allow the development of approaches to mutual recognition that do not unfairly distort trade.

A more specific role of governments is in defining the nature and elements of the regulatory environment applying to forest management. There is a general trend for government policy to move away from forest management

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*‘Experience with consumer-product labelling campaigns suggests that for a label to be successful it must hold a dominant position in the mind of the consumer.’*

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regulation systems that rely principally on direct government regulation to systems that rely more strongly on collaborative approaches and independent third-party auditing. Such systems are already well developed for forest practices and establish a policy environment in which certification could play an important role.

In this context, governments could develop incentives to encourage the participation of forest industries in certification and mutual recognition. For example, governments could provide companies that participate in recognised certification initiatives with some form of regulatory relief. This is an increasingly common practice in other areas of environmental policy, where the 'good' environmental performers are allowed to largely self-regulate, freeing governments to concentrate their compliance efforts on the genuinely recalcitrant or incompetent. As with certification more generally, credibility is critical to the effective functioning of such systems.

Also in this context, governments may choose to regulate independent third-party certifiers by, for example, establishing minimum accreditation or licensing standards for auditors. Such standards could be developed to be consistent with various certification and mutual recognition initiatives, even if governments are not directly involved in those initiatives. Governments may choose to establish consistent international standards for certifiers, paralleling those under schemes such as the FSC.

### **Standard setting**

Governments have already been active in setting standards for forest management. They could take this role a step further by developing standards that are specifically designed to address the issue of mutual recognition of certification schemes. For example, governments could cooperate in the development of a voluntary set of international mutual recognition guidelines. It would then be left to individual schemes to choose to conform, or

not, to such guidelines. Such an approach recognises both the necessary internationality of certification and the sovereignty of national governments.

### **Direct engagement**

Few governments have yet exercised their choice as forest owners in favour of certification. However, as Simula (1999 draft) notes, "governments are large forest owners in many countries, or they may be the ultimate custodians of forestlands ... governments will have to decide on the feasibility of certification in the case of their own forests". As initiatives that facilitate mutual recognition develop, it is likely that more governments may choose, as forest owners, to support certification and mutual recognition by pursuing certification for their forests under credible schemes, as the UK Forestry Commission is doing.

Just as governments are major owners and managers of forests, so too are they major consumers of forest products. Many local governments in Europe have already exercised

their purchasing power in favour of certified products. Through their purchasing contracts, governments may set minimum requirements for certified products, and – through their usually-considerable market leverage – influence the criteria for mutual recognition. Governments would need to ensure that any such action was consistent with existing agreements on non-discriminatory government procurement.

*This article is adapted from a discussion paper prepared by the authors for the Australian Government in October 1999. The full paper can be accessed at: <http://www.affa.gov.au/ffid/sir/certification/internat.html>*

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*'... certification has now grown to such an extent, with such significant public policy impacts, that not only should governments have a role in determining its progress and operation, it is incumbent upon them to do so.'*

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# Malaysia Pursues Certification

## *Introducing the National Timber Certification Council, Malaysia*

by Chew Lye Teng

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The National Timber Certification Council, Malaysia (NTCC Malaysia) commenced operation on 1 January 1999. It is an independent non-profit organisation with a brief to plan and operate a voluntary national timber certification scheme in Malaysia.

In implementing the scheme, NTCC Malaysia will perform a number of functions. These include:

- acting as a forum for consultation among all parties to promote timber certification in Malaysia;
- developing and implementing a timber certification scheme comprising forest management certification and chain-of-custody certification;
- formulating guidelines for the assessment of sustainable forest management and establishment of chain-of-custody;
- establishing standards or specifications for sustainable forest management and keeping them under periodic review;
- developing and implementing training/familiarisation programs in all aspects related to assessment of sustainable forest management and establishment of chain-of-custody;
- establishing and implementing a system to oversee and monitor the certification scheme, including appeal mechanisms;
- networking and coordinating with national, regional and international bodies related to timber certification to facilitate cooperation and mutual recognition arrangements; and
- collecting, processing and disseminating data and information for promoting and increasing awareness of timber certification.

The governing body of NTCC Malaysia is the Board of Trustees, comprising representatives of interested parties such as academic/research and development institutions, the timber industry, non-governmental organisations and government agencies. The current Chairman of the Board is Dato' Dr Freezailah b. Che Yeom, ITTO's former Executive Director.

## **Institutional Arrangements for Certification**

Under the institutional arrangements proposed for timber certification, NTCC

Malaysia will receive applications for certification, arrange for assessments to be carried out by independent assessors, and accordingly decide on all such applications for timber certification. NTCC Malaysia will also provide an appeals procedure for parties not satisfied with decisions.

NTCC Malaysia will appoint appropriate companies or organisations to serve as independent assessors to carry out assessments for the purpose of forest management as well as chain-of-custody certification. Based on such assessment reports, NTCC Malaysia will decide whether an application merits the award of a certificate.

## **Formulation of Standard**

With the appointment of its full Board of Trustees in May 1999, steps were initiated to establish and implement a certification scheme for natural forests, in which the immediate action was to formulate the standard to be used for assessing the quality of forest management practices. This includes decisions on the reference document, the consultation process, and identification of interested parties to be consulted in formulating the standard.

NTCC Malaysia decided that a set of criteria and indicators should be formulated to suit Malaysian conditions; this would be called the Malaysian Criteria, Indicators, Activities and Standards of Performance for Forest Management Certification (abbreviated to MC&I). The MC&I would take into account the new ITTO criteria and indicators as well as principles and criteria such as those of the Forest Stewardship Council and the Netherlands' Keurhout Foundation. In this case, NTCC Malaysia will also play the role of a standards-setting body.

Since the national standard will have to take into account local conditions in different regions of the country, the views of various interested parties in Sabah, Sarawak and Peninsular Malaysia are important in this process. In June 1999, a series of informal consultations were conducted in each of these regions to obtain views and feedback regarding the important components and issues to be addressed for the establishment of a pragmatic and credible national timber certification scheme.

*Continued over* ➡

# Indonesian Efforts in Certification

The Indonesian Ecolabeling Institute (LEI) was established in 1994 as a working group led by Emil Salim, a former Indonesian Minister for the Environment and co-chair of the World Commission on Forests and Sustainable Development. Its mission is to develop an independent, third-party ecolabelling certification system and to develop capacity-building programs for the implementers of the system.

Between 1993 and mid 1998, LEI worked to prepare the ground for the implementation of sustainable forest management (SFM) certification. This involved the development of criteria and indicators of SFM and decision-making tools, and the training of certification professionals – including field assessors and potential candidates for the decision-making panels. LEI's SFM Certification System, including its criteria and indicators, was developed with reference to ITTO's Criteria and Indicators for Sustainable Management of Natural Tropical Forests, the Principles and

Criteria for Forest Stewardship of the Forest Stewardship Council (FSC), and the environmental management system developed by the International Standardization Organization.

On 6 February 1998, LEI was officially established as a non-profit legal entity managed by a board of trustees. In June 1998, the National Standardization Body of Indonesia officially adopted the SFM Certification System for production forests.

LEI takes the approach that any ecolabelling certification program should be both compatible with international standards and acceptable to domestic stakeholders. From the beginning, LEI has worked with domestic and international stakeholders to gain acceptance of Indonesia's certification system. Domestically, it has worked with the Indonesian Ministry of Forestry, the Association of Indonesian Forest Concession Holders, and non-governmental organisations. To gain recognition in the international market,

LEI has developed and maintained contacts with the FSC, trade and industry associations in importing countries, and Worldwide Fund for Nature-sponsored buyers groups in various countries.

These efforts resulted in the signing of a Memorandum of Understanding between LEI and the FSC on 3 September 1999, in which the FSC agreed that FSC-accredited certifiers operating in Indonesia should use the forest certification standard developed by LEI. Eventually, collaboration between LEI and the FSC will lead to mutual recognition as accreditation bodies. As an interim provision, the FSC and LEI have agreed to implement a Joint Certification Program between LEI and FSC-accredited certifiers, under which natural forest certification in Indonesia will be conducted. Certified wood products exported from Indonesia under this program will carry the labels of both LEI and the FSC.

*Compiled from information provided by LEI. ■*

## *Malaysia Pursues Certification Continued from page 7*

Following these consultations, the process and schedule for the formal consultation to formulate the MC&I were agreed upon.

The process for the formal consultation involves:

- a preliminary meeting between the three forestry departments (those of Sabah, Sarawak and Peninsular Malaysia) and NTCC to agree on a common set of activities using the ITTO criteria and indicators as a framework. This was held on 5–6 July 1999;
- consultations by the respective forestry departments with interested parties at a regional level regarding appropriate standards of performance for each of the agreed activities. Participation by interested parties in these regional consultations has been encouraging;
- integration of the regional standards of performance into a draft national set of standards of performance (MC&I);
- consultation at the national level to adopt the MC&I; and

- a forum to present the MC&I and the work of NTCC Malaysia to a wider audience.

The national-level consultation took place on 18–21 October 1999 and was attended by more than 100 people representing research and academic institutions, timber industry associations, non-governmental organisations, government agencies and certain international bodies. Following this meeting, the MC&I were adopted, with appropriate amendments, as the standard to be used by NTCC Malaysia in assessing forest management units for the purpose of certification.

According to the agreed schedule, the consultation process was to be completed by March 2000. Timber certification operations are expected to commence about the middle of 2000.

The transparent and participatory process for the formulation of the MC&I is to ensure that NTCC Malaysia benefits from the views and inputs of a wide spectrum of interested parties. Financial assistance has been provided to some of the smaller non-governmental organisations to facilitate their participation.

## Training of Independent Assessors

Work has also been initiated to plan and implement the training programs needed to train personnel from independent assessor companies and organisations on how to assess forest operations using the MC&I.

## Chain-of-Custody Guidelines

Under the NTCC Malaysia scheme, the chain of custody from the forest up to the point of export will need certification. NTCC Malaysia has taken steps towards the preparation of a set of guidelines for this purpose. The guidelines will also be used to assist timber companies in instituting their own internal documentation and procedures in order to satisfy the requirements for chain-of-custody certification. Appropriate training programs will be carried out based on the guidelines prepared. ■



# Certification as a Non-tariff Barrier to Trade

## **German trade federations are worried that certification could restrict free trade**

According to the Federation of German Wholesale and Foreign Trade (BGA) and the Federation of German Export Trade (BDEx), in cooperation with the German Timber Trade Federation (BDHolzVDH), the labelling and certification of goods is acting increasingly as a barrier to free world trade. This coalition has set down its misgivings in a common position paper. This article presents the main arguments in that paper and concludes with a statement on the issue as it relates to the timber trade.

## **The Problem of Non-tariff Trade Barriers**

The worldwide process of the elimination of trade barriers has led to a substantial liberalisation of global markets and to less protection of national markets. Global developments in recent years – such as those overseen by the former General Agreement on Tariffs and Trade (GATT) and its replacement body, the World Trade Organization (WTO) – have given encouraging signals to free trade.

Nevertheless, foreign trade is still confronted with a broad range of non-tariff trade barriers. In particular, the imposition of regulations concerning the specific qualities of goods as well as their testing, labelling, packaging and certification have gained increasing significance.

Technical trade barriers involving governmental regulations and norms are necessary to protect human, animal or plant life and health. However, all too often these regulations are also used as a cover for protectionism and, as such, constitute a massive obstacle to trade. Market access is being restricted, thus making the exchange of goods

more difficult. Positive trade effects are being achieved only partially or not at all and the welfare and growth of the economies involved are suffering.

Trade barriers translate into costs for the trade sector. In addition to the actual costs of certification, considerable additional expenditure is incurred due to the fact that rules are often not transparent and because they are imposed and changed without notice.

## **Certification and International Agreements**

In general, the GATT respected the right of self-protection and permitted the imposition of certification regulations provided that the principles of most-favoured-nation treatment and of equal treatment of domestic trade were complied with. To further repress the effects of trade barriers, GATT adopted its Agreement on Technical Barriers to Trade. The WTO regulation on norms and standards applicable to industrial and agricultural products contains the principle of non-discrimination of foreign traders. Information must be provided on technical rules and standards, and testing procedures must not lead to any unnecessary barriers. In the European Economic Area (EEA), the system is further improved by allowing goods produced according to the rules of an EEA state to circulate freely in all member states. Nevertheless, at the global level the system suffers from a lack of international harmonisation of norms. There is a strong need for increased international cooperation, with the aim of achieving mutual recognition of legislation, regulations and certificates as well as the harmonisation of norms.

### **Proposals to address the certification problem**

Thus, the issue of non-tariff trade barriers should be given top priority by the WTO. Policy-makers should consistently raise all important cases in which trade partners do not fulfil their WTO obligations. WTO consultation and dispute settlement procedures should be used for this purpose. In addition, the question of non-tariff trade barriers must be a central point of discussion in any new WTO round of negotiations. The long-term goal of policy-makers should be the general opening up of markets through mutual recognition or adaptation of standards and certificates. The

conclusion of bilateral agreements regarding the mutual recognition of certification standards, and the launching of bilateral consultations among governments, should be considered as supporting measures (the 'second best' solution). Indeed, they will be absolutely necessary if and as long as no global solution is found.

### **The example of wood products**

Originally conceived as a voluntary approach to ensuring the sustainable use of tropical forests, the certification of wood products has become an increasing restriction to the free exchange of goods. A large number of certification procedures and rules have been drawn up; it is feared that these will totally confuse the consumer. A number of important questions have not been solved; for example, the so-called 'chain of custody', which is the supervision of the product chain from the forest to the end consumer, remains problematic.

Nevertheless, municipal authorities and sometimes also state authorities are already requiring that wood products be certified. In North Rhine-Westphalia, for example, the use of wood from boreal and tropical forests without a Forest Stewardship Council-endorsed certificate is prohibited. Similar initiatives have been taken in other European Union member states.

This sort of labelling of wood products constitutes a non-tariff trade barrier that infringes international trade norms established by organisations such as the WTO, GATT and ITTO, and is against the spirit of environmental agreements entered into at the 1992 United Nations Earth Summit. International traders must take measures against trade barriers that are created in the name of environmental protection.

*For the full text of the position paper and for further information, contact: Jens Nagel, Exports Director, Federation of German Wholesale and Foreign Trade, PF 1349, D 53003 Bonn, Germany; Tel 49-228-26004-63; Fax 49-228-26004-65; [www.bga.de](http://www.bga.de)* ■

The Forest Stewardship Council was also invited by the TFU to address the issue of certification as a trade barrier. Its view will be published in the next edition.

# Community Forestry for Profit and Conservation

## *A successful community management experience in timber production and marketing in Guatemala*

by Spencer Ortiz

Fundación Naturaleza para la Vida, Guatemala

Covering 2.1 million hectares, the Mayan Biosphere Reserve (MBR) is the largest area of natural forests, savannahs and wetlands in Guatemala, housing hundreds of archaeological remains of the Mayan civilisation and a wide variety of plants and animals, many of which are endangered.

The administration of protected areas in Guatemala is the responsibility of the National

Council for Protected Areas (Consejo Nacional de Areas Protegidas – CONAP). In order to ensure the viability of the Management Master Plan for the MBR, CONAP has zoned the reserve into three areas with distinct objectives:

- the Core Zone, characterised by national parks and biotopes;
- the Multiple-Use Zone, where sustainable natural resource harvesting is allowed under a system of concessions; and
- the Buffer Zone, a 15-km wide strip along the southern border of the reserve, which is under land property rights.

Despite efforts to ensure the conservation of the MBR, satellite images show an accelerated expansion of the agricultural frontier, particularly in totally protected areas where forest resource harvesting and management activities are banned. Conversely, in those areas where CONAP decided to share rights and responsibilities with organised community groups, preliminary results suggest that it has been possible not only to arrest the indiscriminate logging of forests but, most importantly, to ensure forest production for the benefit of the communities. This is a valuable lesson that has led to a shift in CONAP's conservation strategy to involve third parties in co-administration arrangements for the conservation of the MBR.

## Community Concessions as an Institutional Strategy

As part of its institutional strategy, CONAP seeks to share some of the MBR administration duties with local communities and non-governmental organisations (NGOs). The community concessions system in the Multiple-Use Zone of the MBR is being implemented within the framework of this strategy. In order to ensure the success of this community management initiative, CONAP established

as a pre-requisite that each community in charge of a concession, or management unit, should work in cooperation with an NGO to guarantee the provision of technical assistance, administrative guidance, training and community organisation.

The first concession was granted in San Miguel La Palotada (7,060 hectares), followed by those of La Pasadita (18,810 hectares) and Carmelita (54,775 hectares). All these concessions are integrated use areas: that is, all available forest resources (timber and non-timber) are harvested under a single management plan.

The production systems of the three aforementioned concessions are based on the processing of timber into flitches, as authorised by CONAP in their annual operational plans. The felled timber is sawn on-site using chainsaws and A-frames. This system increases employment opportunities for the communities but does not necessarily lead to the maximisation of profits for the concessionaires.

## The Rio Chanchich Management Unit

In 1998, CONAP granted a concession over the Rio Chanchich Management Unit to the Suchiteco Promoters Civil Society (Sociedad Civil Impulsores Suchitecos – SCIS). This concession covers about 12,200 hectares of logged-over primary forest, about 10,000 hectares of which have been designated as production forests. A 25-year harvesting cycle has been established on the basis of annual harvesting coupes of 400 hectares.

SCIS has 50 members (families). Of these, 29 are considered 'active', because their livelihoods depend on the harvesting of forest products such as timber, latex, xate palm, pepper fruit, hunting and other production activities. One of the major strengths of this community group is the skill and expertise of its members in various forest activities.

It should be pointed out that before being granted this concession, SCIS members carried out illegal production activities without recognising or respecting CONAP's authority over the MBR. Fortunately, this community group decided to act within the framework of the law and took advantage of CONAP's decision to set up a system of concessions for sustainable forest harvesting.



These ruins at Tikal in Guatemala are part of the Mayan Biosphere Reserve. Photo: A. Sarre

**Table 1: Total costs for the first year of operation in the Rio Chanchich Management Unit (quetzals\*)**

Technical activities		Cost in Q.	%Activity	%Total
1	Transport surcharge due to climate conditions	90 000	18.0	
2	Road maintenance	38 046	7.6	
3	Tree hauling	48 422	9.7	
4	Timber loading on trucks	34 587	6.9	
5	Transport of timber to sawmill	131 432	26.3	
6	Training on directional felling	6 771	1.4	
7	In-service training	13 229	2.6	
8	Directional felling	27 765	5.6	
9	Opening of skid trails	23 098	4.6	
10	Wages (camp construction)	8 920	1.8	
11	Materials (camp construction)	6 871	1.4	
12	Sawmilling	64 063	12.8	
13	Classification	3 459	0.7	
14	Bundling	2 767	0.6	
<b>SUBTOTAL</b>		<b>499 430</b>	<b>100.0</b>	<b>74</b>
Logistics				
1	Food	25 454	59.6	
2	Fuel	11 960	28.0	
3	Medicines	68	0.2	
4	Tools	5 211	12.2	
<b>SUBTOTAL</b>		<b>42 693</b>	<b>100.0</b>	<b>6</b>
Administrative costs				
1	Wages	30 524	33.0	
2	Transport	1 109	1.2	
3	DSA	8 333	9.0	
4	Timber levies	49 384	53.5	
5	Life insurance	0	0.0	
6	Bond	3 050	3.3	
7	Concession rights (year of grace)	0	0.0	
<b>SUBTOTAL</b>		<b>92 400</b>	<b>100.0</b>	<b>14</b>
Marketing				
1	Administrative arrangements	3 000	7.2	
2	Docking and port services	10 628	25.5	
3	Transport of timber to port	28 090	67.3	
<b>SUBTOTAL</b>		<b>41 718</b>	<b>100.0</b>	<b>6</b>
<b>GRAND TOTAL</b>		<b>676 241</b>		<b>100</b>

\*Note: 1 quetzal ≈ US\$0.16

## Technical Assistance to the Community Group

The Nature Foundation for Life (Fundación Naturaleza para la Vida – NPV) works in close cooperation with and provides technical assistance to SCIS. The Foundation was established quite recently, but its staff has extensive experience and a long history of achievements in the field of forest management. NPV's work strategy is based on the need to ensure community participation as a fundamental element to promoting the sustainable use of natural resources. NPV acts as a facilitating organisation that promotes the development of community management, organisational and technical skills without impairing the creative and generating capacity of the community itself.

NPV first assisted SCIS in the joint restructuring of a management plan and environmental impact assessment in order to facilitate the arrangements for the granting of the concession. It later focused its technical assistance on the development and implementation of the annual operational plan and the conduct of marketing and commercial activities.

## First Harvesting Experience

Unlike other places in Central America such as Costa Rica and Nicaragua, where commercial timber volumes range from 10–30 m<sup>3</sup>/hectare, the commercial timber volume in this area was found to be only 3 m<sup>3</sup>/hectare. Nevertheless, of this more than 1 m<sup>3</sup> per hectare is mahogany, which to a great extent compensates for the low volume. The key physical obstacles to timber

harvesting include the remoteness of the area, a lack of access roads, and a lack of machinery and working capital.

The first activity carried out by the group was a real coordination and administration challenge. Guidelines were established to guide the process of planning and the implementation of field activities. It was expected that the process should:

- provide the highest possible number of jobs for SCIS members in all forest harvesting activities;
- ensure the highest possible value-added processing of timber;
- carry out the primary processing of timber into sawnwood, at least in the case of mahogany;
- promote the sale and export of timber to the international market;
- ensure the highest possible economic benefit through the sale of timber based on fair timber prices per board foot and, most importantly, on the best system of payment possible; and
- develop credibility in relation to sustainable forest harvesting processes.

## Community – Industry: A Key Alliance

SCIS did not have sufficient financial resources to carry out all the operational activities envisaged in the annual operating plan. Thus, the pros and cons of renting equipment or subcontracting services were analysed and a decision was made to subcontract the services of a private forest logger. The terms of reference for the required services were prepared and sent to various companies for discussion and the submission of technical and financial proposals.

Once a company was selected, an administrative contract was signed to define the responsibilities of SCIS and the selected company. Two distinct areas of service were established – the harvesting stage and the sawmilling stage. SCIS members actively participated in fieldwork and in timber processing activities, notwithstanding the company's commitment to comply with its contractual obligations. It was agreed that payment would be made in accordance with the progress made and/or stages concluded. Part of this payment was made in kind (timber for the production of veneer).

**Table 2: Income received by the Suchiteco Promoters Civil Society for the sale of 500m<sup>3</sup> of mahogany and 600m<sup>2</sup> of other species (standing volume)**

Consumer and end market	Gross income (US\$ equivalents)
Guatemala City	9 448
Petén carpentry workshops	3 297
Mexico	8 998
United States	150 090
Pending	22 381

NPV monitored the implementation of all timber harvesting activities carried out by the selected forest company. It also coordinated and provided in-service training for SCIS members in all operational activities under their competence, including directional felling, the opening of skid trails, the establishment of timber yards, the cutting of stems into logs, timber squaring, and activities related to the transport of timber.

## Marketing

NPV's involvement in this phase was crucial. Intensive work was carried out over a period of five months establishing contacts and searching for new markets at the national and international levels. Two different market lines were identified – the environmental market (green or certified products), and the free market.

Despite efforts made to introduce the timber produced into the environmental market (given that the management unit was in the process of being certified), it was not possible to make any transactions. During the search for potential consumers, various sales projections were made under different timber marketing modalities:

- sale of timber based on quality grades;
- sale of timber based on the association of quality grade groups; and
- milroom sale (1,000 board feet of timber regardless of quality grades).

Both quantitative yield and quality grading are fundamental factors in the choice of a marketing strategy. SCIS opted for a marketing strategy based on the association of quality grade groups. Marketing activities were implemented following three distinct independent processes:

1. domestic sales and direct exports to Mexico. The aim of this marketing strategy was to recover working capital to cover the costs of some of the subcontracted services and

other basic costs incurred by SCIS members (wages);

2. export of most of the production to the United States; and
3. sale of timber to local markets in Petén (carpentry workshops).

### Selling price and system of payment

A number of purchasing orders were received for the mahogany, both from potential consumers interested in certified products and from other buyers not particularly concerned with certification. The European market for certified products provided the most attractive prices, reaching up to US\$2.65 per board foot and averaging around US\$2.15. However, a number of problems restricted the marketing of certified products. These were:

- the international sale-purchasing modality demanded payment upon delivery at port of export (free on board). However, SCIS needed cash to pay forest company services, taxes and final transport costs. Potential buyers were reluctant to make any payment before receiving the timber;
- the environmental market could not be tapped because the certifying company's documents certifying and guaranteeing the management unit's 'good forest management practices' were not received in time;
- the timetable proposed by the potential buyers for the gradual consumption of the entire stock was far too spaced over time – most proposed a phased purchasing process of approximately two to three months; and
- members of SCIS exerted pressure to speed up the marketing process.

In the end, over 75 per cent of all the timber produced was exported to the United States at an average price of US\$1.75 per board foot. The SCIS Board of Directors decided to accept this price because the buyer paid the total amount in advance. This goes to show that the highest price is not always the most important criterion in the marketing of products.

## Costs and Revenues

Table 1 shows the breakdown of costs associated with timber extraction and marketing during the first year of operations. Table 2 shows revenues generated on the sale of the 500 m<sup>3</sup> of mahogany and 600 m<sup>2</sup> of other species (standing volume) extracted from the logging coupe.

## Financial Profitability

Table 3 shows the results of a financial analysis. The operation produced a net profit of US\$89,500 from timber harvesting operations after covering all costs, including an allowance for depreciation. The rate of return on forest activities was US\$0.29 per dollar invested, an attractive profit performance for the first year.

Given the community nature of the forest concession, the generation of family income is particularly significant. To estimate family income levels, 'in-kind benefits' were identified to cover all family incomes generated through production activities, the administration of SCIS, services, goods received, and direct and indirect contributions. Based on these factors, total family income was estimated at US\$318/hectare, or about US\$4,400 per family. In addition, timber products for housing improvement, fuelwood and so on were made available to the community.

**Table 3: Costs, income and financial indicators for the first year of operation in the Rio Chanchich Management Unit**

Income source	Gross income (US\$)
Sale of timber*	198 529
Total/annual coupe (400 hectares)	198 529
<b>Total income per hectare</b>	<b>496</b>
Cost type	Amount (US\$)
Variable	89 362
Fixed	19 708
Total	109 071
<b>Total per hectare</b>	<b>273</b>
Financial indicators	Amount (US\$)
Gross margin	109 166
Net income	89 458
Cost/benefit ratio	0.29
Total family income	127 426
Income per family (for 29 families)	4 394
Monthly family income (over 12 months)	366

\*Does not sum to total in Table 2 due to currency changes

## Concluding Comment

The management and marketing process carried out by SCIS was the result of various factors and special circumstances that make it difficult to replicate in other areas or contexts with different characteristics. However, the idea of sharing this experience through this article is not to provide management or marketing recipes, but rather to provide food for thought to those who believe community-based forest management cannot be cost-effective. ■

Translated from the Spanish by Claudia Adan.

# Briefing on ITTO's Project Work

*The projects and pre-projects described below were all financed at the 27th Session of the International Tropical Timber Council held in Yokohama, Japan last November*

## Division of Reforestation and Forest Management

**A model forest management area in Papua New Guinea (PNG; PPD 2/99 Rev.1 (F))**

<b>Budget:</b>	ITTO:	US\$95,267
	Gov't of PNG:	US\$5,000
	<b>Total:</b>	<b>US\$100,267</b>

**Implementing agency:** Papua New Guinea Forest Authority

**Funding countries:** Japan, Australia

The objective of this six-month pre-project is to formulate a project proposal for a model forest management area in Papua New Guinea.

**Regionalisation of the volume tables for trees of natural forests and plantations (Côte d'Ivoire; PD53/97 Rev.2 (F))**

<b>Budget:</b>	ITTO:	US\$282,942
	Gov't of Côte d'Ivoire:	US\$114,216
	<b>Total:</b>	<b>US\$397,158</b>

**Implementing agency:** Société de Développement des Forêts (SODEFOR)

**Funding country:** Japan

The objective of this three-year project is to develop specific volume tables for natural forests and plantations in four of Côte d'Ivoire's biogeographical regions.

**Forest management, community involvement and sustainable use of Si-Kop Forest Area (Coastal Province, Cameroon) – Phase II (Cameroon; PD 21/98 Rev.2 (F))**

<b>Budget:</b>	ITTO:	US\$647,517
	Gov't of Cameroon:	US\$641,490
	<b>Total:</b>	<b>US\$1,289,007</b>

**Implementing agency:** Office National de Développement des Forêts (ONADEF)

**Funding country:** Japan

This project will implement the strategy devised under an earlier project for the sustainable management of the Si-Kop Forest Area, which encompasses three elements:

- sustainable forest management activities in forest areas allocated for timber production;
- agriculture and agroforestry activities to increase and sustain agricultural production, with due attention given to the marketing of agricultural products; and
- tourism development.

**Sustainable forest management and human resources development in Indonesia, Phase III (Indonesia; PD 89/90 (F))**

<b>Budget:</b>	ITTO:	US\$1,098,900
	<b>Total:</b>	<b>US\$1,098,900</b>

**Implementing agency:** Ministry of Forestry and Estate Crops

**Funding country:** Japan

This is the third phase of a project that started in 1993. The overall objective is to contribute to sustainable development in Indonesia through the improvement of policies and practices to enhance the economic efficiency of tropical forest resource management. In this phase, the project will address criteria and indicators, forest fire, institutional strengthening, and local participation in the management of the Bukit Baka/Bukit Raya National Park.

**Specialization program for forest technicians on sustainable tropical forest management in Bolivia (Bolivia; PD 63/97 Rev.3 (F))**

<b>Budget:</b>	ITTO:	US\$564,556
	ETSFOR:	US\$240,423
	<b>Total:</b>	<b>US\$804,979</b>

**Implementing agency:** Universidad Mayor 'San Simon' through ETSFOR (Higher Technical Forestry College)

**Funding country:** Japan

This 42-month project aims to strengthen the institutional capabilities of ETSFOR, an institution located in Cochabamba dedicated to the training of forestry technicians.

**Latin American Forestry Congress (Peru; PD 18/99 Rev.1 (M,F,I))**

<b>Budget:</b>	ITTO:	US\$220,495
	CNF:	US\$28,000
	INRENA:	US\$26,000
	UNALM:	US\$25,500
	CIP:	US\$40,500
	<b>Total:</b>	<b>US\$340,495</b>

**Implementing agency:** Peruvian Society of Engineers (CIP)

**Funding countries:** Japan, USA

This project aims to create a permanent forum and agenda through the Latin American Forestry Congress. It will promote broad-based discussions amongst Latin American ITTO member countries on matters relevant to sustainable tropical forest development and management in the region.

**Study on the behaviour of native timber species of commercial value in the tropical moist forests of Honduras, Phase 1 (Honduras; PD 22/99 Rev.2 (F))**

<b>Budget:</b>	ITTO:	US\$401,955
	ESNACIFOR:	US\$80,350
	<b>Total:</b>	<b>US\$482,305</b>

**Implementing agency:** National Forestry Science School (ESNACIFOR)

**Funding country:** Japan

The objectives of this three-year project are to secure quality germoplasm from 40 tropical broad-leaved timber species and to consolidate and transfer technical, scientific and financial information on these 40 species at the nursery, phenological and plantation levels.

**Rehabilitating degraded forest through collaboration with local communities (Ghana; PD 30/97 Rev.6 (F))**

<b>Budget:</b>	ITTO:	US\$329,571
	Gov't of Ghana:	€64.8 million
	<b>Total:</b>	<b>US\$329,571 + €64.8 million</b>

**Implementing agency:** Forestry Research Institute of Ghana

**Funding country:** Japan

This five-year project will investigate forest degradation and rehabilitation in the moist semi-deciduous and dry semi-deciduous forest ecological zones of Ghana. In collaboration with local communities it will promote the rehabilitation of degraded forests through demonstration plantings and the training of local people.

**Alternative financing model for sustainable forest management in San Nicolas (Colombia; PD 54/99 Rev.2 (F))**

<b>Budget:</b>	ITTO:	US\$566,377
	CORNARE:	US\$124,000
	Empa St. Galo:	US\$88,300
	<b>Total:</b>	<b>US\$778,677</b>

**Implementing agencies:** Regional Autonomous Corporation of Rio Negro, the Swiss Federal Institute for Materials and Technologies Research and Testing, and Empa St. Galo

**Funding countries:** Switzerland, Japan, USA

This 18-month project seeks to curb the degradation of natural resources in San Nicolas through the design of a financing model that combines the sustainable management of natural forests with alternative financing sources. It includes a participatory component to ensure the equitable distribution of benefits generated by the project.

**Sustainable management of production forests at the commercial scale in the Brazilian Amazon (PD 57/99 Rev.2 (F))**

<b>Budget:</b>	ITTO:	US\$753,954
	EMBRAPA:	US\$154,560
	CIFOR:	US\$268,048
	Partner enterprises:	US\$127,284
	Collaborators:	US\$100,286
	<b>Total:</b>	<b>US\$1,404,132</b>

**Implementing agency:** Embrapa Amazônia Oriental, Belem, Para in cooperation with the Centre for International Forest Research (CIFOR)

**Funding countries:** Switzerland, USA

The central aim of this two-phase project (the first phase of which is two years) is to develop, test, evaluate and transfer a forest management system for

use by timber enterprises working under typical production conditions found in *terra firme* forests of the Brazilian Amazon.

**Optimum utilisation of RADARSAT SAR data in conjunction with an enhanced FCD model to monitor change in the status of forest resources (Regional Asia; PD 60/99 Rev.1 (F))**

**Budget:** ITTO: US\$655,577  
Participating gov'ts: US\$46,100  
**Total:** US\$701,677

**Implementing agency:** Japan Overseas Forestry Consultants Association

**Funding countries:** Japan, Australia

This 32-month project will: develop a new remote sensing-based methodology for multi-temporal assessment of forest degradation and/or regeneration using the enhanced Forest Canopy Density (FCD) model; employ RADARSAT SAR data to help monitor and assess ground conditions in areas frequently covered by clouds, haze and smoke; and upgrade the FCD Mapper Semi-expert System to simplify multi-temporal analysis.

**Strengthening sustainable management of natural forests in Asia-Pacific (Indonesia and Australia; PPD 19/99 Rev.1 (F))**

**Budget:** ITTO: US\$127,655  
JIFPRO: US\$34,250  
USDA Forest Service: US\$40,000  
Gov't of Indonesia: US\$10,000  
**Total:** US\$211,905

**Implementing agency:** Indonesian Ministry of Forestry and Estate Crops

**Funding countries:** USA, Australia, ITTO (un-earmarked funds)

This one-year pre-project aims to assist member countries of the Asia-Pacific Forestry Commission in the implementation of a regional code of practice for forest harvesting. This will include raising awareness of the issues and potential for improved forest harvesting practices, developing a practical and comprehensive training strategy with appropriate training guidelines and modules, and reviewing the experiences of alternative model forest management areas.

## Division of Forest Industry

**ITTO Information Network and Project Support (PD 13/99 (M,F,I))**

**Budget:** ITTO: US\$1,358,000  
**Total:** US\$1,358,000

**Implementing agency:** ITTO

**Funding country:** Japan

This two-year project will continue the work carried out under ITTO project PD 17/93 Rev.3 (M,F,I). Its specific objectives are: (i) to establish a service for the collection and dissemination of information and for the preparation and distribution of a newsletter covering the three main fields of ITTO activities; and (ii) to improve ITTO's monitoring and evaluation of field projects.

**Promotion of the utilisation of bamboo from sustainable sources in Thailand (PD 56/99 Rev.1 (I))**

**Budget:** ITTO: US\$452,996  
Gov't of Thailand: US\$322,200  
**Total:** US\$775,196

**Implementing agency:** Royal Forest Department, Thailand

**Funding country:** Japan

This three-year project will focus on the development and dissemination of knowledge to promote the efficient utilisation of bamboo, with a view to developing guidelines for improving the sustainable harvesting of bamboo and to the generation of income for rural communities.

**Introduction of a village industry in the community around an industrial forest plantation in Indonesia (PD 58/99 Rev.1 (I))**

**Budget:** ITTO: US\$363,536  
Seameo-BIOTROP US\$180,000 + in kind  
PT Sumalindo US\$88,325 + in kind  
**Total:** US\$631,861

**Implementing agency:** SEAMEO-BIOTROP

**Funding countries:** Japan, Republic of Korea

This three-year project will investigate the processing and utilisation of the bark of *Acacia mangium*, *Eucalyptus* spp and *Paraserianthes falcataria* from industrial forest plantation areas in East Kalimantan to produce tannin, adhesive material, pelleted animal feed and fertiliser, which will in turn contribute to the development of local communities through the establishment of a village industry.

**Promotion of non-timber forest products in the Terai region of Nepal (PPD 6/99 Rev.3 (M,F,I))**

**Budget:** ITTO: US\$49,772  
Gov't of Nepal: US\$20,588  
**Total:** US\$70,360

**Implementing agency:** Ministry of Forests and Soil Conservation

**Funding countries:** Japan, USA

This pre-project will assess the status of non-timber forest product management in three of Nepal's Terai districts (Banke, Parsa and Morang) by determining current use and identifying the potential and means for increasing production.

**Utilisation of tropical plantation timber in the southern part of China (PPD 18/99 Rev.2 (I))**

**Budget:** ITTO: US\$49,247  
Gov't of China: US\$33,600  
**Total:** US\$82,847

**Implementing agencies:** Research Institute of Wood Industry, the Chinese Academy of Forestry

**Funding countries:** Japan, Republic of Korea

This six-month pre-project will assess the existing problems associated with the utilisation of plantation-grown tropical timber in the southern part of China and develop strategies for value-adding.

## Division of Economic Information and Market Intelligence

**Sharing of information and experiences on private-sector success stories in sustainable forest management (PD 48/99 Rev.1 (M, F))**

**Budget:** ITTO: US\$754,325  
Gov't of Malaysia: In kind  
**Total:** US\$754,325

**Implementing agency:** Forest Department of Peninsular Malaysia

**Funding country:** Japan

This project will survey at least 500 forestry companies active in the three tropical regions and will prepare case-studies on ten identified as excelling in sustainable tropical forest management. The results will be widely disseminated via an international conference and a book.

**Establishment of a sustainable tropical forest products information system in China (PD 55/99 Rev.1 (M))**

**Budget:** ITTO: US\$255,100  
Gov't of China: US\$81,976  
**Total:** US\$337,076

**Implementing agency:** The Chinese Institute of Scientific and Technological Information

**Funding countries:** Japan, USA, Australia

This project will emphasise the collection and reporting of tropical forest products information separately in customs statistics and investigate the impact of the recently announced National Forest Protection Program on China's demand for wood.

## Other Activities

Council provided funding for a number of other activities of the Organization. For example, it provided US\$121,500 for a study on the competitiveness of tropical timber and tropical timber products vis-à-vis timber and non-timber substitutes, US\$166,900 for a study on the medium and long-term outlook for the tropical timber market, and US\$110,500 for a study on increasing utilisation efficiency and the reduction of losses and waste throughout the timber production chain. ■

## The storms in Europe at the end of 1999 will impact on the hardwood trade

by Michael Adams

ITTO Secretariat  
Yokohama, Japan

The last year of the century certainly ended with a bang in Europe, but not quite the one the timber industry would have wished for. From 26–28 December, several storms ravaged various parts of Europe, destroying forests and felling millions of cubic metres of standing timber, more than two years' annual cut in some places. The effects of the storms are going to be felt in the European forest and timber industry for quite some time and will impact on the hardwood trade.

### Estimates of Damage

France was severely hit by several storms. Estimates of wind-blown volumes have been revised several times but analysts expect that the 130–140 million m<sup>3</sup> mentioned in mid January will be exceeded. First estimates for the Lorraine hardwood region of France talked of about 60 per cent of the damage affecting hardwoods, around half of which was beech forest. Later estimates, however, lowered the amount of hardwood damage.

Equally severe damage was reported in Germany's Black Forest. In mid January, estimates in Baden-Wurttemberg talked of about 20–25 million m<sup>3</sup> down, with another 3–4 million m<sup>3</sup> down in Bavaria. Severe damage was reported in Switzerland, where the estimate of blow sits at about 10 million m<sup>3</sup>.

The storms in Scandinavia and northeastern Europe have caused huge losses of standing forest in Denmark, southern Sweden and the Baltic states. In these areas the cumulative losses are said to be in the region of 10–15 million m<sup>3</sup>.

In total, Europe-wide damage is conservatively put at 170–180 million m<sup>3</sup>.

## Prices for Storm-damaged Stock

In France, the country worst affected by the storms, minimum price reductions for all species of 20 per cent have been agreed. Price reductions for wind-damaged logs will go to as much as 40–50 per cent depending on the degree of damage. A common ex-forest price framework for beech was agreed at FF370 per m<sup>3</sup> for B/C L 3b, L4 FF550 and L 5/6 FF650. Compared to early December, the price for veneering quality was down by 30 per cent.

## In the Tropical Hardwood Market

Sawn timber producers in Southeast Asia enjoyed improved prices from European buyers during the first months of 2000. European importers said this was due to the high dollar rate, the short supply of some dimensions, and growing competition from East Asian buyers.

Brazilian exporters reported that the year started well. Tropical sawnwood demand was good and demand for pine lumber started strongly. Overall, prices for tropical timber products from Brazil maintained the same level as at the end of 1999, which was good news in the face of a weakened real.

As the new year began some analysts had talked of possible problems in Southeast Asia with the supply of meranti. However, supplies actually proved steady in both Indonesia and Malaysia, although some Indonesian mills reported difficulties in fulfilling old contracts. German importers reported that mill production in Indonesia seemed little affected by the political situation there.

More serious problems were reported for supplies of white seraya from Sabah. At the time of writing it was not clear if the unavailability of the timber was due to real supply problems or was more a matter of

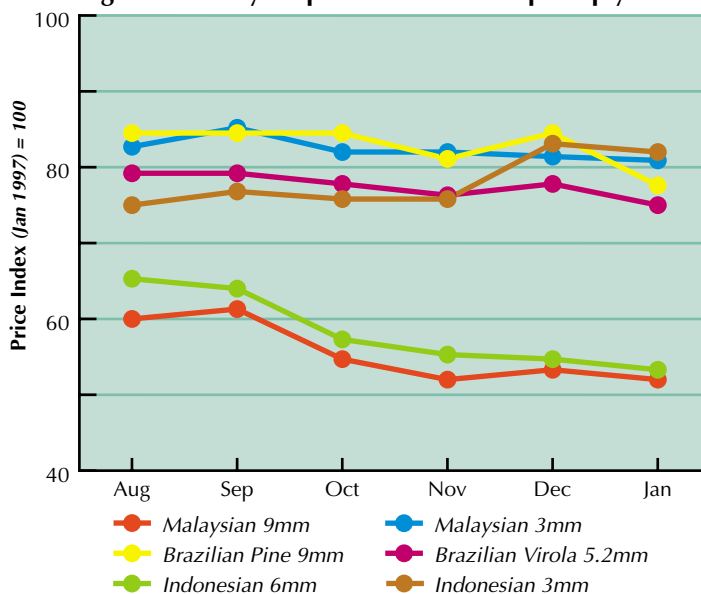
producers lowering stocks in the hope of stimulating prices.

At the beginning of the quarter, meranti sinker logs 80/20 per cent were at US\$130–140 per m<sup>3</sup> fob. Keruing 80/20 per cent was at US\$160–165, with small logs at US\$140–145 and super-small at US\$125–130 per m<sup>3</sup> fob.

Papua New Guinea and Solomon Islands log prices were down slightly on previous levels, with major species taun and calophyllum offering at US\$120 per m<sup>3</sup> fob.

Tropical sawnwood prices have moved upward in the past six months and are now back to 1997 levels. However, prices for tropical plywood remain very depressed and are even showing signs of slipping further, largely the result of stagnant demand in Japan. Figure 1 shows that prices are still 20–30 per cent below pre-1997 crisis levels.

Figure 1: Half-year price trends for tropical plywood



### Chinese buyers active

Chinese buyers were very active for most grades at the end of 1999 and into 2000 and were competing strongly with European buyers. It was reported that many suppliers were discouraged by the high quality and grading demands of the European market and, instead, preferred to supply other markets.

The trade in China reported in mid quarter that the ports in Tanggu, Qingdao, Zhangjiagang, Shanghai, Guangzhou and Zhenjiang were overstocked with imported timbers. In the port in

Continued over ➔

# Prospects for Tropical Timber in the Next Decade



*The response of readers to an ITTO questionnaire*

Compiled by Michael Adams

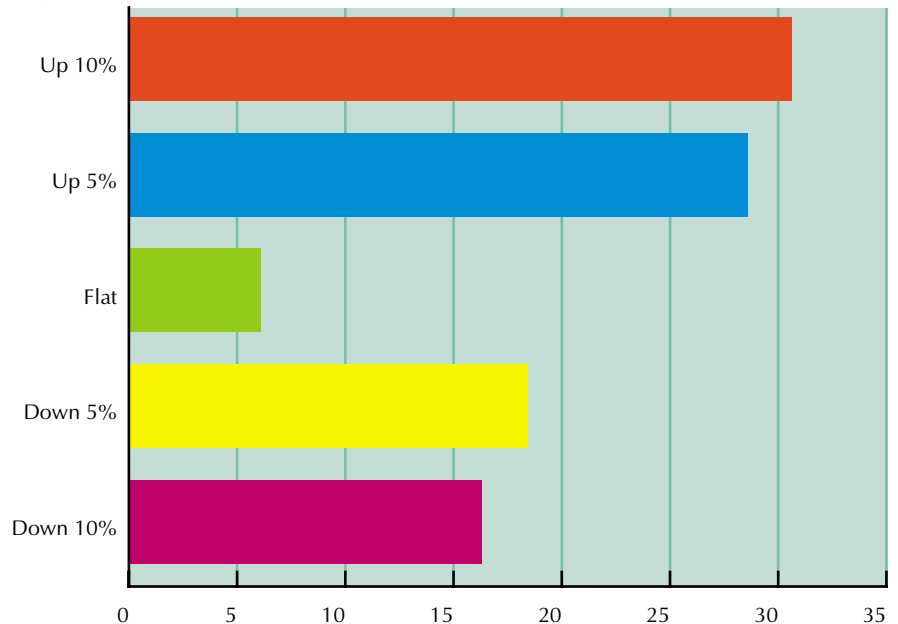
ITTO Secretariat  
Yokohama, Japan

At the end of 1999, email subscribers to the ITTO Tropical Timber Market Information Service were canvassed on likely trends in the tropical timber market over the next 5–10 years. This is a summary of the responses received.

Question: Over the next 10 years, how will the markets for tropical hardwoods change?

Figure 1 shows the responses.

Figure 1: Forecast changes in the consumption of tropical hardwoods



Continued over ➡

## Market Trends

Continued from previous page

Zhangjiagang in Jiangsu Province alone, there were an estimated 400,000 m<sup>3</sup> of timber in stock. According to Chinese analysts, the main cause of the glut is that importers over-estimated the impact on the supply of domestic timbers of the Natural Forest Protection Program and assumed that demand would far out-stretch supply.

Another factor encouraging imports was the change in regulations and tax structures, which stimulated many new enterprises, corporations and individuals to join the ranks of timber importers.

In reality, imported timber is consumed mainly in the economically developed east and south of China. In these areas the reduction in domestic timber harvest has not had a significant effect.

With strong growth in the US, Europe, China, Korea, Taiwan Province of China, Malaysia and Thailand and the overall trend to tighter controls and restrictions on log harvest, the timber industry is showing increased confidence in long-term market price prospects (see story this page).

## A Rebound in Japan?

The Japanese economy may finally be starting to rebound and is having a noticeable impact on the mood in the trade.

In retrospect it is apparent that Japan finally started pulling itself out of a serious slump last year. The momentum came from a series of stimulus measures by the government. Indeed, the first half of calendar 1999 recorded a real GDP growth rate of 0.1 per cent year-on-year, the first time GDP growth had been in positive figures for three consecutive terms.

However, with little reason for much confidence in domestic private-sector demand, analysts are still looking to the public sector and export markets to prop up the economy. Public demand, which has been flagging recently, should increase again, especially in the first half of this year as the expansionary fiscal 2000 initial budget is implemented. That will be fine as far as it goes, but public investment was at high levels in fiscal 1999; unless there are additional programs, fiscal 2000 is unlikely to see any increase in construction activity, the driving force in timber consumption.

A questionnaire survey of 16 major house builders conducted at the beginning of the year by

the *Japan Lumber Report* revealed that respondents think the number of new housing starts in 2000 will be 1.22 million units, which is 0.7 per cent higher than the forecast made in 1999. There is very little variance among the 16 companies, with the lowest forecasting 1.17 million units and the highest 1.30 million units. Fourteen of the companies projected somewhere between 1.20 and 1.25 million units.

Japanese demand for Asia/Pacific logs in 2000 is estimated to be about 3.3 million m<sup>3</sup>, including logs from Africa, from which plywood use is likely to be down by 11.3 per cent to 3.0 million. Lumber use is expected to be down by 9.9 per cent. Lumber imports are expected to increase while the demand for domestic sawn lumber is seen as declining. Plywood imports are thought to be declining by around 9 per cent to 4.2 million m<sup>3</sup>.

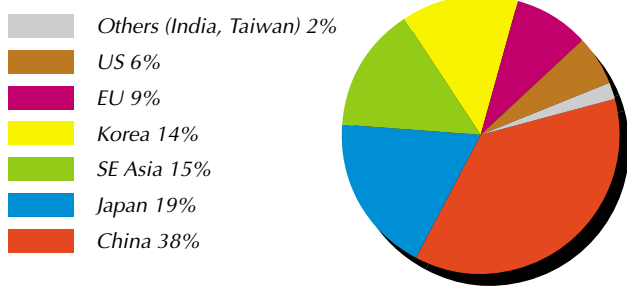
Plywood consumption in Japan is an indicator of the wood products market as a whole; with imports dominating more than 50 per cent of the supply, moderated imports is the key to a stable plywood market. The trade is hopeful that speculative imports, which resulted in excessive imports and a ruined market in 1999, will be avoided in 2000. ■



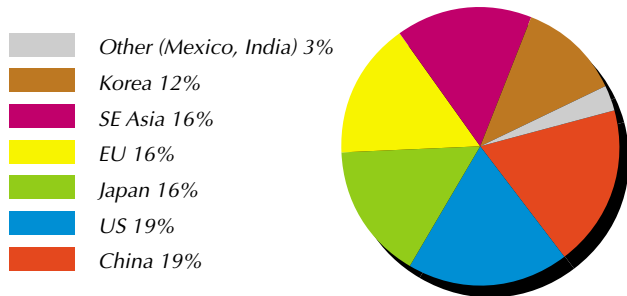
**Question:** Where will be the best prospects for tropical timber over the next 5 years?

Figures 2, 3 and 4 show the responses for logs, sawnwood and ply respectively.

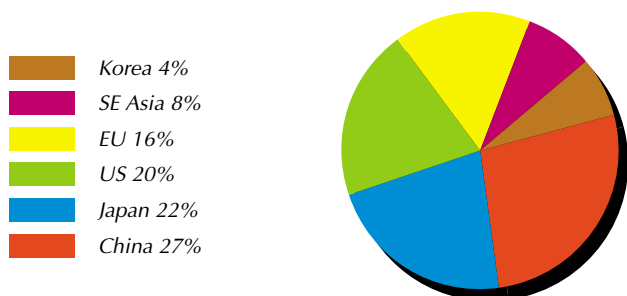
**Figure 2: Best prospects for tropical hardwood logs over the next five years**



**Figure 3: Best prospects for tropical hardwood sawnwood over the next five years**



**Figure 4: Best prospects for tropical hardwood plywood over the next five years**



**Question:** What will be the source of toughest competition for tropical hardwoods?

Responses were divided by sector as shown in Table 1.

**Table 1: Source of toughest competition, tropical hardwoods**

Sector	Source of toughest competition
In the furniture sector	Temperate hardwoods followed by non-wood products
In the joinery sector	Softwoods followed by temperate hardwoods
In the construction sector	Softwoods followed by non-wood products

**Question:** What will be the source of toughest competition in the tropical plywood market?

Responses were divided by sector as shown in Table 2.

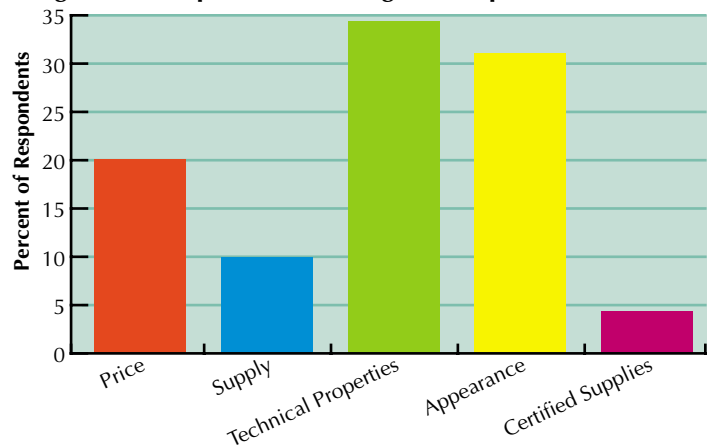
**Table 2: Source of toughest competition, tropical plywood**

Sector	Source of toughest competition
In the furniture sector	MDF and particleboard followed by softwood plywood
In the joinery sector	MDF and particleboard followed by softwood plywood
In the construction sector	OSB and softwood plywood followed by MDF

**Question:** What are the competitive advantages of tropical hardwoods?

Figure 5 shows the responses.

**Figure 5: Competitive advantages of tropical hardwoods**



## Comment

‘Technical properties’ and ‘appearance’ were the main elements identified by respondents as giving tropical hardwoods a competitive advantage. ‘Price’ also featured rather prominently; however, tropical hardwoods will certainly face growing competition on price grounds in the future. Another feature of the responses is that ‘supply’ and ‘supplies of certified wood’ were seen as not providing a major competitive advantage. Nevertheless, while certification is unlikely to yield any price or direct market advantage, the absence of certification will increasingly become a serious disadvantage in some markets.

More data from this survey can be found on p 17 of TFU 9/4.

## *An ITTO study predicts a high demand for tropical wood products in China in 2010*

by Shi Kunshan, Lin Fengming, Meng Yongqing, Shi Feng and Zhuang Zuofeng

Institute of Scientific and Technological Information, Chinese Academy of Forestry  
Beijing, China



Tropical logs are processed in a Chinese plywood mill. *Photo: Hou Yuanzhao*

### Substitution Starting ...

China is a net importer of timber. Therefore, it is employing a policy of economising its use of timber and substituting with other products where possible. Timber is being replaced as a structural material by cement and steel and in many doors and windows in urban housings by metal or plastic products. Timber consumption per unit building area has experienced a steady decline in China.

### ... But Housing Market Grows

Nevertheless, the housing market in China is growing rapidly: projections suggest that urban residence floor-space will increase from 7.9 m<sup>2</sup> per capita in 1995 to 18 m<sup>2</sup> per capita in 2010, while rural residences will increase from 16.9 m<sup>2</sup> to 18 m<sup>2</sup>. The decoration and house/shop-fitting sector has developed into a new growth sector in the national economy. In particular, growth in house decoration is very strong; its average annual growth rate of over 30 per cent surpasses the overall growth rate of the

national economy. The trend is likely to continue: at least 60 million families in urban areas today do not have their own house; residents in two-thirds of the provinces have a housing standard lower than the national average. In addition, large numbers of guesthouses, hotels

and office buildings are being upgraded. As personal incomes improve, this sector will become a new flashpoint for promoting the development of the forest products industry.

The effect of this growth on timber consumption is illustrated in Shanghai, where around 200,000 houses are built each year. Each house has 30–40 m<sup>2</sup> of floor area requiring a net volume of 1.2 m<sup>3</sup> of timber. If other timber for decoration and furniture is taken into account, then each new household consumes nearly 2.5 m<sup>3</sup> of timber. Thus, in Shanghai alone, the expansion of housing is already consuming some 500,000 m<sup>3</sup> of timber each year.

### Furniture Industry Grows Rapidly

Over the last decade, China's furniture industry has seen unprecedented development. Its output grew from 120 million pieces in 1986 to 479 million pieces in 1997, an average annual increase of nearly 40 per cent. The total output value of the industry reached 78 billion yuan in 1998 and was expected to reach 87 billion yuan in 1999, a growth rate of 12 per cent.

The export of furniture products over the past few years has also experienced substantial growth. In 1992, total furniture exports were worth only US\$210 million. In 1998, this had grown to US\$2.19 billion, an average annual growth rate of 48 per cent. Furniture has today become a leading product in China's export-

In 1998, China's population stood at 1.25 billion; in the same year its gross domestic product grew by 7.8 per cent. Although the growth rates of both population and GDP have slowed in recent years, China will play an increasingly important role as a market for tropical timber over the next decade.

**Table 1: China's projected timber supply and demand, 2010 (million m<sup>3</sup>)**

Total demand	360
Domestic supply	180
<b>Potential deficit</b>	<b>180</b>
Probable substitution by wood-based panels	75
Probable substitution by bamboo	14
Residue recovery ( <i>paper</i> )	18
Residue recovery ( <i>others</i> )	9
Total substitution	116
<b>Actual timber deficit</b>	<b>64</b>

oriented forest products trade; exports in 1998 accounted for 61 per cent of total forest product exports.

Foreign firms have been investing in China because Chinese labour is relatively abundant and low-cost. The late 1980s to the middle 1990s saw a peak in investment by companies from Hong Kong, Taiwan, Singapore and Malaysia. European and American companies are now joining the ranks of investors. According to both the Ministry of Construction and projections made by specialists, the rapid development of the building sector and the projected increase in per capita housing will lead the furniture industry into a phase of long-term stable growth over the next decade. An average annual growth rate of around 10 per cent is predicted.

Timber is an important raw material for the furniture industry. About 70 per cent of the 479 million pieces of furniture manufactured in China in 1998 was made predominantly of wood. On average, each piece required 0.048 m<sup>3</sup> of timber; the country therefore consumed some 15.8 million m<sup>3</sup> of timber in furniture products in that year. By 2010, if the national average for furniture demand rises to 0.93 pieces/person as projected, then 1.3 billion pieces will be manufactured in that year. If wooden furniture is the main material in 50 per cent of these (at the same volume per item), the timber required will be around 31 million m<sup>3</sup>.

## China's Domestic Supply

Current forecasts suggest that China's domestic resource of large diameter logs for industrial use will be almost exhausted by 2010. With the expected rapid development of fast-growing plantations, large quantities of small diameter logs will enter the market and supply is likely to exceed demand for this type of log. Thus, a severe shortage of large diameter logs and a surplus of small diameter logs is forecast for 2010.

## Demand for Tropical Wood Products by 2010

As China's domestic fast-growing plantations start yielding large quantities of small-diameter timber, her timber imports are likely to shrink from around 25 per cent of present total timber consumption to about 18

per cent by 2010, although they will increase in absolute terms. However, the country's reliance on imports of large diameter hardwoods, especially high-value hardwoods, will increase substantially.

Thus, China's requirements for tropical forest products will grow in the next decade. Table 1 summarises the country's likely total timber imports in 2010; Table 2 provides projections for how this total might be divided between product classes and between tropical and other timber.

The projections in Table 2 suggest that total imports of tropical timber will reach 20.6 million m<sup>3</sup> by 2010. This is an increase of 161 per cent over 1998, representing an average annual growth rate of over 8 per cent.

*'... the rapid development of the building sector and the projected increase in per capita housing will lead the furniture industry into a phase of long-term stable growth over the next decade.'*

The proportion of tropical timber in total timber imports will also increase from around 15 per cent in 1998 to 32 per cent in 2010. The biggest increase is expected to be in veneer timber, up 306 per cent from 1998, representing an average annual increase of 12 per cent. Imports of tropical sawntimber are expected to grow by 215 per cent over 1998 volumes, an average annual increase of 10 per cent. Tropical plywood imports are expected to jump by 137 per cent at an average annual growth rate of 7.5 per cent, while roundwood imports are expected to be up 113 per cent over 1998, an average annual growth of 6.5 per cent.

## Trends in Forest Product Trade by 2010

Given the expected changes in raw material supply, the structure of the forest products sector will also change. The proportion of products requiring large diameter logs as raw materials, such as sawnwood and plywood, will start to

**Table 2: China's projected imports, 2010 (million m<sup>3</sup>)**

Product	Total imports	Tropical timber imports
Paper and board	25.0	nil
Paper pulp	6.0	nil
Roundwood	15.1	5.5
Plywood	7.6	7.6
Veneer	4.4	4.0
Sawnwood	6.4	3.5
<b>Total imports</b>	<b>64.5</b>	<b>20.6</b>

decline, while the proportion of products able to utilise small diameter timber and fibre, such as paper, board and non-veneer wood-based panels, will rise. With continued improvements in processing technology, substitution of sawntimber and plywood by non-veneer type wood-based panel (especially particleboard and MDF) will strengthen. This projected trend will continue and is unlikely to be affected by any expansion of roundwood and veneer imports. Thus, while the outlook for large diameter tropical timber in the Chinese market is good for the next decade, it will decline in the longer term.

*This report was funded by ITTO under project PD 25/96 Rev. 2 (M). Data were obtained from the State Statistics Unit and relevant international organisations. However, all views expressed and conclusions made are those of the project group, not of any government or international organisation.*

*For more information contact Dr Shi Kunshan at the Institute of Scientific and Technological Information, Chinese Academy of Forestry, Beijing, China; E-mail [istifsh@public3.bta.net.cn](mailto:istifsh@public3.bta.net.cn)*

# Institutional Profile – the Forest Stewardship Council

The Forest Stewardship Council (FSC) describes itself as ‘an international non-profit organisation founded ... to support environmentally appropriate, social beneficial, and economically viable management of the world’s forests’. It is an international association of members comprising representatives of environmental and social groups, the timber trade and the forestry profession, organisations of indigenous peoples, community forestry groups, and forest product certification organisations. Membership is open to anyone involved in forestry or forest products and who shares the FSC’s aims and objectives.

**Table 1: Area of forest certified by FSC-accredited certification bodies (as at 29 February 2000)**

Country	No. of certificates	Area certified (hectares)
Belgium	2	1890
Belize	1	95 800
<b>Bolivia</b>	<b>7</b>	<b>660 133</b>
<b>Brazil</b>	<b>9</b>	<b>665 558</b>
Canada	3	211 013
Costa Rica	13	40 153
Czech Republic	1	10 441
Denmark	1	36
Germany	8	85 180
Guatemala	5	46 229
<b>Honduras</b>	<b>3</b>	<b>19 876</b>
<b>Indonesia</b>	<b>1</b>	<b>62 278</b>
Italy	1	11 000
Japan	1	1 070
<b>Malaysia</b>	<b>1</b>	<b>55 083</b>
Mexico	6	143 004
Namibia	2	54 420
Netherlands	9	69 064
New Zealand	1	2 305
<b>Panama</b>	<b>1</b>	<b>23</b>
<b>Papua New Guinea</b>	<b>1</b>	<b>4 310</b>
Poland	5	2 218 006
Solomon Islands	5	42 912
South Africa	9	779 621
Sri Lanka	3	12 726
Sweden	27	9 044 695
Switzerland	3	4 252
United Kingdom	16	888 185
USA	68	1 595 331
Zimbabwe	2	72 504
<b>Total</b>	<b>214</b>	<b>16 897 098</b>
<i>of which ITTO producer member countries (in bold)</i>	<b>23</b>	<b>1 467 261</b>

The origins of the FSC can be traced to a meeting between timber users, traders and environmental and human-rights organisations in California in 1990. The meeting was held to discuss how such groups could combine their interests in improving forest conservation and reducing deforestation. In October 1993, 130 representatives of a range of organisations held the FSC Founding Assembly in Toronto, Canada. In 1994, a secretariat was established in Oaxaca, Mexico and the statutes and the FSC Principles and Criteria of Forest Management were approved. The accreditation system was developed and tested in 1995, and the first four certification bodies were accredited in January 1996.

## Accreditation

The FSC doesn’t certify forests itself. Instead, it evaluates the capability of certification bodies to provide an independent and competent forest evaluation (certification) service. An FSC-accredited certification body may operate in any country and in any forest but is required to evaluate all forests aiming for certification according to the FSC Principles and Criteria of Forest Management.

Forest managers seeking FSC certification must agree to abide by the FSC principles and practices, as they are locally interpreted, and open themselves to regular inspection by the FSC-accredited certification body. In return, products originating from duly certified forests are eligible to carry the FSC logo.

The FSC Principles and Criteria are not the performance standard used for certification. Initially, certification has been based on local or generic standards developed by the certification bodies, using systems accredited by the FSC. Increasingly, certification is now based on FSC-endorsed regional standards developed by national FSC working groups with a balanced, multi-stakeholder participation and wide consultation.

Two kinds of certificate are available. One is the Forest Management Certificate, which involves an assessment of forest management systems and practices. The other is the Chain of Custody Certificate, which involves verification that the products originate from certified forests. These certificates give the right to use the FSC logo on products and market claims.

## Certified Forests

Table 1 shows, by country, the area of forest certified by FSC-accredited certification bodies by 29 February 2000.

## Funding

The FSC is funded by charitable foundations and government donors and from membership subscriptions and accreditation fees. It is planning to implement a system to obtain royalties for the use of its logo.

## Location

The FSC has a full-time staff of nine, including Executive Director Dr Timothy Synnott. It is controlled by an elected board, which consists of people from industry, conservation groups, indigenous people’s groups, and others.

*The FSC can be contacted at: FSC, Avenida Hidalgo 502, 68000 Oaxaca, Mexico; Tel 52–951–46905/63244; Fax 52–951–62110; Email [fsoax@fsoax.org](mailto:fsoax@fsoax.org); Web <http://www.fsoax.org>*

*Compiled by the ITTO Secretariat with assistance from the FSC.* ■



by Alastair Sarre

France is located in western Europe, bordered by Spain and the Mediterranean Sea to the south, Germany, Switzerland and Italy to the east, Belgium to the north and the English Channel and the Bay of Biscay to the west. It occupies 54.9 million hectares and its population of 58.6 million in 1997 is growing at a rate of 0.4 per cent per year.

France's gross domestic product (GDP) was US\$1,300 billion (using purchasing power parities, which correct for the differences in price levels between countries) in 1998, having grown at an average of 1.8 per cent since 1988. Its 1998 GDP per capita was US\$22,100, which is slightly above average for OECD (Organization for Economic Cooperation and Development) countries (OECD 1999).

## Forests

In 1995, around 27 per cent (15 million hectares) of France was forested, with an average annual net expansion in area of 161,000 hectares (1.1 per cent) recorded in the period 1990–95 (FAO 1999). France's forest estate has grown more than fourfold since the turn of the century, when it was around 6 million hectares in size. Today, more than 70 per cent is under private ownership, of which about one-quarter is in smallholdings of 4 hectares or less. About 12 per cent is under state ownership; the remainder is owned by local government authorities. Laws

and administration related to forests can be traced back as far as the 13th century (Bedel and Brown 1998). The storms that ravaged Europe late in 1999 caused extensive damage to many of France's forests (see page 15).

## Tropical Forestry

France has been involved in tropical forestry since it established colonies in various tropical regions during the 19th century. At one stage its colonial empire included parts of West and Central Africa, Southeast Asia, the Pacific, South America and the Caribbean. Even today it has overseas departments and territories

– most notably French Guyana – which encompass some 8.8 million hectares of tropical forests. Its foresters have therefore played an important role in the development of tropical forest management techniques throughout the tropics (Bedel and Brown 1998).

## Tropical Timber

Table 1 shows that import volumes of tropical timber are declining for all the products monitored by ITTO except sawnwood. Imports of all timber are increasing for logs and sawnwood but declining for veneer and plywood. Exports of tropical logs, veneer and plywood increased slightly during the 1990s.

## Tropical Forest Assistance

In 1997, France provided overseas development assistance (ODA) of some US\$6.3 billion, of which 76 per cent was delivered bilaterally. The French ODA/GNP (gross national product) ratio was 0.45 per cent, which was above the average of 0.40 for OECD countries (OECD 1999). Nevertheless, the French ODA/GNP ratio has declined in recent years: in 1993 it was 0.63. Among ITTO member countries that benefited from French ODA in 1996–97 were Côte d'Ivoire (5 per cent), Egypt (3.7 per

cent), Cameroon (3.6 per cent), Republic of Congo (3.4 per cent) and Gabon (1.7 per cent).

The total contribution made towards tropical forests is difficult to determine, partly because French development aid is channelled through a wide range of agencies. Bedel and Brown (1998) note that the Ministry of Cooperation alone commits some 30 million French francs (currently about US\$4.6 million) annually to forests and 15 million francs for nature reserves, wildlife and biodiversity.

## France and ITTO

France has been a member of ITTO since the mid 1980s, both in its own right and as part of the European Union. As of November 1999, it had contributed some US\$602,000 towards ITTO projects, pre-projects and activities.

## References

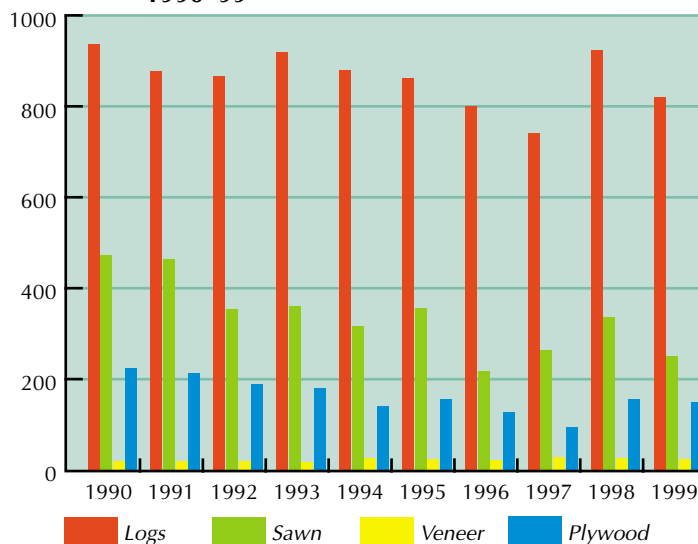
Bedel, J. and Brown, D. 1998. 'France' in Shepherd, G., Brown, D., Richards, M. and Schreckenber, C. (eds) *The EU Tropical Forestry Sourcebook*. European Commission/Overseas Development Institute.

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OECD 1999. Organization for Economic Cooperation and Development. <http://www.oecd.org/>

Figure 1: Imports of tropical timber ('000m<sup>3</sup>) for France, 1990–99



# Fellowship Report

## *A review carried out under an ITTO Fellowship has evaluated the application of GIS in tropical forestry*

By Dr Armando A. Apan

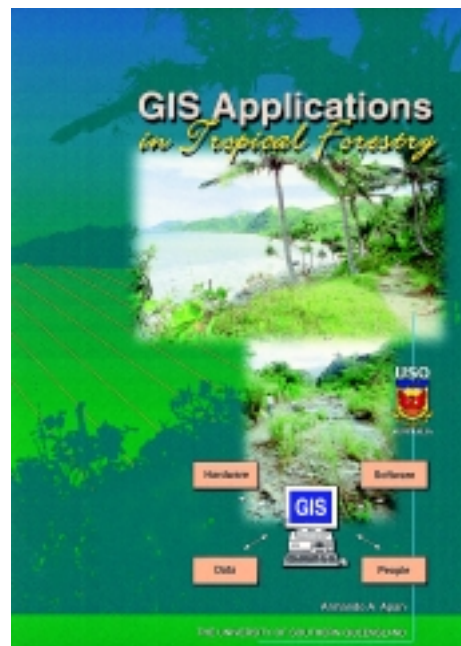
Lecturer, GIS and Remote Sensing, Faculty of Engineering and Surveying, University of Southern Queensland, Toowoomba 4350 QLD, Australia; Email [apana@usq.edu.au](mailto:apana@usq.edu.au)

The increased application of geographic information systems (GIS) in tropical forestry could, in theory, greatly enhance the effective handling and use of geographic information in both management and research. In practice, however, little is known about whether this potential is being met. While there are many stories of success, there are also reports of failures or difficulties. The aim of this fellowship was to review and evaluate the applications of GIS in tropical forestry, and to synthesise the results of what has been learned into a monograph.

The materials reviewed in this exercise were those published as of March 1998, along with any unpublished accounts made available to the author through personal communications. The consequent monograph covers the role of GIS in the following aspects of tropical forestry: forest resource assessment and monitoring; forest protection; forest harvesting; forest rehabilitation/reforestation; community and social forestry; forest conservation, ecology and biodiversity; and forest and climate change. In addition, it touches on the development of spatial databases related to tropical forestry.

### Highlights of Findings

The review found many case-studies of GIS applications in **forest resource assessment and**



**monitoring.** The following observations can be made:

- the nature of application is predominantly focused on spatial data analysis and modelling (mainly map overlaying, multi-temporal analysis, area measurement and calculation);
- GIS was principally used for research studies and not to formally support policy formulation, the planning process or management decisions; and
- GIS is often used in tandem with remote sensing or image processing. It has at least two major roles: as a database management tool, and to provide an environment in which satellite data and other thematic layers can be integrated or overlaid for analysis.

Despite its potential, the present use of GIS in **forest protection** is relatively very low; most such studies or projects are related to forest fire. Similarly, GIS is mainly used for spatial data analysis and modelling and for research studies rather than for operational planning and management. For the few studies reported in which GIS was used in **forest rehabilitation**, applications were driven by the need to integrate map layers and to conduct spatial data analysis and modelling. Also, GIS is mostly being used for research studies and not to formally support the planning process and management decision-making.

For both temperate and tropical regions, the present use of GIS in **community and social**

### ITTO Fellowship Grants

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

*Eligible activities* include:

- participation in short-term training courses, training internships, study tours, lecture/ demonstration tours and international/ regional conferences;
- technical document preparation, publication and dissemination, such as manuals and monographs; and
- post-graduate studies.

*Selection criteria:* Fellowship applications will be assessed against the following selection criteria (in no priority order):

- consistency of the proposed activity with the Program's objective and priority areas;
- qualifications of the applicant to undertake the proposed fellowship activity;
- the potential of the skills and knowledge acquired or advanced under the fellowship activity to lead to wider applications and benefits nationally and internationally; and
- reasonableness of costs in relation to the proposed fellowship activity.

The maximum amount for a fellowship grant is US\$10,000. Only nationals of ITTO member countries are eligible to apply. The next deadline for applications is **30 August 2000** for activities that will begin no sooner than December 2000. Applications are appraised in May and November each year.

Further details and application forms (in English, French or Spanish) are available from Dr Chisato Aoki, Fellowship Program, ITTO; Fax 81-45-223-1111; Email [itto@mail.itto-unet.ocn.ne.jp](mailto:itto@mail.itto-unet.ocn.ne.jp) (see page 31 for ITTO postal address).

**forestry** is very limited. When applied, GIS is often linked to participatory rural appraisal tools for the extraction and dissemination of information on planning and decision-making. On the other hand, applications for **forest conservation and biodiversity** are fairly evident. They range from the mapping of forest composition and biodiversity to the establishment of new national parks. Most of the studies are also research-oriented, employing GIS capabilities on spatial data management and geographic analysis.

Although presently dominated by research-related applications, **spatial databases** are becoming vital for supporting forest management decisions. This study revealed a number of insights into the development and use of spatial databases for forest management. For example:

- the establishment of global or continental databases (in digital format) related to the environment is phenomenal;
- spatial databases to support strategic and operational control decisions for forest management are lacking;
- there is an increasing demand for the handling of large quantities of digital data;
- the internet and CD-ROMs play an important role in access to and dissemination of spatial data; and

- developing countries need to put more effort into the collection and maintenance of reliable primary data.

## Conclusions

A number of conclusions can be drawn from this review.

Although currently concentrated in forest resource assessment and monitoring, the application of GIS in tropical forestry is increasing. As it grows, it will be necessary to give greater focus to GIS applications in other areas or in forestry sub-disciplines.

The benefits of GIS to tropical forestry will be maximised if it is used for operational decision-making in addition to the research-saturated applications currently prevailing. However, significant hurdles must be overcome so that operational mode GIS can be adopted; for example, it will be necessary to step up the tedious but essential process of spatial data capture and database-building, while the lack of in-house experts will need to be addressed.

There is an apparent lack of socio-economic data that could be used for GIS in tropical forestry; applications relating to the human population and its socioeconomic characteristics are also wanting. While biophysical data in developing countries are difficult to obtain, socio-economic data are even harder to gather.

The recent trend in tropical forestry to encourage participation from the community and other stakeholders means that GIS must address some key issues to maximise its potential contribution. These include: the need for customised, user-friendly interfaces and better visualisation and graphical display; the need to accommodate group decision-making; and the need to combine with other multi-media technology.

As a data-dependent system, the use of GIS is severely hampered by weak forest inventory and related data-gathering systems, including the building of digital spatial databases. In addition, there is a need to ensure the development of GIS-skilled personnel at various levels and functions.

*Under the fellowship, the monograph GIS Applications in Tropical Forestry has been produced and distributed free to about 150 libraries and individuals.* ■

**The following ITTO Fellowship reports may be obtained by contacting the relevant author:**

Agyeman, V. K (1999). *Milicia species (iroko) tolerance to *Phytolyma species* infestation*. Contact the author at: Forestry Research Institute of Ghana, University Box 64, UST, Kumasi, Ghana; Tel 233-51-60373; Fax 233-51-60121; Email vagyeman@forig.org

Chit Hlaing (1999). *Study on teak plantations in Myanmar*. Contact the author at: Forest Department, Ministry of Forestry, Bayint-Naung Road, Insein Township, Yangon, Myanmar; Tel 95-1-681754; Fax 95-1-664336; Email DG.FD@MtPt400.Stems.COM

Fonweban, J. N. (1999). *Coefficients of commercialisation and wood losses for some timber species harvested in Cameroon*. Contact the author at: Department of Forestry, Faculty of Agronomy, University of Dschang, PO Box 180, Dschang, Cameroon; Tel 237-451621; Fax 237-451202

## Fellowship Reports Available

Harding, K. J. (1999). *Connection between silviculture and wood quality through modelling approaches and simulation softwares*. Report on the Third Workshop of IUFRO Working Party S5.01-04 (Biological Improvement of Wood Properties). Contact the author at: Queensland Forestry Research Institute, PO Box 631, Indooroopilly, 4068, Queensland, Australia; Tel 61-7-3896 9766; Fax 61-7-3896 9628; Email harding@qfslab.ind.dpi.qld.gov.au

Pascua-Soriano, F. (1999). *Study tour report on the manufacture, performance tests and marketing of prefabricated houses with wood/wood-based modular components*. Contact the author at: Structural Design and Engineering Section, Forest Products Research and Development Institute, Los Baños, Laguna 4031, Philippines; Tel 63-49-536 2360; Fax 63-49-536 3630; Email fps@mudspring.uplb.edu.ph

Rivera, S. (1999). *Multitemporal analysis of deforestation in Honduras using GIS and remote sensing techniques*. Contact the author at: Escuela

Nacional de Ciencias Forestales (ESNACIFOR), Apartado Postal No.2, Siguatepeque, Depto. De Comayagua, Honduras; Tel 504-773 1652; Fax 504-773 1650; Email esnauary@sdnhon.org.hn

Sharma, A. (1998). *Management and marketing of forest products by forest user groups in Nepal*. Contact the author at: Resource Development Initiative Center, PO Box 6944, Kathmandu, Nepal; Tel 977-1-531708; Fax 977-1-524509/536747 Email udayardc@col.com.np

Sharma, S. (1999). *Development of forest industry in Nepal*. Contact the author at: PO Box 6944, Kathmandu, Nepal; Tel 977-01-531708/540299; Email udayardc@col.com.np

Uno, J. H. (1999). *Using ecotourism to conserve biodiversity in Togeang Islands, Central Sulawesi: An approach to community-based natural resource management*. Contact the author at: Consortium Togeang, Jl. Sisingamangaraja 10C, Palu Central Sulawesi, Indonesia; Tel 62-451-424205; Fax 62-451-424205; Email uno@bdg.centrin.net.id

Edited by Alastair Sarre

## Certification Favours Large-holders

In a paper for a World Bank/WWF Alliance Workshop held in November 1999, Stephen Bass and Markku Simula present some conclusions on the types of operation more likely to benefit from certification. In general, they say, benefits can more easily be reaped by:

- companies that own large forests or have large, long-term concessions;
- companies that procure their raw material from state-owned natural forests or plantations; and
- companies that are large – because they can achieve economies of scale in both forest management and certification assessment.

The following groups are likely to have difficulty benefiting from certification:

- smallholdings, due to their small size and therefore difficult access to certification, high unit costs, and an inability to achieve economies of scale;
- community forests, due to their weak management systems, high costs, and orientation towards essential livelihood activities, which need to be factored into market decisions; and
- small and medium-scale operations, particularly in developing countries – certification costs will be higher for them in relative terms than for large-scale operations, and their information, control systems and market experience tend to be less developed and poorly documented.

## PNG Forestry Forum Created

The Papua New Guinea Eco-forestry Forum is a new association of non-government and other organisations that promote conservation and community development through practical eco-forestry initiatives. The purpose of the Forum

is to support the activities of its members and other groups involved in eco-forestry and to promote their work both within PNG and overseas. It published the first edition of its quarterly newsletter, *Iko-Forestri Nius*, in December 1999 in both Tok Pisin and English.

For more information on the Forum, contact it at: PO Box 933, Kimbe, West New Britain Province, Papua New Guinea; Tel 675-983 5464; Fax 675-983 5852; Email [teff@global.net.pg](mailto:teff@global.net.pg)

## Palm Heart Harvesting

Scientists from Utrecht University recently published a report, 'Palm heart harvesting in Guyana's North-West District: exploitation and regeneration of *Euterpe oleracea* swamp forests', which presents the findings of a four-month study to assess the industry's sustainability. For a copy, contact: Tinde van Andel, Herbarium, Utrecht University, PO Box 80102, 3508 TC Utrecht, the Netherlands; Email [tinde@xs4all.nl](mailto:tinde@xs4all.nl)

## Conserving Tropical Wilderness

More investment in conservation is needed if the remaining tropical wilderness areas are to be conserved. This is the view expressed by Conservation International, an environmental non-government organisation, in its recently-published policy brief *Transnational logging investments in the major tropical wilderness areas: recent trends provide opportunities for conservation*. The brief identifies what it calls the four major tropical wilderness areas worldwide: the Guayana Shield, which includes the southern Guianas, southern Venezuela and adjacent portions of northern Brazil; Upper Amazonia, which includes parts of Brazil, Colombia, Ecuador, Peru and Bolivia; New Guinea, which includes eastern Irian Jaya and most of Papua New Guinea; and the Congo Basin, which includes Congo, the Democratic Republic of Congo, Equatorial Guinea, Gabon and parts of Cameroon, the Central African Republic, and Angola. The brief argues that intrusions by transnational logging companies into these areas will threaten their conservation value. It makes four recommendations to "aid conservationists and other interested parties in the formulation of solutions". They are: the creation of conservation corridors in the four

wilderness areas; the financing of conservation through carbon offsets; the use of sound economic analyses in development planning; and the monitoring of transnational corporation activities.

## Even-aged Silviculture?

The recent tendency to manage tropical rainforests in Asia using 'selective' harvesting systems based on repeated, diameter-limit cutting cycles is challenged in a recent paper by Ashton and Peters (*Journal of Forestry*, November 1999). According to the authors, "many of the mistakes made with uneven-aged silviculture in tropical Asia at the turn of the century ... have been forgotten, and as a result are being repeated." They champion a return, in appropriate forests, of the shelterwood method, which they define as "a set of silvicultural manipulations applied at the scale of the stand and focused towards establishing advance regeneration when absent at the forest groundstory, and then releasing this regeneration as a single cohort once it is present." They argue that shelterwood systems have been largely abandoned in Asian rainforests, mainly because of concerns about "what we think forest structure should look like". Nevertheless, say the authors, shelterwood systems are less susceptible to opportunistic vine growth and chronic suppression of regeneration from in-growth of older age classes, and can facilitate the capture of non-timber products. In addition, the shelterwood principle of relying on advance regeneration ensures that the stand always has plants in place to reduce the risk of explosive invasions of unwanted pioneer species.

## New Forestry Journal

*Forest Policy and Economics* is a new international journal dealing with policy, economic and planning issues related to the forestry and forest industries sector. It aims to publish original papers of high scientific standard and to enhance communication amongst researchers, legislators, decision-makers and other professionals concerned with formulating and implementing policies for the sector. For more information contact: Prof Dr Max Krott, Institut für Forstpolitik und Naturschutz, Georg-August-Universität Göttingen, Büsgenweg 5, D-37077 Göttingen, Germany; Email [mkrott@gwdg.de](mailto:mkrott@gwdg.de); [www.elsevier.nl/locate/forpol](http://www.elsevier.nl/locate/forpol)





## Governments Discuss Certification

*International Cooperation on Certification of Sustainable Forest Management and Labelling of Forest Products*

22–24 November 1999  
New York, USA

This informal meeting of government officials explored opportunities for government-to-government cooperation in the certification of forest management and labelling of forest products. The meeting was initiated by the Australian Minister for Forestry and Conservation and was hosted by Australia at its Mission to the United Nations. It was attended by 17 countries, the European Commission and three intergovernmental organisations, including ITTO.

Delegates and guest speakers from Canada, Finland, Malaysia, the Netherlands, Sweden, the United Kingdom and the United States made presentations on the degree of certification achieved in their countries. These highlighted a number of issues that were discussed at the meeting.

The meeting recognised the benefits of certification as a potentially useful tool for promoting sustainable forest management. But many participants expressed concerns about certification schemes, including: their complexity; the potential costs and inefficiencies resulting from the proliferation of schemes and the obstacles for developing country access to major consumer markets; the potential for consumer confusion; the potential for discrimination among and within schemes; and the potential for perverse outcomes, especially concerning competing land-uses in developing countries.

The meeting distinguished the differing roles of government at the international and national levels. The meeting also acknowledged the differing roles governments had taken in certification and labelling in their own countries, reflecting the diversity of national circumstances. Participants expressed varying views on the roles of governments at the international level, ranging from significant

levels of potential government involvement to minimal intervention. Reasons for government involvement included ensuring that certification systems are transparent, fair, equitable and non-discriminatory as well as consistent with national laws and policies and international trade rules.

Unresolved certification and labelling issues of international importance identified at the meeting included:

- development of a set of ‘critical elements’ for assessing certification and labelling schemes;
- development of a stepwise approach which would provide recognition of progress towards meeting a standard for sustainable forest management;
- how governments may add value to current certification activities, including by participating in and facilitating certification activities with a broad range of stakeholders and working with activities currently under way;
- how to further support certification as an incentive for sustainable forest management and facilitator of trade;
- certification as a quality standard in broader forestry activities such as certification of carbon sinks for climate change mitigation; and
- ways of avoiding duplication from concurrent international activities and learning from the experiences of other countries.

The meeting noted that follow-up on the above issues should involve consultation with the full range of stakeholders. Participants expressed support for further international discussions on certification and labelling following the eighth meeting of the UN Commission on Sustainable Development.

*This is an edited version of the Chair’s ‘summary of discussions’. The full text can be viewed at: <http://www.affa.gov.au/ffid/sir/certification> ■*

## Biodiversity Convention Debated

*Global Biodiversity Forum for South and Southeast Asia*

24–26 October 1999  
Colombo, Sri Lanka

### Report by P. Balakrishna

IUCN – Asia Regional Biodiversity Programme

The Convention on Biological Diversity (CBD) is one of the most comprehensive and contentious international agreements developed to date. This legally binding convention, with 174 member countries (known as ‘Parties’), came into existence on 29 December 1993. Its founding principles are those of conservation, sustainable use and the equitable sharing of benefits arising from biodiversity utilisation.

The comprehensiveness of the CBD is often an asset but sometimes a difficulty. Countries are mandated to implement the decisions taken periodically by the CBD’s apex body – the Conference of Parties (COP) – which is supported by a scientific and technical body called the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA).

Both the COP and the SBSTTA are negotiating meetings where decisions are taken for countries to implement the provisions of the CBD; therefore, they need the informed participation of all stakeholders. To facilitate such participation, a consortium of organisations conceptualised a global forum to bring together, on a common platform, all relevant stakeholders. These include representatives of governments, non-governmental organisations, academia, the private sector, indigenous communities, and the donor community. The forum, called the Global Biodiversity Forum (GBF), is being convened at a global level prior to important biodiversity-related intergovernmental meetings including the CBD.

In order to facilitate the orchestration and development of regional-level priorities and views and to raise the ‘voice’ of different regions, GBFs are also being held at the regional level. For the first time, one such session was held for



South and Southeast Asia (GBF-SSEA) prior to SBSTTA 5. GBF-SSEA was held in Colombo, Sri Lanka in October last year attended by more than 120 stakeholders from about 22 countries. Participants discussed five thematic areas: an ecosystem approach to conservation with special reference to arid and semi-arid (including arid mountains) and coastal and marine ecosystems; sustainable use; alien invasive species; biodiversity-friendly practices and technologies; and national biodiversity strategies and action plans: lessons from Southeast Asia. ITTO acted as a co-sponsor and participated in the fourth of these, providing insights on biodiversity-friendly practices and technologies in tropical forestry.

The following are some of the salient recommendations from these workshops, which were circulated and discussed at the SBSTTA 5 meeting held in Montreal, Canada in January/February this year.

The workshop on the ecosystem approach to the conservation of arid, semi-arid (including arid mountains) and coastal and marine ecosystems recommended:

- that SBSTTA advise COP to develop guidelines on the ecosystem approach for conservation of specific ecosystems and to consider developing a work program on this as a priority theme at its upcoming meeting in Nairobi; and
  - based on the guiding principles developed for arid, semi-arid, coastal and marine ecosystems, that SBSTTA establish a liaison group to address this issue. Since several ambiguities still exist regarding the application of the ecosystem approach to conservation, the development of a work program for specific ecosystems would be of considerable help in implementing the approach.
- In the sustainable use workshop, several case-studies demonstrated the critical need to differentiate between the *sustainable harvest* of individual species and *sustainable use* (which encompasses biodiversity as a whole). Participants agreed on the need to address sustainable use as a cross-cutting issue and urged the Parties to:
- develop appropriate resource assessment tools, through locally developed science, criteria and indicators, on optimal harvest and/or use;

- develop suitable linkages to sustainable use and tenurial rights;
- address the possibilities of achieving sustainable use through alternative livelihoods, product substitutes and external inputs; and
- request the Global Environment Facility (GEF) to provide specific financial support to sustainable use related initiatives.

The workshop on alien invasive species (AIS) supported the guiding principles put forward by the Secretariat to the CBD for the prevention of introduction and mitigation of impacts. Realising that this issue needs region-specific approaches, participants urged the SBSTTA and the COP to:

- establish regional programs to address the prevention of AIS and the mitigation of their impacts;
- develop early warning and detection systems to prevent further spread of such species;
- support the development of strategies to address marine invasive issues;
- treat genetically modified organisms as potential alien invasive species; and
- recognise the importance of transboundary cooperation to address the alien species issue.

The workshop on biodiversity-friendly practices and technologies focused on the forestry and agricultural sectors. It urged the SBSTTA to consider the need for sector-specific case-studies and guidelines on biodiversity-friendly practices and technologies to assist Parties in implementing the provisions of the CBD.

The workshop recommended that the multi-year program of work being developed by the SBSTTA should accord priority to:

- the promotion of participatory and farmer-centred breeding activities;
- the use of natural enemies of plant pests;
- the development of appropriate indicators of production and sustenance in agriculture;
- the promotion of under-utilised crops; and
- the removal of perverse incentives.

Participants highlighted that native species should be an integral component of land-use planning and the establishment of plantations.

They also reiterated the importance of assessing the status of biodiversity in managed forests and highlighted the potential role of techniques such as reduced impact logging in promoting forest conservation.

The workshop on 'NBSAPs: lessons from SE Asia' considered case-studies from a majority of Southeast Asian countries on the development and implementation of national biodiversity strategies and action plans (NBSAPs). Participants recommended that:

- NBSAPs reduce their reliance on traditional sources of funding (such as the GEF) and accord greater attention to what can be accomplished through re-orientation of government budgets and sectoral activities;
- NBSAPs give greater attention to the use of economic incentives (and the elimination of 'perverse' incentives) to achieve their objectives;
- greater time and funding be allocated to consultative processes, in particular to enable consultation with resource users, local communities, the private sector and key government resource development sectors;
- NBSAPs accord greater attention to priority-setting, such as through the identification of priority bioregions and hotspots and the use of lists of threatened species;
- biodiversity strategies and action plans be developed at sub-national levels (provincial, state or bioregional) in order to promote effective implementation;
- initiatives such as the UNDP/UNEP/GEF Biodiversity Planning Support Programme be supported as a means of encouraging the regional exchange of information, expertise and best-practice experience; and
- NBSAPs contain a formal clause calling for review and revision every three to five years.

*A detailed report with abstracts of papers presented and discussions at the GBF-SSEA is available at [www.rbp-iucn.lk](http://www.rbp-iucn.lk)* ■



## New FAO Forestry Initiatives in Africa

Regional Workshop for the Central African EC/FAO Partnership Programme for Data Collection and Analysis in the Forestry Sector of African Countries

27 September–1 October 1999  
Lambaréné, Gabon

### Report by Douglas Pattie

ITTO Secretariat, Yokohama

The European Commission (EC) and the Food and Agriculture Organization of the United Nations (FAO) have developed a partnership program to strengthen national capacity in data collection and analysis through a regional project focusing on those African and Caribbean countries signatory to the Lomé Convention.

The long-term objectives of the project are: to promote sustainable management of tropical forests based on policies that integrate and balance relevant economic, environmental and social aspects of forestry; and to strengthen national capacities to collect and compile reliable and up-to-date information on forestry and to analyse the forest sector. To support these goals, a regional workshop was held in Lambaréné, Gabon to discuss and improve the coverage, timeliness and quality of forestry data in the Congo Basin and Madagascar. The countries of the Congo Basin have the most important forest resources in Africa; together with Madagascar, the sub-region contains more than 220 million hectares of all types of forest.

The workshop was intended to contribute to the development of a framework for essential data collection and dissemination at the national level. Hitherto, two sub-regional workshops had been organised under this EC/FAO project (Kenya, October 1998; Zimbabwe, December 1998). A fourth workshop on data collection and analysis was held in December 1999 in Yamoussoukro, Côte d'Ivoire.

The Lambaréné workshop was composed of two core modules. The objectives were: to evaluate the capacity of the African countries to collect, analyse and manage data and information from the forest sector; and to specify the contents

and modalities to be put in place by the FAO Forest Outlook Study for Africa (FOSA). Presentations were made by regional and international organisations including the African Timber Organization (ATO), l'Association Technique Internationale des Bois Tropicaux (ATIBT), the Inter-African Forest Industry Association (IFIA) and ITTO. Country presentations were made on the current situation with regard to data collection and analysis, highlighting the strengths and weaknesses in the respective countries. Participants included experts from Gabon, Cameroon, Rwanda, Chad, Central African Republic, Equatorial Guinea, Congo, Burundi and Madagascar. During the workshop, the gaps and difficulties associated with the collection and processing of statistical forest data were exposed. Specifically, institutional instability, insufficient technical capacity of human resources and the use of outdated materials were identified as primary causes for previously unreliable statistical information from the region. Political instability has facilitated the partial or total destruction of forest data and the destabilisation of forestry institutions in many countries.

The workshop focused on ways of improving national data collection and analysis systems in the two areas of forest resources and forest products. Two working groups recommended that:

- further international cooperation in the collection of reliable data on forest resources in the sub-region should be encouraged;
- assistance should be provided to private enterprise by supporting forest plantations at the village level;
- improvements should be made in the technical capacity and the operational structures charged with forest statistics in the countries of the Congo Basin;
- efforts should be made to coordinate the various sources of information within each country;
- ongoing support and assistance should be provided by FAO and other international partners for better dissemination of forest data using modern information technology and communication;
- further training should be given to personnel involved in forest statistics and data analysis methods;

- mechanisms should be put in place to collect data related to the potential of energy production from timber sources; and
- a systematic handling of data on non-timber forest products should be introduced which includes comparative commercial prices for various products in the different national economies.

The working groups also recommended that FAO should support further problem analysis in the key areas of institutional stability, legislative and legal policy work, socioeconomic and cultural impacts, technical support and financial investment opportunities. Participants felt that particular focus should be given to improving the national capacity to collect, collate, synthesise and analyse relevant information and to use the results in support of policy development and institutional and technical initiatives. The workshop discussed the shortage of human and material resources and the lack of know-how on statistical methodologies.

Workshop participants were provided with information about FOSA, which is undertaking an in-depth assessment of the five sub-regions (North, East, Southern, Central and West Africa). It involves the synthesis and consolidation of inputs from different sources by using regional baseline studies on socioeconomic features, forest cover and land-use as a starting point. Country outlook papers and thematic papers will form the basis for the final outputs of FOSA: five sub-regional outlook reports and a regional outlook report.

Activities under FOSA will continue until July 2002, when the results will be presented to the FAO African Forestry and Wildlife Commission and the Near East Forestry Commission.

*For a full workshop report and information on FOSA contact: Jean-Louis Blanchez, Forestry Officer, Forestry Department, Policy and Planning Division, FAO, Rome; Tel 39-6-570 55712; Fax 39-6-570 55137; Email [JeanLouis.blanchez@fao.org](mailto:JeanLouis.blanchez@fao.org)* ■



**Bodegom, S., Pelser, P. and Kebler, P. 1999. Seedlings of Secondary Forest Tree Species of East Kalimantan, Indonesia. Semai-semai Phon Hutan Sekunder di Kalimantan Timur, Indonesia. Tropenbos-Kalimantan Series Volume 1. The International MOFEC-Tropenbos-Kalimantan Project, Balikpapan. ISBN 90-5113-037-6. NLG75+NLG20 banking fee.**

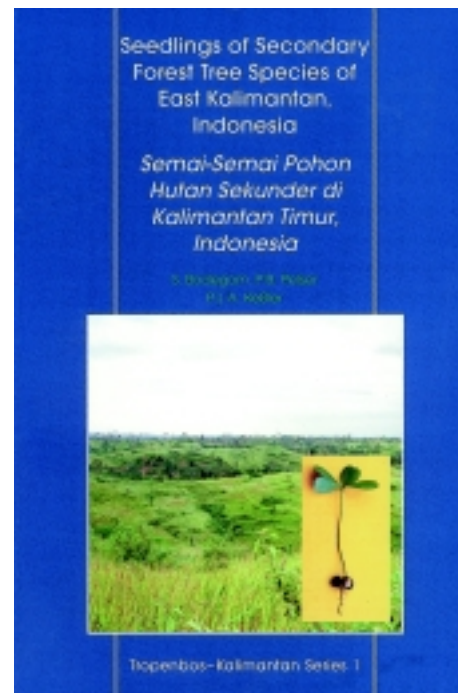
Available from: Publications Department, Nationaal Herbarium Nederland, Universiteit Leiden Branch, PO Box 9514, 2300 RA Leiden, the Netherlands

The Government of Indonesia has committed itself to the sustainable management of its forest land. In East Kalimantan alone, over 20 million hectares of lowland mixed dipterocarp forest have been allocated for the production of timber or non-timber forest products. Proper management of these areas includes reforestation of former skid and logging roads, log yards and other severely disturbed sites. But, to date, most rehabilitation has been carried out

using fast-growing, exotic tree species. Such species are often not suitable for this purpose, reducing the success of rehabilitation efforts.

Foresters realised some time ago that indigenous species would be a better alternative for rehabilitating these disturbed areas. Unfortunately, common baseline information has been lacking on the propagation, distribution, habitat preference and identification of such species.

The identification of seedlings is particularly difficult, as they can differ conspicuously in their general morphology from the adult plants and many distinguishing characters such as flowers and fruits are not present. This book provides descriptions and identification keys for seedlings of 113 taxa of secondary forest trees (representing 40 plant families) in East Kalimantan. These data are presented as a user-friendly bilingual field guide (English/Indonesian) accompanied by short descriptions, drawings and colour photographs of most species. A glossary defines the botanical terms used in the key. The authors are aware that not all secondary forest tree species are included, but express the hope that this key will assist the identification of the more common ones.



This book is a product of the multi-disciplinary Kalimantan Project, involving the Indonesian Ministry of Forestry and Estate Crops, Tropenbos and other institutions. It has benefited from funding by, among others, ITTO.

## Recent Editions

**SILVA/FAO 1998. Gestão participativa dos recursos florestais: estudos de casos. Réseau International Arbres Tropicaux, FAO and CTA.**

Available (in Portuguese or French) from: SILVA – Réseau International Arbres Tropicaux, SILVA, 21 rue Paul Bert, 94130 Nogent-sur-Marne, France; Fax 33-1-4876 3193; Email silva@cirad.fr

**Renuka, C., Indira, E.P. and Muralidharan, E.M. 1998. Genetic diversity and conservation of certain species of rattans in Andaman and Nicobar Islands and Southern India. KFRI Research Report No. 157. Kerala Forest Research Institute, Kerala.**

Available from: Kerala Forest Research Institute, Peechi – 680 653, Kerala, India; Fax 91-487-782 249; Email libkfri@md2.vsnl.net.in

**Ramachandran, K.K. 1998. Ecology and population dynamics of endangered primates in Silent Valley National Park. KFRI Research Report No. 143. Kerala Forest Research Institute, Kerala.**

Available from: Kerala Forest Research Institute, Peechi – 680 653, Kerala, India; Fax 91-487-782 249; Email libkfri@md2.vsnl.net.in

**Chandrashekhara, U.M. 1998. Ecological and social importance of conservation of sacred groves in Kerala. Kerala Forest Research Institute, Kerala.**

Available from: Kerala Forest Research Institute, Peechi – 680 653, Kerala, India; Fax 91-487-782 249; Email libkfri@md2.vsnl.net.in

**Palo, M. and Uusivuori, J. (eds) 1998. World forests, society and environment. Kluwer, Dordrecht. 430 pp.**

Available from: Kluwer Academic Publishers, Order Dept, PO Box 322, 3300 AH Dordrecht, The Netherlands; Fax 31-78-654 6474; Email orderdept@wkap.nl

**Nabuurs, G. et al. 1999. Resolving issues on terrestrial biospheric sinks in the Kyoto Protocol. Dutch National Research Programme on Global Air Pollution and Climate Change. Report No. 410 200 030.**

Available from: Dutch National Research Programme on Global Air Pollution and Climate Change, Antonie van Leeuwenhoeklaan 9, PO Box 1 (pb 59), 3720 BA Bilthoven, the Netherlands; Tel 31-30-274 3211; Fax 31-30-274 4436; http://www.nop.nl

**Segura, M. and Venegas, G. 1999. Tablas de volumen comercial con corteza para encino, roble y otras especies del bosque pluvial montano de la cordillera de Talamanca, Costa Rica. Colección manejo diversificado de bosques naturales publicación No. 15. Centro Agronómico Tropical de Investigación y Enseñanza, Turrialba, Costa Rica.**

Available from: Orton Library – Book Sales, CATIE 7170, Costa Rica; Tel 506-556 0501; Fax 506-556 0508; Email bibliot@catie.ac.cr

**Oates, J. 1999. Myth and reality in the rain forest: how conservation strategies are failing in West Africa. University of California Press. ISBN: 05-2022-252-0. Hardcover; 310 pages.**

Available from: www.amazon.com

**Terborgh, J. 1999. Requiem for nature. Shearwater Books. ISBN 15-5963-587-8. Hardcover; 248 pages.**

Available from: www.amazon.com



## Bell Tolls for Pulpwood

Sir

I would like to congratulate your contributor, Mr Alf Leslie, for his recent article ('For whom the bell tolls', *TFU* 9:4).

Mr Leslie has very lucidly and succinctly articulated a number of points that my colleagues and I have been discussing for a couple of years now. From the work that FAO has recently completed on the outlook for forest products supply and demand, it certainly looks like there will be a large surge in potential wood production from forest plantations in the very near future. As suggested in the article, this will come quickly, it will mostly comprise lower grades of industrial roundwood (ie pulpwood) and it will be felt particularly strongly in the Asia-Pacific region.

The Asia-Pacific region contains around half of the world's forest plantation area and presents a useful example of some of the challenges that the forestry sector will face when dealing with this resource in the future. FAO's latest projection for potential roundwood supply from forest plantations in this region suggests an increase from about 150 million m<sup>3</sup> in 1995 to 300 million m<sup>3</sup> by 2010. Excluding non-industrial forest plantations, the projected increase in industrial roundwood supply potential is even more dramatic, rising from 100 million m<sup>3</sup> to 180 million m<sup>3</sup>. Pulpwood is expected to account for about three-quarters of this potential.

Mr Leslie raises some very interesting points with respect to the impact that this might have

on wood production from natural tropical forest. However, there are also several interesting questions related to the production of wood from these plantations, the first of which is: what will the region do with all the wood? The expected increase in sawlog production from forest plantations should not present too much of a challenge (the region has the capacity, markets and technical knowledge to handle this) but what about all that pulpwood?

The Asia-Pacific region currently has the capacity to process about 100 million m<sup>3</sup> of pulpwood. About three-quarters of this is pulping capacity and the rest is in the reconstituted panels sector. This capacity is concentrated in the three developed economies of Japan, Australia and New Zealand, plus China and Indonesia. Indonesia is one of the few tropical countries that has begun to expand pulping capacity, but this has no doubt been affected by the current economic situation in the region. FAO's latest pulp and paper capacity survey shows only a very slight planned increase in pulping capacity in the region over the next few years and nothing like enough to process the expected wave of potential pulpwood production.

The second question is: does increasing pulping capacity represent the best strategy for the region, or would an increase in reconstituted panel production be more appropriate in the near term? Paper consumption is very low in all of the tropical countries with large forest plantation resources, which would suggest that they would have to export a large proportion of any pulp or paper produced. However, these markets are fiercely competitive and there are

many already well-established suppliers on the other side of the Pacific Rim and in Japan, Australia and New Zealand. Outside a few countries, the region also does not have much experience with the many technical, economic and marketing aspects of pulp and paper production.

Panel production, on the other hand, would seem to offer much more scope for development. For example, reconstituted panels account for 30 per cent of the volume of structural timber (ie sawnwood and panels) used in Europe and 15 per cent in North America. In contrast, the figure is only 12 per cent in Asia-Pacific. This suggests that the market may be there if producers can persuade consumers to switch to products such as medium density fibreboard (MDF), oriented strandboard (OSB) and plain old-fashioned particleboard. Many countries in the region also already have experience in producing and marketing wood-based panels, although mostly in the plywood sector. The technology for producing OSB is of course quite different to that for producing plywood, but countries would not be starting from scratch.

To conclude, it will be interesting to see how governments and industry respond to this expected increase in supply. The paper by Mr Leslie certainly provides a lot of food for thought.

**Adrian Whiteman**

Forestry Officer (Sector Studies)  
FAO, Rome

11 February 2000

*This correspondence represents the views of the author alone and does not imply any opinion whatsoever on the part of FAO.*

## Extolling Forest Trade

Sir

Your editorial (*TFU* 1999/3) placing the trade value of the forest as a major factor for forest conservation should be welcomed by all foresters, particularly those in the developing world and chiefly in the Commonwealth countries.

Particularly pertinent is the observation that forests will only be conserved (and I say 'preserved') if they are given greater value as forests than the land they occupy has for any alternative use. In India, much of our valuable

forest has been deforested for non-forest use – mostly agriculture and, of late, industrial development and mining.

I believe that governments are not giving due importance to the productive value of forests. In India, forestry was part of the Ministry of Agriculture for 50 years; most of the benefits were for agriculture, with forests hardly reaching 5 per cent of the allotment of funds to agriculture. Now it is tagged onto the Ministry for Environment, which clearly shows that the government is looking at the forests from an environmental angle and not as a potentially sustainable source of income or generator of

wealth. This is despite the fact that 39 per cent of people in India live below the poverty line and depend on the forest for their very survival. If we are to assist such people to earn a living without destroying the forest, governments must give more attention to forest products and services.

In this context, your editorial is of immense value to people at large.

**B.L. Das**

ex-Chief Conservator of Forests, Orissa  
Cuttack, India  
25 December 1999



## Forestry Compendium

CABI has announced publication of *The Forest Compendium*, which it describes as “a unique guide to the characteristics of tree species, a key information resource for forest managers and officers, researchers, forest planners, policy makers, conservationists, consultants, teachers, lecturers, students and extension workers”. Its user-friendly software incorporates a fully relational database framework, open-ended hyperlinking, a notepad facility, open architecture with links to the internet, and expert system functionality.

Module 1 of the *Compendium* includes:

- detailed information about more than 600 major tropical and subtropical tree and shrub species;
- an interactive advisory system to aid decision-making on choice of species;
- bibliographic information, with 25,000 abstracts from the world's relevant literature;
- the TREENAMES database (taxonomic details for over 20,000 woody species of forestry interest in tropical and temperate regions worldwide);
- global and regional maps showing natural and planted distribution;
- climate zones and soil types;
- illustrations including colour images and line drawings; and more.

A free demonstration can be downloaded at <http://tree.cabweb.org/efctext.htm>; the full version costs between US\$295 (non-corporate developing countries) and US\$1,800 (corporate). A 'global' version is planned for August 2000.

For more information, contact: Customer Services, CABI Publishing, Wallingford, Oxon, OX10 8DE, UK; Tel 44-(0)-1491-832 111; Fax 44-(0)-1491-829 292; Email [orders@cabl.org](mailto:orders@cabl.org)

## Statistical Services Available

Modern scientific research into any natural phenomenon relies extensively on quantitative methods both in measurement and analysis. Over the past several years, the Kerala Forest Research Institute in India has built up a strong team of experts, equipment and software to handle many sophisticated statistical design and analysis problems in research in forestry and allied fields. The Institute likes to share its expertise in this area with other similar institutions around the world on a no-loss, no-profit basis. The Institute can undertake the design of experiments and sample surveys and statistical analysis of research data. It can also conduct training programs in statistical methods for forestry professionals. The Statistics Division is headed by Dr K. Jayaraman, who has extensive international experience.

For more information contact: The Director, Kerala Forest Research Institute, Peechi 680 653, Thrissur, Kerala, India; Tel 91-(0)487-782; Fax 91-(0)487-782 249; Email [libkfri@md2.vsnl.net.in](mailto:libkfri@md2.vsnl.net.in)

## FSC Calls for Input

The Forest Stewardship Council is calling for stakeholders to share what they think are important social issues in relation to the FSC Principles and Criteria for Forest Management and their evaluation in the field. Input provided by stakeholders will be used to develop the program for the FSC Annual Conference, to be held on 8-13 November 2000 in Oaxaca, Mexico.

Contact: Nicolas Blanchette, FSC Intern, Avenida Hidalgo 502, 68000 Oaxaca, Mexico; Tel 52-951-46905/63244; Fax 52-951-62110; Email [fscoax@fscoax.org](mailto:fscoax@fscoax.org); <http://www.fscoax.org>

## MSc Program in Malaysia ...

The Faculty of Forestry at the Universiti Putra Malaysia offers a Master of Science in Tropical Forest Resource Management. It is a one-year post-graduate program designed to produce knowledgeable and competent managers in tropical forest management. The program adopts a multidisciplinary approach to managing forested ecosystems for wood and non-wood goods and services. Students learn about the biodiversity of forest resources and their interactions within the context of ecological, economic and social objectives. They may select their fields of interest from several options offered in each academic session. They are also required to undertake a research project and write a report. A total of 30 credits over two semesters must be fulfilled. Cost: RM200/credit. Next program starts May 2000.

Contact: Co-ordinator, MSc Tropical Forest Resource Management, Faculty of Forestry, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor Darul Ehsan, Malaysia; Tel 60-3-948 6101 ext 2436; Fax 60-3-943 2514; Email [faridah@forn.upm.edu.my](mailto:faridah@forn.upm.edu.my); <http://www.forn.upm.edu.my>

## ... and MSc and PhDs in the Netherlands

The University of Leiden in conjunction with the National Herbarium of the Netherlands and the Amsterdam Centre for Drug Research offers MSc (18 month) and PhD (48 month) programs in natural products and biodiversity, biodiversity and systematics, pharmacognosy, and plant cell biotechnology.

More information can be obtained from: P. de Graaf, Secretary of the programs, Einsteinweg 55, PO Box 9502, 2300 RA Leiden, the Netherlands; Tel 31-71-527 4528; Fax 31-71-527 4511; Email [P.Graaf@Lacdr.leidenuniv.nl](mailto:P.Graaf@Lacdr.leidenuniv.nl)

## Professorships Available

– covers socio-economics and land-use management; international forest policy; project management; and communication and public relations.

Applicants should hold a degree in forestry or in a related discipline and a PhD, preferably in one of the two above-mentioned fields. They should have several years of relevant research, teaching and practical experience in an international context. As classes will be taught in English, an excellent command of the English language is a prerequisite.

Teaching activities may be concentrated in one semester per annum. Suitable applicants may apply for both vacancies, which could be combined into one full-time position. At the end of the five-year period, the positions could become permanent.

Applications supported by the usual documentation should be submitted by 17 April 2000 to:

Fachhochschule Eberswalde, Dekan, Fachbereich Forstwirtschaft, Alfred-Möller-Str. 1, 16225 Eberswalde, Germany; Tel 49-3334-65465; Fax 49-3334-65428

The Faculty of Forestry at the University of Applied Sciences in Eberswalde, Germany has two professorial vacancies:

- **Professor of Forest Inventory and Planning** (half-time position, initially limited to 5 years) – covers forest ecosystem inventory; remote sensing; GIS; forest survey; and computer modelling.
- **Professor of Social/Multipurpose Forestry** (half-time position, initially limited to 5 years)



## ◆ Economic Botany

15–26 May 2000

Leiden, the Netherlands Cost: fl 500

This course at the National Herbarium of the Netherlands sets the relationship of humans to the plant world in the context of animal-plant interactions and is effectively an excursion in practical ecological biochemistry. Participants attend a two-week course of lecture-demonstrations and prepare an original paper on a topic of their own choice, using the library and herbarium collections as well as internet sources. The course, which is held every year, is suitable for any one interested in human-plant interactions.

Contact: Professor Dr P. Baas on Tel 31–71–527 3522 or at Baas@nhncml.leidenuniv.nl; Professor Dr D. Mabblerley at David\_Mabblerley@rbgsyd.gov.au; or Arjan Stroo on 31–71–527 3598 or at stroo@nhncml.leidenuniv.nl; or visit <http://nhncml.leidenuniv.nl/rhb>

## ◆ Tropical Dendrology

Offered every year in Spanish (2001 will be the next opportunity) and English (26 June–8 July 2000)

San José, Costa Rica Cost: US\$1,800

This course makes use of a highly efficient teaching methodology and covers four different climatic environments.

Contact: Dr Humberto Jiménez Saa, Centro Científico Tropical, Apdo. 8-3870-1000, San José, Costa Rica; Fax 506–253 4963; Email [hjimenez@sol.racs.co.cr](mailto:hjimenez@sol.racs.co.cr); <http://www.geocities.com/RainForest/9148>

## ◆ Management for Sustainable Natural Resource Development and Environmental Protection

9 July–4 August 2000 and 8 July–3 August 2001

Knoxville, TN, USA Cost: US\$3,900

The goal of this course is to promote management that encourages sustainable development of natural resources, seeking a balance between economic productivity and preservation of those resources for future generations. It is designed for mid-level professionals in agencies concerned with natural resource management, environmental protection, and rural or regional planning.

Contact: Dr Robert Orr, International Programs for Agriculture and Natural Resources, University of Tennessee, 320 Morgan Hall, Knoxville TN 37996-4500, USA; Tel 1–865–974 7476; Fax 1–865–974 7464; Email [rorr@utk.edu](mailto:rorr@utk.edu)

## ◆ MSc Tropical Forestry

September 2000 (duration 18 months)

Velp, The Netherlands Cost: fl 6,250

This course at the Larenstein International Agricultural College prepares participants for a future management position in forestry. It focuses on the management of forest resources from ecological, economic and socioeconomic perspectives. Four different specialisation options are offered: commercial forestry, social forestry, protected area management, and natural resources management. Partial participation by attending specific modules is possible.

Contact: Floris Deodatus, Larenstein International Agricultural College, Box 9001, 6880GB Velp, The Netherlands; Fax 31–26–3615287, Email [masters@iahvlp.agro.nl](mailto:masters@iahvlp.agro.nl)

*All courses in English unless otherwise stated.*

## Courses at the Training Center for Tropical Resources and Ecosystems Sustainability

### ◆ Urban Forestry for Environmental Enhancement

1 August–11 September 2000 Cost: US\$3,600

This course introduces the concepts, principles, importance and practices of urban forestry.

### ◆ Forest-based Industries and the Environment

29 August–18 September 2000 Cost: US\$2,500

This course addresses the various environmental problems attendant to the utilisation of wood to meet people's requirements for modern forest products, including fuelwood. It will provide participants with strategies and tools to address waste and pollution problems in the forest-based industries.

### ◆ Sustainable Forest Resources Management and Project Planning

29 August–9 October 2000 Cost: US\$3,600

This course will provide mid-level resource planners, project managers and technical experts with training for sustainable forest resources management planning.

### ◆ Social Forestry for Sustainable Rural Development

12 September–23 October 2000 Cost: US\$3,600

This course is designed for mid and high-level forest managers to enhance their knowledge and skills in integrating their experiences with social science and biophysical theories and concepts within the framework of sustainable forest management and rural development.

### ◆ Integrated Protection for Sustainable Forestry

12 September–16 October 2000 Cost: US\$3,400

This course operationalises the concept of natural resource sustainable development through an

integrated approach to forest protection. It covers the biological, anthropogenic and physical components of forest protection.

### ◆ Geographic Information Systems and Their Application in Natural Resources Management

10 October–20 November 2000 Cost: US\$3,600

This course introduces mid-level resource planners, project managers and technical experts to the basic concepts, principles and techniques of geographic information systems (GIS) for the analysis of spatial data. It includes an introduction to geographic data processing and the application of GIS to resource management, with emphasis on forestry and the environment.

### ◆ Participatory Approaches in Forestry and Natural Resources Development Projects

24 October–4 December 2000 Cost: US\$3,600

This course is designed for managers, field practitioners, academics and other individuals concerned about or interested in the design, management, implementation, monitoring and evaluation of forest and natural resources development projects involving the participation of local communities and other stakeholders.

### ◆ Enhancing Capabilities in Forestry and Tropical Ecosystems Research

24 October–4 December 2000 Cost: US\$3,600

This course is designed for professionals involved in forestry and environmental resources research to enhance their capability in the design, implementation, analysis, interpretation, dissemination and utilisation of research results.

For more information on any of the above courses, contact: Training Program Leader, Training Center for Tropical Resources and Ecosystem Sustainability, College of Forestry, University of the Philippines Los Baños, PO Box 434, College, Laguna 4031, Philippines; Fax 63–49–536 3340; Email [ifc@uplb.edu.ph](mailto:ifc@uplb.edu.ph)

## ITTO Tropical Forest Update

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**Other enquiries to ITTO** should be sent to the same postal address above or to the general ITTO email address: [itto@mail.itto-unet.ocn.ne.jp](mailto:itto@mail.itto-unet.ocn.ne.jp)

The **ITTO homepage** can be found at <http://www.itto.or.jp>

# Forthcoming Meetings



◆ 6–8 April 2000. **Information Management in Forest Enterprises.** Munich, Germany. IUFRO 4.04.02. Contact: Martin Moog, Chair of Forest Economy Science, Ludwig-Maximilian University, Munich, Am Hochanger 13, D-85354 Freising, Germany; Tel 49–8161 7146–30; Fax 49–8161 7146–31; Email fwl@forst.uni-muenchen.de

◆ 9–14 April 2000. **Symposium on Hybrid Breeding and Genetics.** Noosa, Australia. Contact: Heidi Dungey, Queensland Forest Research Institute, MS 483, Fraser Rd, Gympie Qld 4570, Australia; Fax 61–7–5482 8755; Email dungeyh@qfri1.se2.dpi.qld.gov.au

◆ 10–12 April 2000. **International Conference on Forest Ecosystem Restoration.** Vienna, Austria. Contact: Dr Erhard Halmschlager, Univ. Agricultural Sciences, Hasenauerstrasse 38, A-1190 Vienna, Austria; Email halmi@mail.boku.ac.at; http://www.boku.ac.at/

◆ 24–29 April 2000. **Manejo Sostenible de los Recursos Forestales.** Pinar del Rio, Cuba. IUFRO 1.07.09. Contact: Pastor Amador, Universidad de Pinar del Rio, Facultad Forestal, Marti No 270, Pinar del Rio 20100, Cuba; Email dptopfor@netupr.upr.edu.cu; http://iufro.boku.ac.at/iufro/iufro.net

◆ 28–29 April 2000. **Workshop on Learning from Resource Users – a Paradigm Shift in Tropical Forestry.** Vienna, Austria. Contact: Ms Julia Roetzer, Austrian National Node of the European Tropical Forest Research Network, Institute for Forest Ecology, University of Agricultural Sciences – BOKU, Peter Jordan Str. 82, A-1190 Vienna, Austria; Tel 42–(0)1–47654 4124; Fax 43–(0)1–479 7896; Email jroetzer@woek.boku.ac.at; http://nuf.boku.ac.at

◆ 8–12 May 2000. **The Role of Boreal Forests and Forestry in the Global Carbon Budget.** Edmonton, Canada. Contact: Carbon Conference Coordinator, 5320–122 St, Edmonton, Alberta, Canada T6H 3S5; Fax 1–780–435 7356; Email carbon@nofc.forestry.ca; http://www.nofc.forestry.ca/carbon

◆ 15–26 May 2000. **5th Meeting of the Conference of the Parties to the Convention on Biological Diversity.** Nairobi, Kenya. Contact: CBD Secretariat, World Trade Center, 393 Jaques St, Suite 300, Montreal, Quebec, Canada H2Y 1N9; Tel 1–514–288 2220; Fax 1–514–288 6588; Email chm@biodiv.org; http://www.biodiv.org

◆ 16–19 May 2000. **African Medicinal Plants.** Nairobi, Kenya. Contact: Ernest Rukangira, Medicinal Plants and Local Communities Programme, PO Box 72461, Nairobi, Kenya; Tel 25–42–576 114; Fax 25–42–562 175; Email erukangira@iconnect.co.ke

◆ 20–24 May 2000. **Improvement of Wood Quality and Genetic Diversity.** Zagreb, Croatia. Contact: Heinrich Spiecker, University of Freiburg, Institute of Forest Growth, Bertoldstr. 17, 79085 Freiburg, Germany; Tel 49–761–203 3737; Fax 49–761–203 3740; Email instww@ruf.uni-freiburg.de; http://cqforlab.uwsp.edu/iufro/

◆ 27–30 May 2000. **Impacts of Air Pollution and Climate Change on Forests – 19th International Meeting for Specialists in Air Pollution Effects on Forests.** Houghton, USA. IUFRO 7.04.00. Contact: David Karnosky, School of Forestry and Wood Products, Michigan Technological University, 101 U.J. Noblet Forestry Building, 1400 Townsend Drive, Houghton, Michigan 49931-1295, USA; Tel 1–906–487 2898; Fax 1–906–487 2897; Email karnosky@mtu.edu

◆ 4–9 June 2000. **International Symposium on the Biogeography of Southeast Asia 2000.** Leiden, the Netherlands. Contact: Rienk de Jong, Nationaal Natuurhistorisch Museum, Dept of Entomology, PO Box 9517, 2300 RA, Leiden, the Netherlands; Fax 31–71–513 3344; Email jong@nmm.nl

◆ 18–21 June 2000. **54th Annual Meeting of Forest Products Society.** Lake Tahoe, USA. Contact: Forest Products Society; Tel 1–608–231 1361; Fax 1–608–231 2152; Email info@forestprod.org; http://www.forestprod.org/conf.html

◆ 22–23 June 2000. **Wood Adhesives 2000.** Lake Tahoe, USA. IUFRO 5.00.00 Forest Products. Contact: John A. Youngquist, USDA Forest Service, Forest Products Lab, One Gifford Pinchot Dr, Madison Wisconsin 53705,

USA; Tel 1–608–231 9398; Fax 1–608–231 9582; www.fpl.fs.fed.us/pdcomp/

◆ 25–30 June 2000. **Multipurpose Management of Mountain Forests.** Pralognan-la-Vanoise, France. Contact: Gérard Buttoud, ENGREF, 14 rue Girardet, 54042 Nancy, France; Fax 33–383370645; Email buttoud@nancy-engref.inra.fr

◆ 26–30 June 2000. **2000 World Conference on Natural Resource Modelling.** Wageningen, the Netherlands. Contact: Joost Meulenbroek, Congress Office, Wageningen University, Costerweg 60, 6701 BH Wageningen, Netherlands; Fax 31–317–485309; Email joost.meulenbroek@alg.vl.wau.nl; www.cqs.washington.edu/~gordie/rma/html

◆ 16–23 July 2000. **Amsterdam, the Netherlands. Geoinformation for All.** Contact: S. Tempelman, c/o ITC, PO Box 6, 7500 AA Enschede, Netherlands; Tel 31–53–487 4358; Fax 31–53–487 4335; Email isprs@itc.nl; http://www.itc.nl/~isprs

◆ 2–4 August 2000. **Tropical Forestry Research: Challenges in the New Millennium.** Peechi, India. Contact: Dr J.K. Sharma, Kerala Forest Research Institute, Peechi – 680 653, Kerala, India; Tel 91–487–782 061; Fax 91–487–782 249; Email libkfri@md2.vsnl.net.in

◆ 2–4 August 2000. **Bamboo 2000 International Symposium.** Chiang Mai, Thailand. Contact: Bamboo 2000 Secretariat, Faculty of Forestry, Kasetsart University, Bangkok 10900 Thailand; Tel 66–2–579 0171; Fax 66–2–942 8112; Email fforlwp@nontri.ku.ac.th

◆ 5–6 August 2000. **Improved Forest Management and Harvesting Practices for Tropical Forest.** IUFRO/FAO Satellite Meeting. Kuala Lumpur, Malaysia. Contact: R. Heinrich, Forest Harvesting, Trade and Marketing Branch, FAO Forestry Department, Viale delle Terme di Caracalla, 00100 Rome, Italy; Fax 39–6–5705 5137; Email Forest-Harvesting@FAO.org

◆ 7–12 August 2000. **Kuala Lumpur, Malaysia. The Effect of Nursery and Silvicultural Operations on the Environment and Society.** IUFRO 3.02.00 at the XXI IUFRO World Congress. Contact: Mike Menzies, New Zealand Forest Research Institute Ltd, Biotechnology Division, Private Bag 3020, Rotorua, New Zealand; Tel 64–7–3475899; Fax 64–7–3479380; Email menziesm@tawa.fri.cri.nz

◆ 7–12 August 2000. **Kuala Lumpur, Malaysia. Data Collection in the Tropics.** IUFRO 4.02.01 at the IUFRO World Congress. Contact: Mohammed Ellatif, Service des Eaux et Forêts, PB 12507 Casablanca, Morocco; Fax 212–2–982428; Email m.ellatif@mailcity.com

◆ 7–12 August 2000. **XXI IUFRO World Congress 2000.** Kuala Lumpur, Malaysia. Contact: XXI IUFRO World Congress Organizing Committee, Forest Research Institute Malaysia, Kepong, 52109 Kuala Lumpur, Malaysia; Fax 60–3–636 7753; Email iufroxii@frim.gov.my; http://frim.gov.my/iufro.html

◆ 15–21 August 2000. **Forest Ecosystems – Ecology, Conservation and Sustainable Management.** Chengdu, Sichuan, China. IUFRO 1.14.00. Contact: Dr Shi Zuomin & Ms Dong Na, Institute of Forest Ecology, Environment & Protection, Chinese Academy of Forestry, Wanshoushan, Beijing, 100091 China; Tel 86–10–6288 8308 or 6288 9513; Fax 86–10–6288 4972; Email Shizm@fee.forestry.ac.cn

◆ 20–26 August 2000. **XXI International Congress of Entomology.** Iguacu Falls, Brazil. Contact: Dr Décio Luiz Gazzoni, PO Box 231, 86001-970 Londrina – PR Brazil; Fax 55–43–371 6100; Email icweb@cnpsa.embrapa.br; www.embrapa.br/ice

◆ 20–22 September 2000. **New Approaches to the Management of Neotropical Primary Rainforests by Industries and Communities.** Belém, Brazil. IUFRO 1.07.05. Contact: Dr Natalino Silva; Brazilian Agricultural Research Corp, CP 48, CEP 66240 Belem, Para, Brazil; Tel 55–91–2266622; Fax 55–91–2269845; Email natalino@cpatu.embrapa.br

◆ October 2000. **Harvesting of Non-wood Forest Products.** Ismir, Turkey. Contact: Dr R. Heinrich, Forest Harvesting, Trade and Marketing Branch, Forest

## ITTO Calendar

◆ 24–30 May 2000. **XXVIII Session of the ITTC and Associated Sessions of the Committees.** Lima, Peru.

30 October–4 November 2000. **XXIX Session of the ITTC and Associated Sessions of the Committees.** Yokohama, Japan.

◆ 28 May–2 June 2001. **XXX Session of the ITTC and Associated Sessions of the Committees.** Abidjan, Côte d'Ivoire.

◆ 11–13 June 2001. **International Conference on ex situ and in situ Conservation of Commercial Tropical Trees.** Yogyakarta, Indonesia. Sponsored by ITTO. Contact: Ms Soetintah S. Soedjo, ITTO Project PD 16/96 Rev.4 (F), Faculty of Forestry, Gajah Mada University, Bulaksumur, Yogyakarta 55281, Indonesia; Fax 62–274–902 220; Email itto-gmu@yogya.wasantara.net.id

Products Division FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy; Fax 39–(0)6–5705 5137; Email rudolph.heinrich@fao.org

◆ 8–13 October 2000. **Forest Genetics for the Next Millennium.** Durban, South Africa. IUFRO 2.08.01. Contact: Colin Dyer, IUFRO Conference Organiser, PO Box 11636, Dorpspruit 3206, South Africa; Tel 27–331–425 779; Fax 27–331–944 842; Email iufro@icfr.unp.ac.za

◆ 25–28 October 2000. **Enviro Latin America 2000.** São Paulo, Brazil. Contact: BIOSFERA, Av Presidente Vargas, 435 Gr. 1104/110 Centro, 20077-900 Rio de Janeiro, Brazil; Tel 55–21–221 0155; Fax 55–21–262 5946; Email biosfera@biosfera.com.br; http://www.biosfera.com.br/port/envirol.htm

◆ 8–13 November 2000. **Annual Conference of the Forest Stewardship Council.** Oaxaca, Mexico. Contact: FSC Secretariat, Avenida Hidalgo 502, 68000 Oaxaca, Mexico; Tel 52–951–46905/63244; Fax 52–951–62110; Email fscoax@fscoax.org; http://www.fscoax.org

◆ 13–24 November 2000. **6th Conference of the Parties to the Framework Convention on Climate Change.** Amsterdam, Netherlands.

◆ 10–13 December 2000. **5th Pacific Rim Bio-based Composites Symposium.** Canberra, Australia. Contact: Philip Evans, Department of Forestry, Australian National University, Canberra ACT 0200 Australia; Tel 61–2–6249 3628; Fax 61–2–6249 0746; Email Bio.symposium@anu.edu.au; http://online.anu.edu.au/Forestry/wood/bio/bio.html

◆ 18–21 March 2001. **4th South and East Asian Countries Non-Timber Forest Products Network (SEANN) Workshop.** Manila, Philippines. Contact: Dr. Ramon A. Razal, Training Center for Tropical Resources and Ecosystems Sustainability, College of Forestry and Natural Resources, UP Los Baños, College, Laguna, Philippines; Tel 63–49–536 2268; Fax 63–49–536 3340; Email trees@laguna.net

◆ 18–25 April 2001. **Fremantle, Australia. 16th Commonwealth Forestry Conference.** Contact: Libby Jones, UK Forestry Commission, 231 Corstorphine Road, Edinburgh EH 12 7AT, UK; Tel 44–(0)–131–314 6137; Fax 44–(0)–131–334 0442; Email libby.jones@forestry.gov.uk

◆ June 2001. **FAO/ECE/ILO Workshop on New Developments of Wood Harvesting with Cable Systems.** Austria. Contact: R. Heinrich, Forest Harvesting, Trade and Marketing Branch, Forest Products Division FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy; Fax 39–06–5705 5137; Email Forest-Harvesting@FAO.org

◆ 9–14 September 2001. **5th International Flora Malesiana Symposium.** Sydney, Australia. Contact: Dr Barry Conn, Royal Botanic Gardens Sydney, Mrs Macquaries Road, Sydney NSW 2000, Australia; fmv@rbgsyd.gov.au; http://plantnet.rbgsyd.gov.au/fm/fm.html