ISSN 1022–5439

ITTO Tropical Forest UPDATE

Volume 11 Number 4 2001

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

The shape of things to come

HOW does forest land get divided up? Often the process is chaotic, a question of who has the technical, financial or political means to grab the land and put it to work.

This way of doing things can be a social, economic and ecological disaster. Those people with less financial or political influence end up landless, and the land itself may be unable to support the use to which it is put. The potential result? A malignant brew of poverty, civil unrest and environmental degradation.

ITTO recognised the importance of fair, equitable and balanced land use policy when it published its *Guidelines for the sustainable management of natural tropical forests* in 1992. These recommended, among other things, that: "a national forest policy forming an integral part of the national land use policy, assuring a balanced use of forests, should be formulated by means of a process seeking the consensus of all the actors involved: government, local population and the private sector".

In 1993 it reiterated this approach in its *Guidelines on the conservation of biological diversity in tropical production forests*: "the conservation of biodiversity

Contents

Regular features

Editorial Alastair Sarre
Design Justine Underwood
Database Manami Ohshima

The *Tropical Forest Update* is published quarterly in three languages (English, French and Spanish) by the International Tropical Timber Organization. Content does not necessarily reflect the views or policies of ITTO. Non-copyrighted articles may be reprinted without charge providing the *TFU*, author and photographer are credited as source. The editor should be sent a copy of the publication.

Publishing and distribution coordinated by Anutech Pty Ltd, Canberra, Australia. Printed on paper produced with a minimum of 50% recycled fibre and a minimum of 15% post-consumer waste and without the use of chlorine gas.

The *TFU* is distributed **free of charge** to over 8 700 individuals and organisations in 125 countries. To receive it, send your full address to the editor. Please notify us if you change address.

International Tropical Timber Organization
International Organizations Center – 5th Floor
Pacifico-Yokohama, 1–1–1 Minato Mirai, Nishi-ku
Yokohama 220–0012 Japan
t 81–45–223 1110
f 81–45–223 1111
tfu@itto.or.jp
www.itto.or.jp

Cover image Workers look out over the Iwokrama forest from their vantage point on Turtle Mountain. *Photo: R. Thomas*

... Editorial continued

can only be fully realized within an integrated land use strategy, which assigns appropriate attention to biodiversity conservation in specific areas of forest …". One of the recommended actions was to "locate production forests to maximize the connectivity between natural forest TPAs [totally protected areas] at the landscape level". This should be done "in consultation with forest dwellers and surrounding populations, taking into account their present and future needs for agricultural land and their customary use of the forest".

Of course, guidelines are easier to write than to implement. That's why it is refreshing to learn that some innovative approaches to land use planning and stakeholder involvement are being used in the tropics. One of these, described in detail on pages 3–6 of this edition and partly funded by ITTO, is the 370 000-hectare Iwokrama Forest, which was established in Guyana by national legislation in 1996. Under the new law, the forest is to be divided into two zones of roughly equivalent size, one to be set aside as a totally protected area and the other to be managed on a sustainable and equitable basis. The Iwokrama International Centre initiated a participatory process using some relatively new technologies in novel ways to work out where the two zones should be located and how they should be managed.

The outcomes of ITTO Project PD 26/92, conducted in Cameroon from 1994 to 2001, are summarised on pages 7–9 and represent another attempt to engage local stakeholders in forest management planning. The project conducted ecological and silvicultural research in a 170 000-hectare forest near Kribi, and also gathered socio-economic data and convened workshops for local stakeholders. The end result was a draft forest management plan for an 18 000-hectare production forest.

A third article (pp 10–11) describes efforts being undertaken through an ITTO project to introduce community forestry to Panama's Kuna Yala Territory, which is suffering from severe land degradation caused in part by unsustainable agriculture in the hinterlands. The project is building the capacity of the communities there to use natural forest and agroforestry techniques to improve their incomes and arrest soil erosion and biodiversity loss. According to the author, Geodisio Castillo, a critical challenge is to increase the participation of women because of the role they can play in changing community attitudes towards sustainable forest management.

Also in this *TFU*, Parfait Mimbimi Esono (pp 12–14) reviews the progress that has been made in Cameroon towards the implementation of the Yaoundé Declaration; he concludes that much more needs to be done. On a different tack, Dradjad Wibowo and co-authors describe the work done under ITTO PROJECT PD 1/95 REV. 4 (M) towards strengthening the forest certification process in Indonesia.

Achieving sustainable forest management is not an easy task. ITTO and its partners are working hard to help bring it about; at its most recent session, donor countries pledged a further US$9 million for on-the-ground project work (see pp 18–19). The participatory processes that are needed are now becoming more widely practised, and this too is a positive sign.

But one might ask why 'stakeholders' would want to 'participate' anyway. The answer is simple: because they stand to gain something. Under what circumstances will stakeholders choose to maintain natural forests? Again, the answer is straightforward: when they will benefit by doing so. Natural forests provide many goods and services, but other land uses quite often provide more cash income and, therefore, tend to be preferred over natural forest management. It follows, then, that natural forests must provide stakeholders—including those who live in or around the forest—with more cash income than they presently do if such forests are to play a prominent part in shaping the landscapes of the future. One way they could do this is if the international community starts paying more—much more—for the global services, like biodiversity conservation, that such forests provide.

Alastair Sarre
Editor

Zoning the forest

A successful approach to zoning Guyana's Iwokrama Forest for conservation and sustainable use offers a model for integrating a wide range of forest-based values in land-use allocation processes

by David S. Hammond and David A. Hughell

Iwokrama International Centre for Rain Forest Conservation & Development`

67 Bel Air, Georgetown, Guyana

dhammond@solutions2000.net

dhughell@solutions2000.net

Talking shop: consultations with local and national stakeholders on zoning scenarios helped increase the chance that the final recommended locations would be acceptable to all parties. *Photo: D. Hammond*

IN 1996, the Government of Guyana passed national legislation (the Iwokrama Act) establishing the Iwokrama International Centre (IIC) for forest research and development and giving it responsibility for the management of the Iwokrama Forest, a 370 000-hectare forest area in the heart of Guyana. The Centre's major goal is to demonstrate that tropical forests can be conserved while generating income through sustainable and equitable use.

The Act required the division of the Iwokrama Forest into two zones of roughly equivalent size: a 'Wilderness Preserve' and a 'Sustainable Utilisation Area'. This would ensure that large areas of relatively unmodified landscapes could be managed towards an objective of conserving nature and natural processes, while adjacent areas could be managed sustainably to produce goods and services for the benefit of local and national communities and the IIC.

Some values are held in common but others are not so widely accepted. Conflict and stalemate can rapidly undermine the success of land-use zoning if these values are discounted …

By necessity, the zoning process was embarked upon despite a paucity of knowledge about the forest. But while management plans can be revised and modified with relative ease to accommodate new information and changes in socio-economic or cultural circumstances, rezoning is much more difficult. For example, designation of the Wilderness Preserve as an IUCN Category 1b Strict Nature Reserve or even a World Heritage site would complicate any decision to change the boundaries of the two zones at a later stage. The task of the IIC team, then, was to develop a process for zoning that would stand the test of time.

Forest values

The Iwokrama Forest is home to healthy populations of some of the most endangered species of forest fauna in the neotropics and some valuable timber and non-timber forest products. It is located at an important juncture between Amazonian and Guianan floristic provinces and possesses a unique blend of elements from eastern Amazonia and the Guianas.

The area has a long history of traditional use and spiritual beliefs linked to the local Makushi and Patamona peoples. Early last century it was also one of the most active centres in the large-scale production of balata, the coagulated latex from the tree *Manilkara bidentata* (bulletwood). More recently, a local and national debate has arisen over who should benefit from forest resource uses such as commercial mining and timber harvesting, hunting, fishing, wildlife collection and ecotourism and in what form such uses should be allowed. Thus, many people have 'stakes' in the management of the area, including local Amerindians, scientists based at the IIC, business operators, those involved in the commercial extraction of resources, the national government, and others.

Decision-making framework

Such stakeholders value the Iwokrama Forest for many reasons. Some values are held in common but others are not so widely accepted. Conflict and stalemate can rapidly undermine the success of land-use zoning if these values are discounted and subsequently not integrated into the decision-making process in a transparent and fair manner.

Thus, IIC staff formulated a zoning process that had several components. These included the development of

a framework of principles and criteria, data-gathering, the construction of a decision-support system, and wide stakeholder participation.

Principles and criteria

The principles and criteria approach was inspired by the well-established sets of principles, criteria and indicators for evaluating progress towards sustainable forest management developed by ITTO and the Centre for International Forestry Research (CIFOR) and through the (South American) Tarapoto Process *(Table 1)*. Each principle was considered as a unique goal or desirable outcome of the zoning process. Decision-making criteria were, in effect, forest-based values (in many cases, direct uses) that could contribute to achieving the goal established under each principle.

A set of draft principles and criteria for decision-making was developed through a process involving local community residents, national agency staff and representatives of non-governmental organisations. Each criterion was then evaluated against: 1) the overarching objective assigned to each zone; 2) the allowable uses assigned to each zone; and 3) whether its inclusion would influence the decision-making process.

Several criteria, such as traditional subsistence hunting or plant collecting, were not considered to influence zoning because these use rights are protected under the Iwokrama Act and are permitted in all parts of the Iwokrama Forest. It was decided that the protection of hunting and collecting rights in areas where relatively intensive activities such as selective timber harvesting may be carried out would be better addressed in later participatory management planning processes. Other criteria, mainly associated with the conversion of forest to other land-uses, were incorporated in the broader framework but were not included in the decision-making process because these were incompatible with the overarching management objectives set for the Iwokrama Forest. For more details of the principles and criteria selection process see Hammond and Hughell (2001).

Characterising criteria

A framework of principles and criteria helped give a structure to the main resource use issues that would be affected by zoning. However, to establish a link between the framework, the forest and the people that use the forest, an information database was needed. This was constructed through a combination of rural resource appraisals and workshops, oral and written local and scientific knowledge related to the biology and use of Guyana's forests, targeted resource surveys of the Iwokrama Forest, including a strategic inventory of key plant species (assisted by the use of global positioning systems), and geographical information derived from topographic maps and remotely-sensed imagery. A geographic information system (GIS) was used to store, process and map all the spatial information to be used in the zoning process. Nonetheless, the resulting

A matter of principles

Table 1: A global set of principles and criteria for decision-making and the working set (in bold) adopted for use in the Iwokrama Forest zoning process. Criteria represent benefits associated with an area being included in the Wilderness Preserve (dark shading) or the Sustainable Utilisation Area (light shading)

Principle		Criteria
1. Conservation of traditional uses of Iwokrama Forest by Amerindian communities	1.1	Integrity and accessibility of plant collection sites ensured
	1.2	Integrity and accessibility of traditional hunting and fishing grounds ensured
	1.3	**Access to subsistence use areas for traditional agriculture ensured**
	1.4	**Integrity and accessibility of sites of cultural or spiritual significance ensured**
2. Conservation of Iwokrama's natural resources	**2.1**	**Natural forest types protected**
	2.2	**Aquatic habitats conserved**
	2.3	Soil resources conserved
3. Optimisation of benefits from the sustainable commercial extraction of Iwokrama's natural resources	**3.1**	**Contribution to timber production potential**
	3.2	**Contribution to non-timber plant product potential**
	3.3	**Contribution to sustainable wildlife harvesting potential**
	3.4	**Contribution to mineral extraction potential**
4. Optimisation of benefits from conversion of the Iwokrama Forest for long-term, non-forest land-uses	4.1	Permanent agricultural production maximised
	4.2	Permanent livestock production maximised
	4.3	Permanent plantation forest production maximised
5. Optimisation of benefits from the sustainable, commercial, non-extractive utilisation of the Iwokrama Forest	**5.1**	**Ecotourism support potential maximised**
	5.2	Paid scientific research/education maximised
	5.3	Carbon sequestration/offset potential maximised
	5.4	Hydropower generation potential maximised
	5.5	Wind power generation potential maximised
	5.6	Endowment potential maximised
6. Protection of Iwokrama's cultural heritage	**6.1**	**Archaeological/historical sites protected**
7. Accounting for the effects of long-term climate change on forest benefits and management objectives	**7.1**	**Likelihood of forest fire events reduced**
	7.2	**Impacts of shifting environmental conditions along altitudinal gradients**
8. Efficient and effective management of Iwokrama Forest	**8.1**	**Administrative, recreational, research and educational infrastructure developed and maintained**

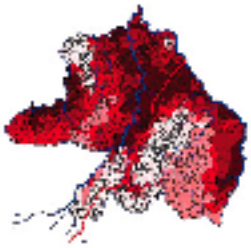
Benefit mapping

Figure 1: the region was divided into a patchwork of catchment units (**1a**), and areas of particular cultural or spiritual significance (**1b**), timber potential (**1c**) and habitat diversity (**1d**) were identified and mapped

1a. Catchment units

1b. Cultural and spiritual areas

1c. Timber benefits



1d. Habitat diversity

database contained sparse information in many key areas, particularly regarding the biological components.

The spatial distribution of benefits

The next step was to 'divide' the Iwokrama Forest into a patchwork of small catchments on 1:50 000 national topographic maps *(Figure 1a)*. Using the smallest category of 'stream' contained in the database, this process produced a set of 930 catchments ranging in size from 35 to 5 600 hectares. These catchments became the basic land units in the decision-making process.

The land units were then assigned values derived from the map-based information *(figures 1b–1d)*. In some cases, the values were generated from simple relationships between a unit's known biophysical attributes and the extent to which the unit might contribute to the outcome stated in the targeted criterion relative to other areas in the Iwokrama Forest. In the case of the criterion concerned with timber production, for example, the spatial distribution of benefit was estimated through a simplified relationship linking the stocking densities of harvestable-sized individuals (>40 cm dbh) of 22 commercial timber species assigned according to forest type, the median slope of each catchment, a distance 'damper' based on the distance of the catchment to the nearest large river or road (ie the greater the distance, the lower the timber 'value'), and other damper functions that integrated regeneration and conservation considerations.

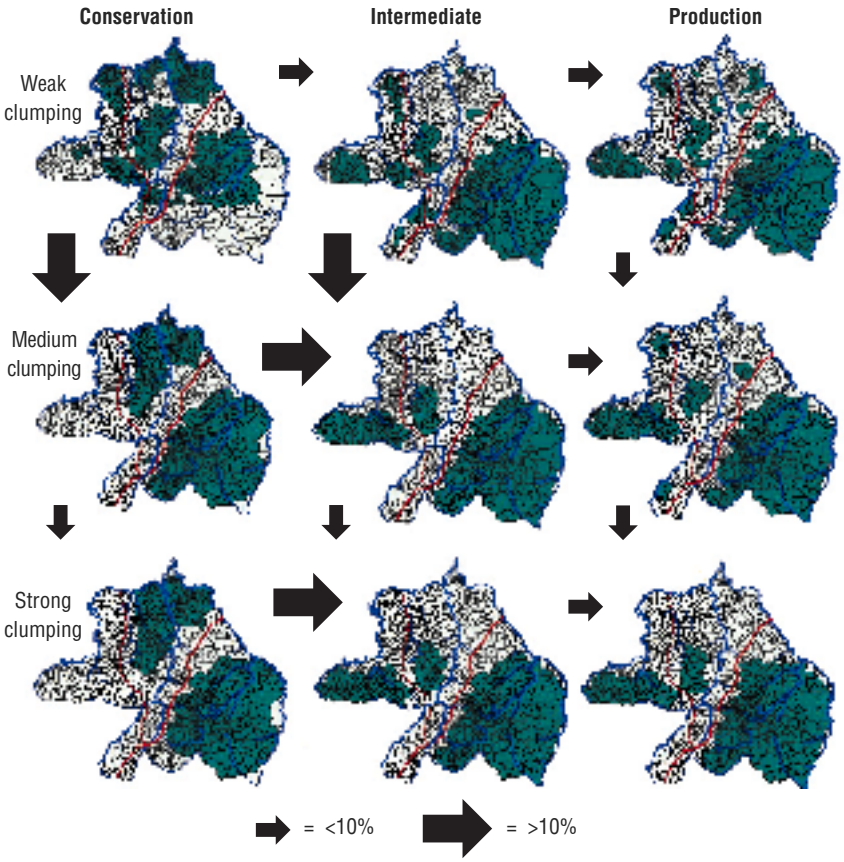
For each land unit, scores were assigned for each potential benefit relative to the benefit attached to all other catchments. These scores were then standardised so that the spread of values assigned across the catchments always fell between 0 (lowest) and 1 (highest relative benefit) for each of the criteria; the distribution of these scores could then be mapped. The weighted sum of benefit scores for each catchment could be calculated according to criteria sets supporting inclusion into either the Wilderness Preserve or the Sustainable Utilisation Area. The net difference between these two sums provided a first indication of the benefit of assigning a given catchment to one or other of the zones.

Decision-support model

Estimating the benefit of allocating each catchment for protection or sustainable use based on standardised scores alone would assume that all criteria were equally important to stakeholders and that management perspectives and priorities were adequately incorporated through the benefit-assigning process. However, it was clear that the available data for decision-making varied in accuracy and completeness. Moreover, considerations outside the framework of principles and criteria had to be taken into account; for example, legal requirements governing the relative allocation of forest to each zone had to be met and the longer-term plans and allowable uses for each zone had to be cross-checked with existing known impacts of land-uses that pre-dated the demarcation of the Iwokrama Forest. Many such areas were sufficiently degraded such that their inclusion in the Wilderness Preserve would preclude future plans to seek international recognition of it as a world-class conservation reserve.

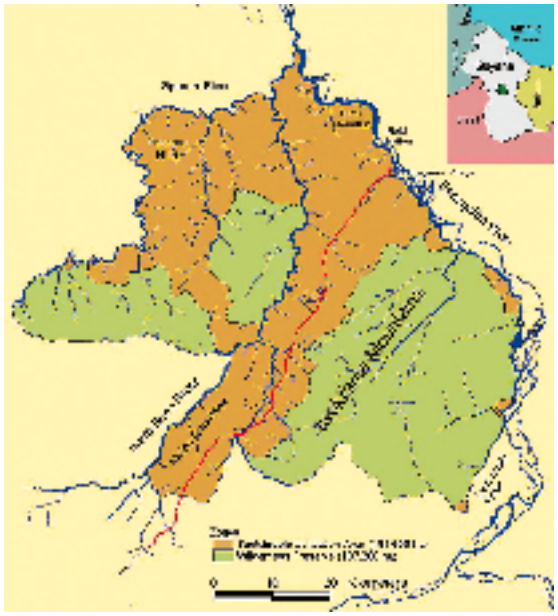
The matrix

Figure 2: Nine-scenario matrix presented to the national stakeholder working groups. Scenarios reflect variation in the management objectives and degree of clumping required among catchment units contributing to the Wilderness Preserve zone. Arrow size represents the percent change in catchment area allocated between the two zones



In the zone

Figure 3: the final agreed zoning for the Sustainable Utilization Area and Wilderness Preserve, Iwokrama Forest



To accommodate some of these issues, a decision-support model was developed to integrate benefits generated through the principles and criteria framework and rules applied to meet requirements of governing legislation and future plans. Limits on the area that could be allocated to each zone were applied in the model. Catchments affected by road construction, small-scale mining, agricultural clearance and other forms of infrastructure development that were not factored into the principles and criteria framework were 'forced' into the Sustainable Utilisation Area.

The effect of varying the allowable level of 'dispersion' of the Wilderness Preserve across the Iwokrama Forest was also taken into account. The model applied linear programming to allocate catchments under different 'rules' and develop scenarios that optimised the distribution of benefits between the two zones: each scenario reflected the weights applied to each of the criteria and the rules-based limits applied to assigning certain catchments to a particular zone and the total area that could be allocated to each zone.

Reaching an agreeable outcome

Deciding the two zones based purely on the results of the optimisation model, which itself was based on often sparse information, would all but guarantee that the final outcome would be disagreeable to one or more of the key groups of stakeholders. A series of workshops with stakeholders to review the principles and criteria framework and zoning options, focal group sessions and local community visits helped to increase understanding of the zoning process while also affording an opportunity to incorporate additional knowledge and perspectives. Articles in newspapers, newsletters and magazines also broadened the base of exposure and understanding.

How to accommodate the manifold needs and desires of diverse stakeholders is exercising minds in many other forests, both in and beyond the tropics.

GIS-generated maps illustrating the effects of varying rules and weightings proved to be crucial in bridging the technological gap between different stakeholders. They allowed stakeholders to view all the available information on the forest and to see the effects of applying different rules to land-use allocation *(Figure 2)*. Stakeholders were able to explore the way in which the location of the two zones changed when criteria for conservation and production were weighted differently, and to identify options that were most consistent with their group's priorities and perspectives.

The final proposed zoning *(Figure 3)* was submitted to the key stakeholder group representatives for final comments prior to submission to the Iwokrama Board of Trustees, which approved the proposal at a meeting in June 2001. IIC staff and partners are now moving forward with developing management plans for each zone.

Lessons learned

The situation in the Iwokrama Forest is not unique. How to accommodate the manifold needs and desires of diverse stakeholders is exercising minds in many other forests, both in and beyond the tropics. The approach adopted by IIC in its efforts to achieve a mutually agreeable outcome for the zonation of the Iwokrama Forest hinged on a combination of local and scientific knowledge, targeted and broad-based survey work, and a transparent and honest effort to review and incorporate the recommendations and priorities of local and national stakeholders in the final land-use allocation. Documenting the outcome of each phase of the zoning process and providing periodic feedback was crucial in developing a broader sense of ownership and a basic understanding of the purpose and process among key local stakeholder groups.

A practical step-by-step guide to developing similar approaches for supporting forest land-use allocation is being developed by IIC staff and institutional partners, in part through ITTO PROJECT PD 10/97 REV. 1 (F). The guide is intended to assist in situations where decision-making processes could benefit from greater integration of local and scientific knowledge, field surveys, GIS technology and, importantly, stakeholder participation at each crucial point along the decision-making path.

Reference

Hammond, D. & Hughell D. (eds.) 2001. *Zoning the Iwokrama Forest*. Iwokrama International Centre, Georgetown, Guyana. (available at www.iwokrama.org)

The zoning process in the Iwokrama Forest was supported by the following donors: the European Commission (Project B7–6021/98–02/VIII/FOR), the Department for International Development (UK), and ITTO through Project PD 10/97 REV. 1 (F), which was funded by the governments of Japan, Switzerland, the USA and Korea. The IIC thanks members of the North Rupununi District Development Board, the Region 8 Area Council, Fair View and other neighbouring villages and the Government of Guyana for their support for and involvement in the zoning process. The authors thank, in particular, Daniel Allicock, Fred Allicock, William Andries, Janette Forte, Simone Mangal, Sharon Ousman, Vanda Radzik and the Iwokrama staff.

Unravelling the complexity

An ITTO project has been investigating strategies for sustainable forest management in Cameroon

by B. Foahom[1], W.B.J. Jonkers[2] and P. Schmidt[3]

[1]Institute of Agricultural Research for Development

PO Box 219, Kribi, Cameroon
tropenboscameroon@compuserve.com

[2]Wageningen University/ Tropenbos-Cameroon Program

PO Box 342, 6870 AH Wageningen, the Netherlands
Wyb.Jonkers@msc.bosb.wau.nl

[3]Tropenbos-Cameroon Program

PO Box 219, Kribi, Cameroon
tropenboscameroon@compuserve.com

Stumped: Reduced impact logging is possible in Cameroon, despite the large size of most timber trees. *Photo: B.S. van Gemerden*

THE Tropenbos-Cameroon Program (TCP) is a problem-oriented research program carried out under the joint responsibility of the Cameroonian Ministry of Environment and Forests and the Netherlands-based Tropenbos Foundation. ITTO PROJECT PD 26/92: 'Development of methods and strategies for sustainable management of moist tropical forest in Cameroon', which started in 1994 and has just ended, was developed to undertake some of the elements of this program.

The main implementing agencies were the Cameroon Institute of Agricultural Research for Development, the Cameroon National Office for Forest Development (ONADEF) and the Forestry Department of Wageningen University in the Netherlands. These three institutes cooperated with other research institutes and universities in Cameroon and the Netherlands. The general objective of the project was to contribute to the sustainable management of tropical rainforests in Cameroon through research, training and education.

The project found that about 15% of harvestable timber was not harvested in the Wijma concession and only 70% of timber felled was actually delivered to the sawmill.

The site chosen to carry out the research is located about 80 km east of Kribi in South Cameroon. It covers about 170 000 hectares and has some 15 000 inhabitants. The timber company Wijma-Douala SARL, a partner in the project, logged part of the area before 1992 and continued to harvest timber during the implementation of the project.

Based on a rapid rural appraisal in the area, during which representatives of all stakeholders were interviewed, 14 research projects were formulated for the TCP (see Foahom & Jonkers 1992), of which six were carried out within the framework of ITTO PROJECT PD 26/92. The scope of the study included the three dimensions that form the mainframe of any sustainable forest management strategy: the social, ecological and economic dimensions. An interdisciplinary approach was adopted to execute the six interrelated sub-projects.

To test the applicability of the TCP research results, ITTO requested that a forest management plan be prepared for a production forest in the research area. To emphasise the importance of both strategic and tactical planning, a master management plan was prepared as a tool for land use planning and a forest management plan was prepared to govern forestry activities.

Three regional workshops and an international symposium were key elements in a framework for disseminating results to the Cameroonian and international forestry communities (Foahom et al. 2001; Jonkers et al. 2001). *Table 1* shows that the project generated a large number of published outputs.

Results

Ecologically sound

TCP scientists conducted wide-ranging ecological research under the project. For example, Jonkers (2000) and Jonkers and van Leersum (2001) assessed the extent to which reduced impact logging could be applied in the area, and guidelines for improved logging techniques and increased logging efficiency were developed. Waterloo et al. (2000) determined that the construction of roads and tracks should be avoided or minimised on slopes steeper than 10° to prevent excessive erosion. Other research showed that

improved planning, training and control could substantially reduce the area disturbed by skid trails and landings. On the other hand, Parren and Bongers (2001) found that liana-cutting before the harvest did not reduce the size of canopy gaps in these Cameroonian forests. Bongjoh and Nsangou (2001) recommended that gap size should not exceed 1 300 m^2 to ensure that the composition of tree species does not change—that is, that valuable timber species are not replaced by fast-growing secondary species.

These and other studies conducted under the project helped to illuminate the issues of concern to local people that must be taken into account when developing strategies for sustainable forest management ...

Economically viable

More LKS, which was originally developed under ITTO PROJECT PD 18/87, was revised under the project (Zijp et al. 1999). This is a software package designed to provide timber producers and consumers with information on potential end-uses for so-called lesser-known species (LKS). By adding 26 LKS timber species and a number of new potential end-uses, the revised package has been strengthened as a tool for promoting the use of a wide range of species in Cameroon's domestic and export markets and thereby increasing the potential income to be earned from sustainable forest management.

Income could also be increased by reducing waste. The project found that about 15% of harvestable timber was not harvested in the Wijma concession and only 70% of timber felled was actually delivered to the sawmill.

A draft master management plan was developed with the aim of accommodating the conflicting needs of forest users and using the forest according to its capacity to fulfil its multiple functions; this formed a useful resource in the participatory process.

Socially acceptable

Surveys conducted by the project demonstrated that non-timber forest products (NTFPs) were very important for the local population. Indeed, over 500 species of flora and 280 species of fauna were documented as being used in the area (van Dijk 1999). Although most of these are used for household consumption, some are collected for commercial purposes even if the level of commercialisation is still low. Some of the harvesting techniques used by the local population are not conducive to sustainable use. Moreover, the impacts of logging activities on the availability of many NTFPs can be significant. Management prescriptions are needed for those useful trees and plants threatened by commercial logging. The dual aim of raising the income of local people by increasing NTFP extraction and improving forest conservation can be achieved by domesticating NTFPs and integrating them in improved farming systems.

These and other studies conducted under the project helped to illuminate the issues of concern to local people that must be taken into account when developing strategies for sustainable forest management (van den Berg & Biesbrouck 2000). Important considerations include:

- the variation in perceptions of the forest among and within ethnic groups;
- the profound changes in local use of forest resources as a consequence of new technologies and changing market values;
- the local traditional right to use (parts of) the forest; and
- the leadership structure of the local population.

The written word

Table 1: Documents produced within the framework of Project PD 26/92

Form of publication	Number of publications
Seminar proceedings	2
T-C series	3
T-C documents	6
T-C reports	7
Student reports	60
Total	**78**

T-C series = Tropenbos-Cameroon series (or PhD theses and more elaborate research documents); T-C documents = Tropenbos-Cameroon documents (management plans etc); T-C reports = Tropenbos-Cameroon reports (practically oriented results)

An understanding of such factors is critical for the development of an effective participatory decision-making process for master management plans or forest management plans in which all stakeholders discuss issues as equals. Using data on soil, vegetation and other factors, the project generated land-use suitability maps for the TCP research area. These proved extremely useful in the decision-making process. Two workshops were held to discuss and decide on the approach to be adopted in management planning. A draft master management plan was developed with the aim of accommodating the conflicting needs of forest users and using the forest according to its capacity to fulfil its multiple functions; this formed a useful resource in the participatory process. From this master plan a forest management plan was derived for a production forest of 18 000 hectares.

Capacity building

The project proved valuable in giving Cameroonian foresters and forest researchers experience in sustainable forest management, research and participatory processes. Nine Cameroonian researchers worked on the project for two or more years; two are now finalising their PhD theses. In addition, about 60 mostly Cameroonian students wrote masters' or bachelor's theses based on activities conducted under the project.

Conclusion

Tropical forest is characterised by many interacting components. Notwithstanding some unavoidable gaps, the

scientifically sound tools developed by ITTO PROJECT PD 26/92 are likely to go a long way in boosting the technical capacity for the sustainable management of southern Cameroon's tropical rainforests. However, research findings contribute nothing to sustainability if they are not applied. Given the high level of stakeholder interest in the project, it is expected that many of the findings will be integrated into the framework of the new Cameroonian forest policy.

References

van den Berg, J. & Biesbrouck, K. 2000. *The social dimension of rainforest management in Cameroon: issues for co-management.* Tropenbos-Cameroon Series 4. Tropenbos-Cameroon Program, Kribi, Cameroon.

Bongjoh, C. & Nsangou, M. 2001. Gap disturbance regimes and regeneration dynamics of commercial timber tree species in a southern Cameroon forest. In: Jonkers, W., Foahom, B. & Schmidt, P. (eds.). *Seminar proceedings 'Sustainable management of African rain forest', held in Kribi, Cameroon, November 1999. Part II. Symposium.* Tropenbos Foundation. Wageningen, the Netherlands.

van Dijk, J. 1999. *Non-timber forest products in the Bipindi–Akom II area, Cameroon.* Tropenbos-Cameroon Series 1. Tropenbos-Cameroon Program. Kribi, Cameroon.

Foahom, B. & Jonkers, W. 1992. *A programme for Tropenbos research in Cameroon.* Tropenbos Foundation. Wageningen, the Netherlands.

Foahom, B., Jonkers, W., Nkwi, P. & Schmidt, P. (eds.). *Seminar proceedings 'Sustainable management of African rain forest', held in Kribi, Cameroon, November 1999. Part I. Workshops.* Tropenbos Foundation. Wageningen, the Netherlands.

Jonkers, W. (ed.) 2000. *Logging, damage and efficiency: A study on the feasibility of reduced impact logging in Cameroon.* Tropenbos-Cameroon Report 00-3. Tropenbos-Cameroon Program. Kribi, Cameroon.

Jonkers, W. & van Leersum, G. 2001. Logging methods in south Cameroon: methods and opportunities for improvement. *International forestry review* 2:1, 11–16.

Jonkers, W., Foahom, B. & Schmidt, P. (eds.). *Seminar proceedings 'Sustainable management of African rain forest', held in Kribi, Cameroon, November 1999. Part II. Symposium.* Tropenbos Foundation. Wageningen, the Netherlands.

Parren, M. & Bongers, F. 2001. Does climber cutting reduce felling damage in southern Cameroon? *Forest ecology and management* 141, 175–188.

Waterloo, M., Ntonga, J., Dolman, A. & Ayangma, A. 2000. *Impact of shifting cultivation and selected logging on the hydrology and erosion of rain forest land in south Cameroon.* Tropenbos-Cameroon Documents 3. Tropenbos-Cameroon Program. Kribi, Cameroon.

Zijp, M., Polman, J. & Tongo Bokam, T. 1999. *More LKS: Manual for a computer programme on Cameroonian lesser-known timbers and end-use requirements.* Tropenbos-Cameroon Documents 2. Tropenbos-Cameroon Program. Kribi, Cameroon.

ITTO PROJECT PD 26/92 was financed through ITTO by the governments of Japan, Denmark and the USA and the Common Fund for Commodities. The Government of Cameroon through its implementing agencies, the Tropenbos Foundation, Wageningen University, Leiden University and Alterra provided in-kind support.

Tall timber: Tali (Erythrophleum ivorense) is a common timber tree in the area studied by under the Tropenbos-Cameroon Project. *Photo: B.S. van Gemerden*

Bringing the community around

We, the Kuna people, are facing an ecological crisis—the potential despoiling of our river systems and the loss of valuable marine resources. An ITTO project is helping address the crisis by introducing community forestry to the region

by Geodisio Castillo

Executive Director

Kuna Ecological Association

and

Ecological and Management Program for Kuna Yala Wildlands

Calle 37, Ave Perú, Edif. Manuel Enrique, 2do Piso, Ofic. 210, Apartado 83–0534, Zona 3, Panama, Panama

t/f *507–225 7603*

gubi@pty.com and aekpemas@pty.com

THE Kuna people are indigenous to about 365 coral islands in the Caribbean and a coastal strip on the mainland of Panama. The present Kuna Yala Territory, inhabited by some 32 000 Kuna people, stretches about 230 km along the Panamanian coast and inland for 7–15 km and includes the original coral islands. Although fishing remains the predominant source of food and income, natural forests on the mainland are making an increasingly significant contribution to the livelihoods of these communities.

Kuna people consider forests to be their brothers and sisters and the land to be their mother. It is this attitude towards the forest that has allowed them to accumulate wide-ranging experience in the sustainable use of land and forest resources. They apply their knowledge on a daily basis to the management of timber and non-timber products from such species as roble (*Tabebuia rosea* and *T. pentaphyla*), almendro del monte (*Dipteryx panamensis*), cativo (*Prioria copaifera*), jagua (*Genipa americana*), and many other species.

However, as the population grows, agricultural practices are becoming increasingly unsustainable, particularly in the steeper land in the mid and upper catchments of the mainland part of the Territory. These activities have led to soil degradation and sedimentation, pollution of the rivers used by the communities, and a reduction in the fish stocks of the surrounding waters. The trees felled and burnt are wasted, as are the non-timber forest resources, and protection forests are destroyed.

Nevertheless, the Kuna Yala Territory is one of the few regions in Panama where significant tracts of tropical moist forests remain only slightly disturbed by human intervention. These resources, particularly in the Narganá District, are situated within the Kuna Protected Area (INRENARE 1994). Education, training and extension actions in sustainable forest management are needed to ensure the conservation of these forests, which are threatened by the expansion of agriculture.

It was in this context that the Ecological and Management Program for Kuna Yala Wildlands (PEMASKY) of the Kuna Ecological Association (AEK, formerly known as the Kuna Workers Association) with the support of Panama's National Environmental Authority (ANAM, formerly the National Institute for Renewable Natural Resources—INRENARE), and funding from ITTO, signed an agreement in 1998 for implementing ITTO PROJECT PD 1/96 REV. 3 (F). This 5-year project aims to protect and improve the living standards of the Kuna indigenous communities. Its activities are designed to promote community participation in forest production systems that can ensure the rational, integrated and sustainable management and harvesting of forest products, taking into account community values and patterns of use. The project's specific objectives are to implement natural forest management and harvesting in five communities and to train and achieve the participation of communities, producer groups and PEMASKY personnel in sustainable forest management for the production of timber, non-timber, medicinal and other forest products.

The project is divided into two components—community forest management and community forestry training and extension.

Community forest management

Progress has been made in building awareness among the communities about the sustainable production alternatives offered by natural forests. Three participatory forest management areas (PFMAs) of 500 hectares each have been established, one in an area shared by the Narganá and Akuanusadup communities, and one each in forests belonging to the Tigantiki (Niadup) and Cangandi communities; two other areas are proposed (see map).

Activities in the PFMAs

Since similar operations are being carried out in all PFMAs, this article will focus on the Narganá/Akuanusadup PFMA. This belongs to the Diurdi Agroforestry Cooperative, located in the Protected Wild Area of the Narganá District zoned as 'cultural or traditional land use'. This cooperative has 20 members, all of whom are residents of the Narganá/Akuanusadup community, and the membership of 40 additional residents is pending. Of the PFMA's 500 hectares, 125 hectares have been allocated for forest management. The remaining area is to be set aside for conservation purposes. An agreement was reached between PEMASKY/AEK and the Akuanusadup and Narganá communities, under which the communities agreed to support and participate in the project. Both communities have established a project support committee.

Forest inventories were carried out in the PFMA to assess the overall condition of forest resources in the area. Based on inventory data, field observations and the views of producers, a forest management plan was developed to guide management and utilisation and as an instrument to obtain authorisation from the General Kuna Council and

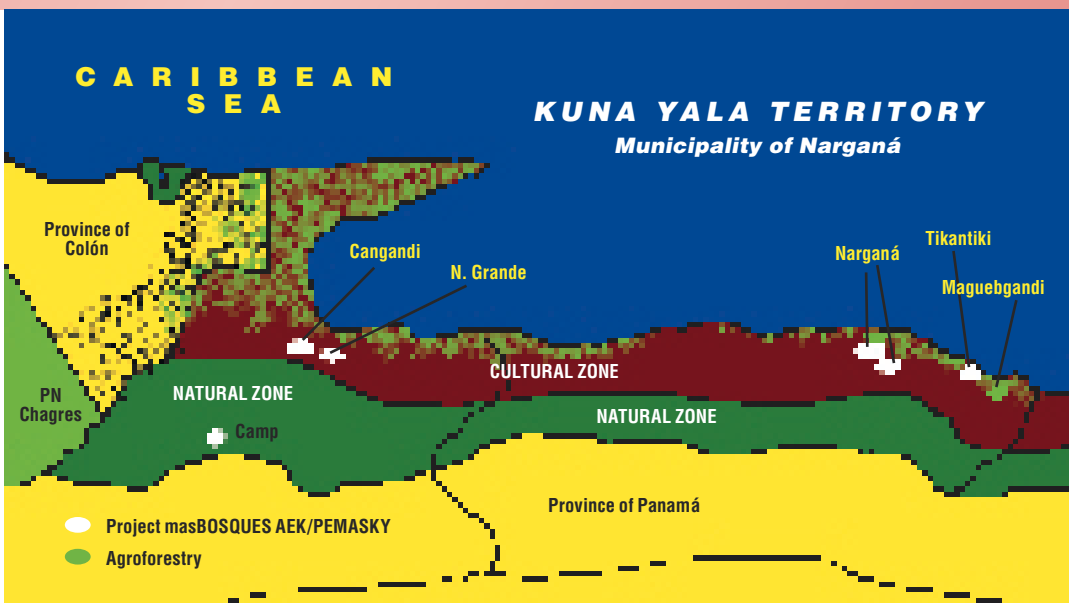
Inventory results

Table 1: List of species to be harvested, maximum diameter at breast height (dbh) of individuals surveyed, and minimum cutting diameter at breast height (MCD)

Common name	Scientific name	maximum dbh *(cm)*	MCD *(cm)*
María	Calophyllum nubicola	54.6	45
Cedro macho	Carapa guianensis	31.8	40
Amarillo	Terminalia sp.	35.9	40
Níspero	Manilkara bidentata	135.0	60
Almendro	Dipteryx panamensis	91.3	60
Hoyito	Eschuweilera sp.	52.0	45
Cacique	Brosimum utile	40.0	40
Rasca	*Licania affinis*	42.0	40

ANAM for the commencement of harvesting (PEMASKY/AEK 2000a). The inventory was carried out at an intensity of 1.84% in 23 stratified sample plots. All trees over 10 cm diameter at breast height (dbh) were measured; *Table 1* summarises the results for commercially important species.

Maps of the PFMA, including a regional location map and a base map of forest harvesting, have been prepared at a scale of 1:50 000.



The project's strategic activities also include the physical demarcation of 100 000 hectares of the forest estate belonging to the Narganá community. This started with the opening of an access road to the watershed divide (the Kuna Yala Territory boundary) and verification from the Ebiton Station (established by the US Inter-American Geodesic Institute) in Cerro Ibedon using a global positioning system. Six control posts were established covering 3 km along the boundaries of the Territory. This activity was carried out with the participation of the local community and is now being extended to the Niadup community to the east.

Community forestry training and extension

Ensuring the active participation of communities and/or producers in the project is a difficult task that requires almost daily reinforcement. A community forestry training and extension plan (PEMASKY/AEK 2000b) was formulated for the second project component. A key component of the plan is a series of workshops on participatory forest management held for producer groups, educators, governmental and district authorities, non-governmental organisations and all interested persons from the Narganá and Akuanusadup communities. The workshops are also being extended to other communities such as Niadup, Diguir, Wargandup, Urgandi and Miria Ubigandup, among others.

Special seminars have been held to motivate the participation of women in the project. Puppet shows have been held for children, and many women have participated in 'conservation' tours of the project area and other areas in the Kuna region. An agroforestry demonstration plot has been established to show an alternative to deforestation using a 'hands-on' methodology. A forest and fruit tree nursery has been established for the production of seedlings.

Challenges

An ecological crisis is in the making in the Kuna Yala Territory. Yet changing attitudes to land management is one of the greatest challenges facing the project; the cultural, social and economic barriers to change are many.

A key to achieving more rapid change is the successful operation of the PFMA in the Akuanusadup/Narganá community. If this is seen to provide benefits to the communities it will encourage other communities to participate in the development of PFMAs in their own areas. The signs for this are positive: the Akuanusadup/Narganá PFMA was recently enlarged to 1000 hectares.

A further challenge we are addressing after lengthy discussions with producers is the need to harvest timber more from secondary forests than from primary forests, which also serve important protection functions. Secondary forests at various stages of succession interspersed with traditional agroforestry crops are common in the region; introducing sustainable forest management to these areas would increase their role in both protection and income-generation. The Kuna people recognise, though, that reducing the cut in primary forests will reduce profitability; therefore, ways to increase the payments from outside the communities for the 'global' benefits provided by the forests must be found.

Finally, it is also our challenge to increase the participation of women in the project, as they carry the heaviest burden of responsibility in their households. Moreover, they are largely responsible for educating the young, so their role in changing community attitudes should not be underestimated.

References

INRENARE 1994. *Decreto areas silvestre protegida de Kuna Yala.* Panama, Panama.

PEMASKY/AEK 2000a. *Plan general de manejo forestal: Narganá/ Akuanusadup.* Narganá, Comarca Kuna Yala, Panama.

PEMASKY/AEK 2000b. *Plan de capacitación y extensión forestal comunitaria.* Panama, Panama.

Translated from the Spanish by Claudia Adan.

Training the assessors

An ITTO project has assisted the Indonesian Ecolabelling Institute to prepare the ground for forest certification

by Dradjad H. Wibowo Daru Asycarya and Aditya Bayunanda

LEI, Jalan Taman Malabar 18
Bogor 16151, Indonesia

t *62–251–340744*
62–251–340745
62–251–340759

f *62–251–321739*

lei@indo.net.id; www.lei.or.id

ESTABLISHED in 1998 after a four-year development period as a national working group on ecolabelling, the Indonesian Ecolabelling Institute (*Lembaga Ekolabel Indonesia*—LEI) is a national accreditation body for forest certification and timber ecolabelling in Indonesia. Its aim is to promote sustainable natural resource management in Indonesia through credible certification and ecolabelling.

In 1998 LEI completed its development of a national certification system for natural production forest. The system includes a national set of criteria and indicators (C&I) for sustainable forest management, which has a near-100% compatibility with those of ITTO and the Forest Stewardship Council (FSC). In developing its certification system, LEI adopted three key principles: a multi-stakeholder approach, independent third-party assessment, and voluntary certification.

A major obstacle facing LEI in implementing its system in 1998 was a general lack of qualified and experienced assessors to conduct field-level assessments. A number of certified environmental assessors and field surveyors were available at that time, but they were specialised in environmental impact assessment (EIA). Ecolabelling certification significantly differs from EIA because it is a performance-based, rather than process-based, form of assessment and involves not only environmental (or ecological) but also production and socio-cultural C&I. Moreover, the LEI certification system called for an independent, ad hoc panel of experts to adjudicate on certification applications, but the expertise for such a panel was largely lacking.

To rectify the problem, LEI carried out ITTO PROJECT PD 1/95 REV. 4 (M) between February 1998 and December 2000. The project, which was supported by financial contributions from the governments of Japan and the Netherlands, developed training curricula and materials, manuals for expert panel members, and information kits *(see box)*. Training programs for trainers, assessors and expert panels, and promotional programs to enhance public and stakeholder awareness of ecolabelling and sustainable forest management-related topics, were undertaken. Over the project's duration, LEI's certification system was significantly improved by feedback received from training participants and its C&I were revised accordingly. The project also contributed to:

- the establishment of LEI's homepage and a library of relevant publications;
- a significant improvement in the ecolabelling network through the establishment of a Regional/Provincial Consultation Forum (*Forum Komunikasi Daerah*—FKD) in eight provinces: those of East Kalimantan, South Kalimantan, Central Kalimantan, North Sumatra, Riau, South East Sulawesi, North Sulawesi and Papua/Maluku;
- the accreditation of an independent training institution;
- the development of an accreditation process for an independent personnel registration body (PRB). (However, since PRB candidates have, to date, failed to meet LEI's accreditation guidelines, LEI continues to act as a temporary PRB); and
- LEI's involvement in international forums and conferences.

As a result of the project, Indonesia now has about 150 registered sustainable forest management assessors including 16 lead assessors, 81 expert panel members, 40 chain-of-custody assessors and 16 sustainable forest management certification trainers. These pools of well-trained and more-experienced personnel have developed to the point where the activation of sound ecolabelling certification in Indonesia has become possible. On 28 August 2000 LEI issued accreditation to four certification bodies: SGS Indonesia, TUV International (an Indonesia-Germany joint venture), Sucofindo and Mutu Agung Lestari. By September 2001, ten forest management units with a total area of 2.1 million hectares had applied for certification. On 3 April 2001 LEI granted its first certificate under the LEI-FSC Joint Certification program to PT Diamond Raya Timber in Riau, covering an area of 90 957 hectares.

Notwithstanding these encouraging developments, LEI still faces many major challenges in its attempts to implement credible certification. For this reason, the Institute will continue to work closely with ITTO and other organisations to realise its mission of promoting sustainable forest management in Indonesia.

Publications from the project

Training for trainers on forest auditing techniques (2000). 354 pp. English and Bahasa Indonesia.

Modul Pelatihan Penilaian Lapangan PHAPL : Modul Umum (2000) 314 p. Bahasa Indonesia.

Modul Pelatihan Penilaian Lapangan PHAPL : Modul Produksi (2000) 115 p. Bahasa Indonesia.

Modul Pelatihan Penilaian Lapangan PHAPL : Modul Ekologi (2000) 217 p. Bahasa Indonesia.

Modul Pelatihan Penilaian Lapangan PHAPL : Modul Sosial (2000) 557 p. Bahasa Indonesia.

Timber tracking certification system (2000). 81 pp. Bahasa Indonesian edition also available.

Requirement guidelines and training procedure of SPFM certification program (2000). 55 pp.

Resolution guideline to appeal against the certification decision (2000). xxiv + 14 pp. Bahasa Indonesia edition also available.

Sustainable production forest management (SPFM) certification system (2000). xxii + 196 pp. Bahasa Indonesia edition also available.

Framework for sustainable production forest management system (2000). xxii + 55 pp.

Technical document 1 & 2: Verifier and verification toolbox for assessment criteria and indicators of sustainable natural production forest management certification system and Intensity scale of indicators for the sustainable management of natural production forest (2000). xxii + 117 pp. Bahasa Indonesian edition also available.

Ecolabel news: a quarterly newsletter available in English and Bahasa Indonesia.

For more information about any of these publications, please contact the authors.

Responsible importing of tropical timber

A consultative approach in New Zealand between importers, retailers and the environmental movement is promoting a responsible tropical timber trade

by Lachlan Hunter

Chairman

NZ Imported Tropical Timber Group

magda.house.art@xtra.co.nz

A POSSIBLY unique approach to resolving potential conflict between tropical timber importers and environmental organisations evolved in 1991 with the formation of the New Zealand Imported Tropical Timber Group (NZITTG).

New Zealand is a tiny market for tropical timber. It is better known for the gradual phasing out of timber production from its indigenous forests, which still cover over 20% of the land area but now account for only 0.7% of timber production, and the creation of an estate composed largely of the exotic *Pinus radiata*, which occupies only 4% of the land area but generates an increasing volume of wood each year (currently 18 million m^3 and projected to triple in the next 20 years). Technological advances, including tree breeding, have allowed the adaptation of this mundane softwood to numerous uses including not only paper, sawn timber, plywood and diverse reconstituted boards but also furniture (with surface-hardened table-tops, for example) and ground-contact roundwood, with durability supplied by chemical treatment. Nevertheless, there is a significant residual demand for other species of wood, supplied partly by other plantations and partly by imports of temperate, Australian and tropical woods, the last including some softwoods, such as Fijian kauri.

Charter of understanding

The membership conditions and goals of the NZITTG are laid down in its Charter of Understanding. The goals of the group are to:

- ensure that all tropical timber imported into New Zealand is sourced from forests certified as sustainably managed;
- agree on certification procedures that provide purchasers with a reliable assurance of the sourcing of the product from sustainably managed forests;
- seek understanding of a common ground between members of the group on the key issues underpinning both the tropical timber trade and management of tropical forests;
- promote the findings, decisions, and goals of the group and where appropriate contribute to relevant policies of government and international tropical timber agencies; and
- have the entire tropical timber trade in New Zealand represented on the group.

All members of the group agree to use the NZITTG definition of 'sustainable management' of tropical forests. They agree not to advertise or otherwise promote tropical timber decking that is sourced from unsustainably managed forests.

The membership comprises representatives of tropical timber importers and retailers and environmental and conservation non-government organisations (NGOs), while a government observer represents the Ministry of Agriculture and Forestry. Certain other conditions apply to particular membership categories. Both retailers and importers agree to a moratorium on imports from Sabah and Sarawak until such time as they can be satisfied that timber from these Malaysian states can be sourced from sustainably managed forests. Conservation and environmental NGOs agree not to demonstrate or issue media statements against members of the NZITTG on issues relating to the NZITTG goals while members are abiding by the conditions of the group and then only after discussion through the NZITTG chairperson.

Membership is by invitation and open to all groups and companies with an interest in the tropical timber trade. Membership may be revoked if conditions are breached.

A taskforce established by the NZITTG, comprising one person each from the four groups (including the Ministry), has a brief to actively seek sources of sustainably managed timber and to report these to the full group. As such sources become available, the importing members agree to phase out the importing and sale of timber from non-sustainable sources.

The NZITTG meets quarterly and makes decisions by consensus. It has a spokesperson and an independent chair elected once a year by the group.

The group has supported a forestry program in the Solomon Islands and has sought out other producers interested in supporting the principles in Medang and East New Britain in Papua New Guinea. Vanuatu timbers are also being considered. An eco-label has been developed and last year a Pacific Ecotimber Standard Checklist was compiled. The Group prepared a model government procurement policy that has been submitted to the government for its consideration. A study tour of Malaysia and Indonesia is planned. Lastly, the group is active on relevant international and national issues, such as proposed amendments to species' listings on appendices I and II of the Convention on International Trade in Endangered Species of Fauna and Flora.

How far have we come?

A Cameroonian assesses his government's progress towards implementing the Yaoundé Declaration

by Parfait Mimbimi Esono

BP 3250, Douala, Cameroon
t/f *237–43 69 94*
akung34@hotmail.com

Stakeholders: forest-related initiatives must help people like these Cameroonian villagers or they will be ineffective. *Photo: A. Sarre*

IN March 1999, the Heads of States of the Central African sub-region—Cameroon, Congo Brazzaville, the Democratic Republic of Congo, Gabon, and the Central African Republic—met in Yaoundé with the aim of developing common strategies and improving cooperation on the sustainable management of tropical forest ecosystems. The outcome was dubbed the Yaoundé Declaration, in which the heads of State committed themselves to:

... to improve the participation of rural populations in forest management, the government has established a community forestry unit within MINEF. This is designed to accelerate the processing of applications for community forests submitted by rural communities.

- creating trans-border protected areas and improving the management of existing ones;
- developing adequate forestry taxation policies with appropriate accompanying measures;
- harmonising national forest policies and developing certification systems;
- enhancing the participation of rural populations in forest management;
- adopting measures to integrate forest policies with policies in other sectors, particularly agricultural and transport policies;
- fighting high-level poaching and unsustainable wildlife resource use;
- promoting industrial wood processing;
- promoting national and regional forums for the exchange of experiences;
- developing sustainable strategies for financing the forestry sector from revenues generated by forestry activities and international cooperation;
- organising further summits dedicated to the conservation and sustainable management of tropical forests; and
- revitalising the OCFSA, a former sub-regional organisation in charge of wildlife conservation.

The Yaoundé Declaration drew plenty of attention from the international community, including the United Nations General Assembly (UNGA). At its 54th session held on 22 December 1999, UNGA voted for resolution 54/214 on 'Conservation and sustainable development of Central African forest ecosystems', in which it welcomed the Yaoundé Declaration and invited "the international community to support the countries of Central Africa in their efforts".

Cameroon's progress

The Government of Cameroon has since begun implementing the Yaoundé Declaration. The key element is the Emergency Action Plan for the Forestry Sector (PAU), which was developed by the Government of Cameroon in coordination with the donor community and signed by Cameroon's Prime Minister, Mr Peter Mafany Musongue, on 19 November 1999. It defined 85 priority actions grouped in nine sub-sectors: biodiversity conservation; the fight against poaching; sustainable management units; a review of logging permits; community forestry; the functioning of the Ministry of Environment and Forestry (MINEF); and coordination between sectors. Some of the actions undertaken since then are described below.

A special plan for the fight against wildlife poaching: this plan was launched in December 1999 and field operations started in January 2000.

The creation of protected areas: Two new protected areas, the National Park of Campo Ma'an along the border between Cameroon and Equatorial Guinea, and the National Park of Mbam et Kim on the border with the Central African Republic, have been created. Together they cover 681 000 hectares, bringing the proportion of Cameroon territory within totally protected areas to 14%. In addition, the Mengamé Protected Area Forest, located on the southern border with Gabon, has been expanded from 65 000 hectares to 130 000 hectares and will be managed under ITTO PROJECT PD 66/01 (F) as part of a transboundary conservation area totalling nearly a million hectares.

New funds: Separate funds for forestry development and wildlife became operational in August 1999 after the Prime Minister signed a decree regulating them. Since then they have provided the forestry sector with operating funds.

Audit of the forestry sector: In order to undertake the necessary fiscal reforms and to improve the contribution of the forestry sector to the economic development of Cameroon, the government launched an economic and financial audit of the forestry sector in November 1999 using international expertise. The audit covered not only taxation of the industrial sub-sector but also the decentralised taxation designed to increase the contribution of the forestry sector to local rural development.

Civil service review of the forestry sector: the Government of Cameroon is planning to undertake a review of its institutions related to the forestry sector. The terms of reference have been finalised with the collaboration of the donor community.

The elaboration of a program for the forestry sector: In collaboration with all donors interested in the forestry sector in Cameroon, the government is promoting the idea of developing a comprehensive program for the whole forestry sector. It has reached an agreement with the World Bank to obtain US$600 000 from the Global Environment Facility for this purpose. The development of the program will take 18–24 months.

... recognising that the Yaoundé Declaration is less than three years old, there is still a general sense that the tropical forests remain threatened in Cameroon and unsustainable forest management practices continue.

Measures in favour of community forestry: to improve the participation of rural populations in forest management, the government has established a community forestry unit within MINEF. This is designed to accelerate the processing of applications for community forests submitted by rural communities. Furthermore, a decision was signed by MINEF to adopt a manual of procedures for community forestry to ease the administrative procedures required for the attribution and management of community forests.

Control of illegal logging: the government has taken important steps to improve the control and monitoring of logging activities. For example, a central unit for the control of logging activities was created within MINEF directly under the supervision of the Minister. In addition, the results of illegal logging control are publicised in the media in order to improve the transparency of the system.

Cameroon's environmental culture

It is through their production and consumption activities that people reveal the extent of their concern for the environment. From this point of view, we could say that the majority of Cameroonians embody the culture of environmental conservation. Take, for example, agriculture, which is a vital activity in the livelihoods of many Cameroonians. This activity is practised in many different ways, given the country's geographic and human diversity, but all demonstrate a deeply rooted conservation culture. Thus, the peasants in the west and northwest use crop residues as a green fertilizer, people in the forest zone let their land stand fallow to recover from agricultural use, and the people of the Mandara mountains cultivate using terraces to minimise erosion.

Such conservation practices arise from a concern that upsetting the ecological equilibrium will cause declining productivity and, ultimately, will lead to food shortages and starvation. Moreover, efficient agricultural practices foster the development of cultural values and a respect for the land, nature and life in general.

The protection of sacred forest groves in some regions of Cameroon is also significant. Indeed, it can be observed that in order to ensure their total protection, such groves are made into shrines of the gods and all activity is forbidden there, including the gathering of firewood. This arises at least in part from the knowledge that the disappearance of the forest would endanger the life of man in his relationship with the forest, and lead to a loss of cultural and spiritual values. In Cameroon, the forest covers more than 60% of the national territory and provides shelter to wildlife, regulates water resources, protects the soils and has a beneficial influence on climate; it is manifestly the key element in the country's biodiversity conservation.

Cameroon's ancient culture of environmental conservation stands the nation in good stead in the face of looming environmental problems, including deforestation. The openmindedness and sociability of the Cameroon people are also advantages because it means that this culture can be developed and extended in response to the awareness-raising efforts of the international community. Neither the significant development of activities in favour of biodiversity conservation which has occurred since the Earth Summit in Rio de Janeiro nor international awareness-raising campaigns have bypassed the Cameroon. Prior to these, Cameroonians were already aware of the food and medicinal values of biodiversity. Therefore, there is an obvious trend toward the widespread diffusion of the spirit of biodiversity conservation.

Important for popularising the provisions of the Convention on Biodiversity is their recognition of indigenous knowledge and the principle of sharing the commercial benefits. The support that Cameroonians increasingly give to biodiversity conservation results largely from the extent to which both its economic and ecological values are taken into account.

In any case, there is a tendency towards a strong partnership between Cameroon and the international community in favour of biodiversity conservation. This is essential for a country with its extremely rich and varied biological diversity and its widespread poverty.

Mésack Tchana

Member of Parliament, Cameroon National Assembly

Slow emergency

Table 1: Contribution to the Cameroon forestry sector's emergency action plan
(million CFA)

Sources	Amount *budgeted*	Amount *transferred by May 2001*
Government of Cameroon	5 866	1 238
Donors	2 343	93
Total	**8 209**	**1 331**

Support from the international community

The estimated cost of the PAU is 8 209 million Central African francs (about US$11 million in August 2001) of which 5 866 million (71%) are to be met by the Government of Cameroon and the remainder by the international community. *Table 1* shows the amounts budgeted for the PAU and those paid by May 2001.

A lack of transparency and control prevents the forestry sector from maximising its contribution to the national economy and favours unsustainable forest activities.

Meanwhile, ITTO continues to make a significant contribution to improving Cameroon's forestry sector through non-repayable grants. Adding to a suite of ongoing projects in the country are two new projects financed during the May/June 2001 session of the International Tropical Timber Council. One of these, 'Integrated management of commmunity forests in the Mefou and Afamba Valley', aims to halt the decline and degradation of the forest resources in the Mefou and Afamba Valley by involving local communities in the rehabilitation of degraded lands. Another will help upgrade the teaching and training facilities at the Mbalmayo School of Forestry (see summaries in *TFU* 11/3 pp 22 & 23); a third project, to support a transboundary gorilla sanctuary on the border between Cameroon and Gabon, was funded in November (see page 18 of this edition).

The lack of donor support for the PAU is disappointing, particularly given the importance attached to the Yaoundé Declaration in the United Nations' General Assembly.

Assessment

The Yaoundé Declaration has created momentum for the conservation and sustainable management of tropical forests of Cameroon. These efforts should continue.

Nevertheless, although recognising that the Yaoundé Declaration is less than three years old, there is still a general sense that the tropical forests remain threatened in Cameroon and unsustainable forest management practices continue. The obstacles and problems include those detailed below.

Inadequate implementation of the PAU: The PAU presents a good overview of actions that need to be taken in the short term to improve the forestry sector. Unfortunately, only a few such actions have been implemented in the field. Up to last May less than 20% of the plan had been funded; both the Government of Cameroon and donors have provided only a small proportion of the funds promised. The low implementation of the PAU raises concerns about the capacity of the government to implement an overall program for the forestry sector. The lack of donor support for the PAU is disappointing, particularly given the importance attached to the Yaoundé Declaration in the United Nations' General Assembly.

The low capacity of the government to contribute to the financing of projects: Many donor projects for the forestry sector are designed in such a way that the Cameroonian government needs to provide its own contribution for the project to be implemented. Such projects are often delayed because of the government's low funding capacity. Many other pressing needs compete both for funds and for the meagre human resources available.

Slow procedures: Agreements between the Government of Cameroon and donors have to follow a set of administrative procedures, which are executed slowly and cause delays for the launching of projects. Similarly, the legal and administrative decision-making framework for forestry in Cameroon is an important source of delays even for the government's own operations.

Lack of adequate controls on the operations of the forestry sector: conservation and sustainable forest management require adequate levels of control in all operations. This is especially true in Cameroon, where logging is an important contributor to the national economy. A lack of transparency and control prevents the forestry sector from maximising its contribution to the national economy and favours unsustainable forest activities. There is a need to step up the fight against illegality and corruption within the sector.

Hopes slashed? A worker slashes weeds along an enrichment planting line in a fire-degraded forest in East Kalimantan. The enrichment planting of tropical forests is not an eligible activity under the Kyoto Protocol's Clean Development Mechanism. *Photo: A. Sarre*

In contrast, the potential area available for forest restoration projects is huge. For example, lands allocated for timber production and forest conservation as part of the permanent forest estate are very often badly degraded; in Côte d'Ivoire, for example, such lands cover an estimated 1.5 million hectares. An ITTO project conducted more than a decade ago estimated that nearly 70 million hectares of logged-over forest in the Asia-Pacific region was in need of restoration. Since the rate of forest degradation continues to outstrip restoration efforts, the area of degraded forest is certain to have increased since then; across the tropics it is likely to amount to hundreds of millions of hectares. Enrichment planting with local species in such degraded areas should be relatively easy to undertake and offers a way of simultaneously restoring forest functions, contributing to sustainable forest management and therefore to sustainable development, and sequestering large additional quantities of carbon.

Moreover, I believe that the adopted principles of CDM project eligibility and their (still to be defined) application modalities will be sufficiently strict and constraining to prevent any abuses that could result from extending 'revegetation' activities to developing countries. In particular, follow-up directives and certified baseline estimates to be accounted for by projects should ensure that carbon offsets are additional and real. In any case, the perceived difficulties in determining and then implementing the application modalities of the agreed principles do not constitute a sufficient objection to the adoption of a more equitable CDM.

Compromise?

Environmental groups are adamant that forestry-related CDM activities should be limited to afforestation and reforestation and should not include forest management or revegetation. Perhaps a compromise can be reached in the future whereby enrichment planting projects are allowed if they carry a concomitant biofuel obligation—that is, if they also contribute to increase the supply of biomass-derived fuels in the permanent substitution of fossil fuels. The experience that could be gained in carrying out and monitoring such projects during the first commitment period might well open the way for enrichment plantings for other purposes (timber production, biodiversity maintenance or just forest conservation) in future commitment periods.

To add revegetation in this form to afforestation and reforestation projects in the CDM would require a slight shift in the demarcation line of the Marrakech compromise. It may well have some additional political cost; however, this should be outweighed by the gain of reducing discrimination against developing countries and offering them the potential to increase their contributions to climate mitigation. All stakeholders concerned, including those financing sustainable forest management, can expect to gain from conveying more value to degraded tropical forests through restoration activities and carbon crediting.

Given the importance of degraded tropical forests, policymakers would be well advised to adapt the definitions that are still to be finalised for the CDM so that introducing trees for restoring such forests might be legally considered to be a reforestation activity. Could lands with a residual tree cover below a certain threshold be deemed eligible for re-conversion to forested land under the Protocol?

Based on a paper disseminated in early October 2001 at http://www.mysunrise.ch/users/agabus/eff'endi/carbon/revegeta.html

ITTO takes a stand on forest law enforcement

ITTO member countries have agreed to work together to strengthen the capacity of tropical countries to combat forest crime

IN A decision hailed by some members as 'historic', the International Tropical Timber Council recently launched a series of initiatives to strengthen forest law enforcement and combat the illegal trade of timber.

The decision, one of seven substantive decisions taken at the 31st Session of the Council, held in Yokohama, Japan on 29 October–3 November 2001, recognised that all countries and the ITTO have a role to play in combating activities that undermine sustainable forest management. It stressed the linkage between sustainable forest management and market access for tropical timber products and recognised the need to promote "adequate access to consumer markets, aiming at a significant increase in the revenues and benefits for governments, forest owners, industry and local communities".

The decision provides financial resources to assist countries, upon request, to address unsustainable timber harvesting, forest law enforcement and illegal trade in tropical timber. In addition, the Organization will undertake a study to investigate trade statistics' reporting systems in selected countries to identify problems and recommend actions to strengthen these systems and to deal with apparent instances of illegal trade; *see box* for the terms of references for this study. Another study will report on relevant issues affecting market access for tropical timber.

Terms of reference for export/ import data studies

1. Review trade statistics for selected countries available from ITTO and other sources.
2. Prepare a brief report for each country outlining the nature and magnitude of discrepancies found from this initial review.
3. On the basis of the initial review, undertake missions to selected countries to investigate trade statistics reporting systems. These missions should involve:
   - overall review of trade statistics reporting system(s) used, including the level of reporting detail;
   - review of individual products where substantial discrepancies discovered, including analysis of individual customs records/reports;
   - research on the effects of different measurement standards and reporting formats (eg scaling systems, notation systems, reporting periods, etc);
   - research on mis-classification by product and within product codes (eg sawnwood-mouldings, coniferous, non-coniferous);
   - research on possible 'triangular' trade, where the destination on bill of lading and/or customs report differs from actual destination;
   - identification of possible transfer pricing through analysis of average unit values for shipments and other relevant data;
   - comparison of conversion factors (weight/area/pieces → volume); and
   - identification of areas for further research.
4. Prepare a report summarising the problems identified and recommending actions to be undertaken by countries and ITTO to strengthen statistical reporting systems and deal with apparent instances of illegal trade.
5. Present the report to the Council at its Thirty-third Session (in November 2002).

"Producer members will need to work harder to raise their capacity to manage their forests sustainably and to develop sustainable and profitable forest industries … Consumer members will need to increase their support for these efforts, both through direct assistance and through facilitating the trade of timber from sustainable sources."

ITTO gets new action plan

Also during the session, the Council finalised a document dubbed the Yokohama Action Plan, which charts the Organization's course for the next five years.

The Plan, which spans 2002–2006, was developed after wide consultation between member governments, environmental non-governmental organisations, the timber trade and industry, and other international organisations. Its aim is to accelerate progress towards achieving exports of tropical timber and timber products from sustainably managed sources and it sets six major goals;

- improving the transparency of the international timber market;
- promoting tropical timber from sustainably managed sources;
- supporting activities to secure the tropical forest estate;
- promoting the sustainable management of tropical forests;

Fellowships awarded

Twenty-four fellowships worth a total of US$136 633 were awarded at the 31st Session of the International Tropical Timber Council in October/November 2001. Awardees were:

Mr Andrés Fernando Vargas Flores (Bolivia); **Ms Julienne Hortense Nnomo Nnomo** (Cameroon); **Mr Patrick James Ebanje** (Cameroon); **Ms Ana María Gutiérrez Uribe** (Colombia); **Mr Roman Ospina Montealegre** (Colombia); **Mr Hanson Kwadzo Agboso** (Ghana); **Mr Yaw Boakye Agyeman** (Ghana); **Mrs Dinah Efua Bosu** (Ghana); **Mr Roger Damien Cardoso** (Ghana); **Dr Kadiroo Jayaraman** (India); **Ms Prakriti Srivastava** (India); **Mr Panna Ram Siyag** (India); **Ms Noor Farkhah Haneda** (Indonesia); **Dr Adi Djoko Guritno** (Indonesia); **Ms Lay Lee Ong** (Malaysia); **Mr Aung Myint** (Myanmar); **Mr Krishnahari Homagain** (Nepal); **Mr Shiromani Gyawali** (Nepal); **Ms Lucía Haydee Carhuapoma Pastor** (Peru); **Mr Juan Carlos Guzmán Carlín** (Peru); **Mr Joseph Mizingou** (Republic of Congo); **Dr John Benjamin Sale** (UK); **Dr Caroline Jeanine Stem** (USA); **Mr Pablo Michel Anges G. Ninin Jeandrain** (Venezuela).

ITTO Mission 'recommended Indonesian log export ban'

Indonesia instituted an indefinite ban on the export of logs last October in line with a recommendation made by an ITTO Mission in the country.

According to Dr. Untung Iskandar, spokesman for the Government of Indonesia, the decree outlining the ban was signed on 8 October after a meeting between Mission Leader Dr. B.C.Y. Freezailah and the Minister of Forestry, Dr. Prakoso, and will continue indefinitely, although it will be kept under review.

Dr. Iskandar was speaking during the 31st session of the International Tropical Timber Council, following presentation of the Mission's report by Dr. Freezailah and Mission rapporteur, Dr. Cherukat Chandrasekharan.

The Mission, which was authorised by the Council in November 2000, reported on a wide range of issues relevant to forest management in Indonesia. These included ways of minimising illegal logging and proposals to restructure the forest industry.

It found that the most devastating form of illegal logging was driven by those wanting to convert forest into mainly oil-palm plantations, causing the total destruction of forest biodiversity. Although illegal, the Mission reported, there is often "an implied or misplaced acceptance of the legality of such conversions". Another form of illegal logging is direct timber theft for commercial purposes, which is often conducted "with the backing of rogue elements of the enforcement apparatus (army, navy, police and forestry officials)".

The Mission also found considerable problems in the country's forest industries. For example, there is a huge over-capacity for plywood processing: demand for logs to feed local mills is now more than double the annual allowable cut from the natural forests. Moreover, the conversion efficiency of most processing facilities is low compared to world standards, reducing the ability of such facilities to compete in the world market when "no longer protected from market forces". This situation has created a strong demand for illegal timber, which, unless corrected, will ultimately "lead to both destruction of the forests and collapse of the industries".

Some Council members queried the mission's proposal for a log export ban on the grounds that it would be counter-productive to the development of an efficient timber processing sector in the country. However, according to Dr. Freezailah, the current situation in Indonesia is "extraordinary" and required "extraordinary measures". The ban could be lifted later as conditions improve.

In addition to the log ban, the Mission made a wide range of other recommendations that aim to find short-, medium- and long-term solutions to forest sector problems in Indonesia.

The Council agreed to help publicise the Mission's findings throughout Indonesia and encouraged the government to submit project proposals to implement the recommendations, including those to help curb illegal logging.

For a copy of the Mission report contact: Mr Collins Ahadome, Information Officer, at itto@itto.or.jp or go to www.itto.or.jp/ittcdd_ses/thirty_first_sessions.html

- promoting the increased and further processing of tropical timber from sustainable sources; and
- improving industry's efficiency of processing and utilisation of tropical timber from sustainable sources.

According to Council Chair, Dr Josefina Takahashi, the new Action Plan reflects the broad scope of the Organization.

"We have set a challenging agenda," she said. "But achieving sustainable tropical forest management and a sustainable timber trade requires nothing less".

According to Dr Takahashi, member countries will need to increase their efforts if they are to make more rapid progress.

"Producer members will need to work harder to raise their capacity to manage their forests sustainably and to develop sustainable and profitable forest industries," she said. "Consumer members will need to increase their support for these efforts, both through direct assistance and through facilitating the trade of timber from sustainable sources. And the Organization itself will need to be highly energetic if it is to maintain its high standards in the face of what will undoubtedly be an increased workload".

Projects funded for US$9 million

Also during the session, the Council agreed to fund 17 projects, twelve pre-projects and nine other activities worth US$8.96 million. Among the projects financed was one designed to support a national forest inventory and forest monitoring program in Bolivia. Another will establish a transboundary gorilla sanctuary on the border between Cameroon and Gabon. And another will continue a long-running project in Sarawak to improve timber harvesting practices and to test the feasibility of sustainable forest management.

The financial contributions made at this Session by the governments of Japan, Switzerland, the United States, Australia, the Republic of Korea and Sweden, as well as through the Bali Partnership Fund, bring the total funding provided by the Organization for project and other work to about US$230 million. ITTO projects are mostly carried out in countries with significant areas of tropical forest with the aim of raising the capacity of such countries to manage their forests on a sustainable basis, to assist local people to pursue sustainable livelihoods, and to develop a sustainable forest industry and trade.

In other decisions, the Council agreed to support a workshop to further develop a workplan for mangrove forest ecosystems, while countries will be given assistance to develop credible systems for auditing the implementation of ITTO's criteria and indicators for sustainable forest management.

Call for tenders

ITTO seeks consultancy organisations or other appropriate institutions from ITTO member countries to assist in the implementation of Pre-project PPD 25/01 (I,M): Review of international wooden furniture markets.

The selected entity will review the status of and trends in the international wooden furniture markets and assess the outlook for those markets.

Further details can be obtained from: Executive Director, International Tropical Timber Organization, International Organizations Center—5th Floor, Pacifico-Yokohama, 1–1–1, Minato-Mirai, Nishi-ku, Yokohama, 220–0012 Japan; Tel 81–45–223 1110; Fax 81–45–223 1111; itto@itto.or.jp

Tender deadline: 30 January 2002

Outside the comfort zone

The US furniture industry is in for a tough time as it faces increasing competition from imports, including those manufactured in the tropics

by Stefan Wille[1] and Mike Adams[2]

[1]AKTRIN Group of Information Centers

USA

aktrin@aktrin.com

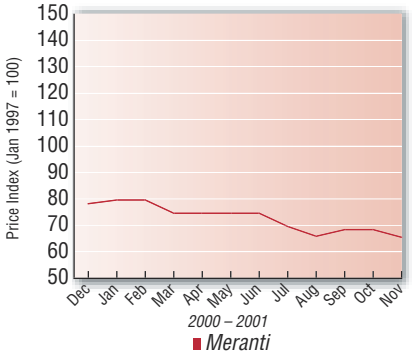
[2]ITTO Secretariat

Yokohama

itto-mis@itto.or.jp

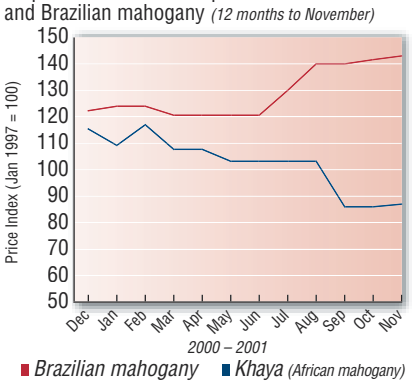
Sawn-off 1

Tropical sawnwood FOB price trends for Southeast Asian meranti *(12 months to November)*



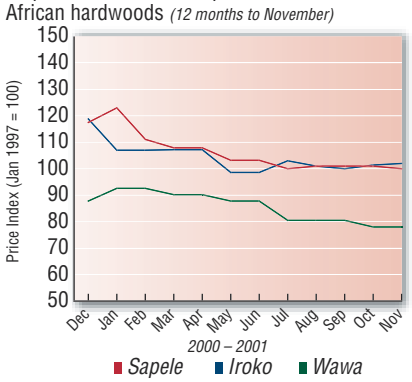
Mahogany mania

Tropical sawnwood FOB price trends for African and Brazilian mahogany *(12 months to November)*



Sawn-off 2

Tropical sawnwood FOB price trends for West African hardwoods *(12 months to November)*



READING United States' furniture industry trade journals has been rather sobering lately. Companies that have been in the furniture industry for generations—Athens, Bassett, Broyhill, Century, Ethan Allen, Kimball, Lane, La-Z-Boy, Lexington, Pulaski and Universal, to name a few—have closed or are planning to close plants. Press releases from many US furniture manufacturers have been filled with words like 'restructure', 'reorganize' and 'streamline' as they attempt to cut costs and restore profits.

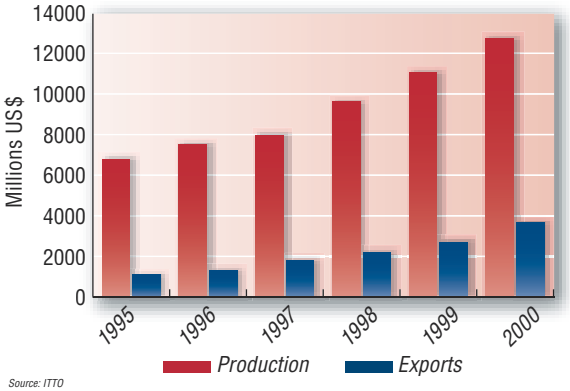
An analysis compiled by compiled by ITTO's North American trade correspondent suggests that suggests that the furniture export sectors in itto tropical producer countries are gaining considerable market share in the us. Indeed, it is largely the growth of furniture imports that is precipitating the radical changes now under way in the us furniture industry. Imported furniture already accounts for over 34% of all us furniture sales, and analysts are saying that we have only seen the tip of the import iceberg.

Several years ago, many furniture industry observers predicted that imports, especially from tropical producers, would take on a larger role in US markets. However, few anticipated the speed at which these changes would take place or the extent to which they would affect the industry. Most people expected that imports would only penetrate the lower end of the market because newly emerging overseas suppliers would not be able to provide the quality and service that the American consumer demanded. But the combination of a strong dollar, low foreign wages, new investment in foreign production and aggressive marketing on the part of exporting countries has quickened the pace of change.

For example, it is estimated that 50–75 US furniture plants closed in the first six months of 2001. According to the US Department of Labor, the period January through April 2001 saw 98 cases of mass layoffs (50+ employees) in the furniture industry; in total, 10 205 jobs were lost. Foreign outsourcing and competition were the primary reasons cited by industry observers for most closures. Well-known US furniture companies such as Century, Hammary, Pulaski now import more than 50% of the furniture they sell. Even Stanley and Richardson Brothers Co, which has long stood apart for its reluctance to import, has succumbed to the pressure and is now importing.

Stairway to prosperity

Figure 1: China's production and exports of furniture



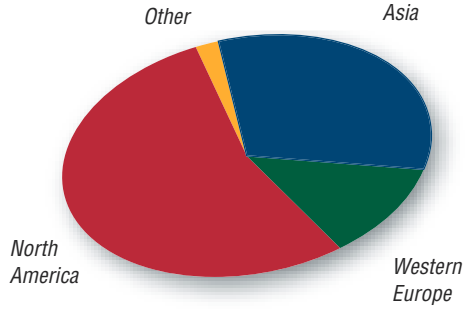
Source: ITTO

China's growth

The growth of Chinese furniture manufacturing and exports has been phenomenal *(Figure 1)*; production doubled in value between 1995 and 2000. More than half of Chinese furniture exports go to the US *(Figure 2)*; in 2000, 29% of all furniture imported to the US and 8% of all furniture sold was manufactured in China. US imports of Chinese wood furniture increased from US$69 million in 1992 to US$1.7 billion in 1999. In fact, Chinese furniture imports to the US have increased more than 30% per year for six years straight, including a 45% gain last year. Impressive rates of growth in exports have also been recorded in Malaysia, Thailand and Indonesia.

America ahoy

Figure 2: China's furniture exports by destination



Source: ITTO

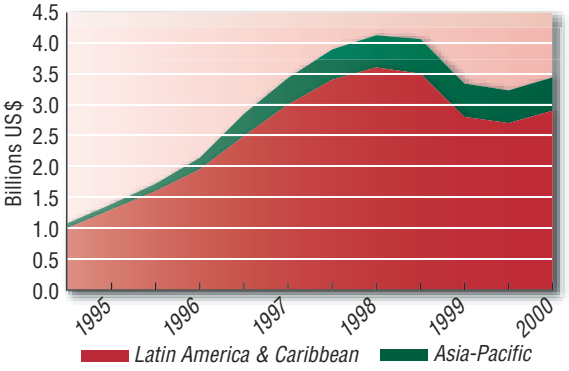
Still, many in the US don't understand the full impact that furniture imports will have on the US hardwood lumber industry. The most common view seems to be that 'they will still have to buy lumber from us as we have the best wood', or 'overseas lumber producers do not produce the quality that buyers want'. But is this more a case of 'we've got our heads in the sand'? In fact, competitors around the world are improving their quality and the advantages that US growers and manufacturers have enjoyed for so long are eroding quickly.

Chinese furniture manufacturers, for example, have made vast improvements in quality in recent years. Most are operating with technology and machinery more advanced than that found in the average US furniture factory. They can no longer be dismissed as low-end suppliers; indeed, several Chinese furniture plants (joint ventures as well as 100% domestic plants) are even attempting to penetrate the high-end US markets.

While China is the leading furniture producer in Asia, plants are also being built elsewhere. In Vietnam, the government is aggressively seeking foreign investment capital to build furniture factories and other industrial plants. Likewise, furniture manufacturing capacity is increasing in Malaysia, Thailand and Indonesia, and also in Latin America, particularly Brazil; *Figure 3* shows that value-added exports from ITTO producer countries have enjoyed massive growth in the last decade, even allowing for a dip in the late 90s due to the Asian financial crisis. Low-cost, educated and highly trainable labour is plentiful in most of these countries.

Arm-chair ride

Figure 3: Exports of tropical value-added wood products by ITTO producer members



Source: ITTO

In addition to their impact on the US and Canadian furniture industries, Asian exports are also having an effect on the domestic furniture industries of other developed countries, including Japan, Korea, Germany, Spain and France. This in turn is having an indirect impact on North American producers by reducing the demand for US hardwood lumber, component parts, panels and veneer.

The future for US lumber

Until recently, nearly a quarter of annual US hardwood production (3.4 billion board feet) was consumed by the furniture industry. As manufacturers have either reduced output or shifted production offshore, their utilisation of North American hardwoods has declined correspondingly. Analysts estimate that hardwood shipments to the domestic furniture industry have fallen by as much as 30% in the last two years. While some of this decline is the result of the slower economy, most is related directly to increased imports of finished goods. It is estimated that usage will decline another 20% over the next two years. If this comes to pass, sellers will have seen their market cut in half in a four-year period and will need to find new buyers for over 1.5 billion feet of lumber.

For North American hardwood producers, some might say the answer is simple—just ship more lumber to Asia since they are now the ones making the furniture. However, it must also be noted that Asian manufacturers have started purchasing more lumber and logs from Africa, South America, Russia and Eastern Europe. Furniture shipments from China have been increasing at a much faster rate than have North American lumber exports to that country, which confirms that they are sourcing a larger percentage of their hardwood lumber from other parts of the world. Moreover, Asian furniture manufacturers are increasingly substituting pine for hardwoods. If Russia further develops its infrastructure, it could emerge as an even more significant supplier of lumber and logs to Asia. In the end, it is unlikely that the Asian markets will absorb the full amount of lumber previously shipped to the domestic US furniture industry.

US furniture imports from Asia are likely to continue to grow and domestic production will continue to shrink. Within ten years it is probable that only a few domestic furniture manufacturers will remain, most likely high-end producers who offer customisation and rapid delivery; other US furniture companies will shift their production to East and Southeast Asia and focus on marketing and distribution at home. However, as markets mature, retailers may increasingly source furniture directly from foreign-based manufacturers, bypassing US-based companies entirely.

This article uses, with permission, information from the June 2001 edition of the Weekly Hardwood Review *and from the* AKTRIN *Group of Information Centers, USA.*

China conference

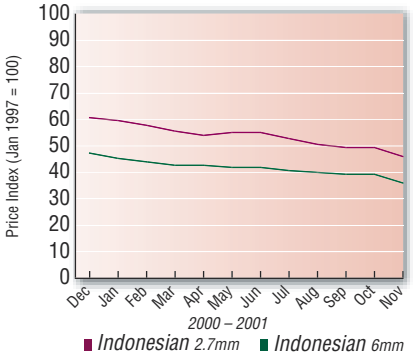
ITTO is supporting a conference on China's timber and wood products markets to be held next March in Beijing. Discussions will focus on the prospects for China's timber markets and their implications for timber producing countries such as Malaysia, Brazil, Russia, the USA and Indonesia. A wide range of Chinese government agencies, timber traders, suppliers and manufacturers are expected to attend.

Contact details for the 2nd China Timber & Wood Products Markets 2002 Conference, 11–12 March 2002, are given on page 31.

No-buy ply 1

Price trends for Indonesian plywood

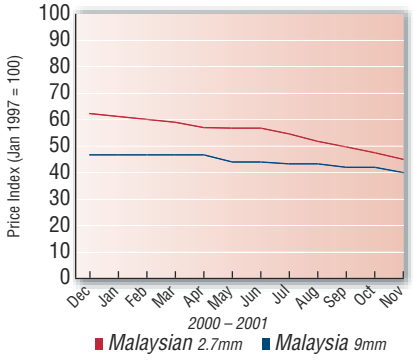
(12 months to November)



No-buy ply 2

Price trends for Malaysian plywood

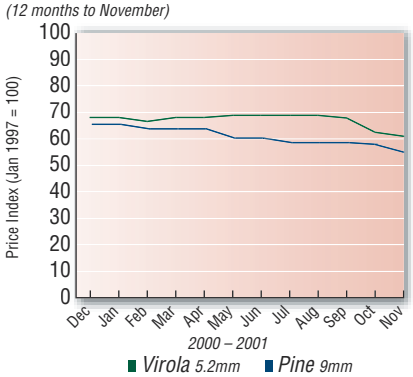
(12 months to November)



No-buy ply 3

Price trends for Brazilian plywood

(12 months to November)



Fellowship report

An ITTO fellow doing ethnobotanical studies says that protecting the woodlots of the Ifugao people in the Philippines would help conserve the region's biodiversity

By Merilyn T. Rondolo

Forestry and Environment Research Division

Philippine Council for Agriculture, Forestry and Natural Resources Research and Development

Los Baños, Laguna 4030 Philippines

t *63–49–536 0017*

f *63–49–536 0016*

merilyn@ultra.pcarrd.dost.gov.ph

A woodlot's lot: important, but may be lost through time—a *muyung* in Ifugao Province. *Photo: M. Rondolo*

IN 1993 the Philippines, a megadiverse country, ratified the Convention on Biological Diversity, under which all countries are expected to manage their biological resources sustainably. But how can a good biodiversity conservation plan be prepared if resource managers and decision-makers have limited knowledge of the country's biological resources?

Apart from being megadiverse, the Philippines archipelago has several indigenous cultural communities with a vast knowledge of their environment, including in the identification, use and management of biological resources. Such knowledge could be used to help develop biodiversity conservation plans.

Ifugaos are indigenous inhabitants of Ifugao Province, one of the highland provinces of northern Luzon, a Philippine island. The Ifugao people are known for their upland wet rice cultivation ('rice terraces'), woodcarvings (which are of export quality), and woodlot management. A woodlot, known locally as *muyung* or *inalahan*, is a privately managed secondary forest or forest garden.

My doctorate dissertation (Rondolo 2000) documented the plant knowledge and practices of the Ifugao people and investigated the threats to these resources. This article summarises some of the findings that I later presented to stakeholders through a series of workshops in the Ifugao community, with the help of an ITTO Fellowship grant.

Aim and objectives

The main aim of my research was to help plant resource managers and decision-makers prepare a plant diversity conservation plan for Ifugao that takes into account the province's plant genetic and cultural resources and the threats to these resources. My objectives were to:

- identify Ifugao's useful plants;
- document the identity, uses and cultivation methods of these lesser-known plants; and
- identify threats to Ifugao plants.

Methodology

Sixty-seven woodlot owners who were willing to participate in the study served as respondents. The study focused on plants used for: baskets and other containers; food; fuelwood; house construction materials; medicines; veterinary remedies; and woodcarving. The knowledge of woodlot owners was collected using pre-tested questionnaires during inventories of their individual woodlots. Information collected included: plant name; growth form; part used; cultivation status; use; animal treated (for plants used in veterinary remedies); and methods of collection, preparation and, where appropriate, cooking.

For the woodlot inventory, 67 plots measuring 25 m x 25 m each were established and sampled in detail. These plots were located in the centre of each woodlot to minimise edge effects. Plant specimens were collected, dried and identified by systematists from the Ecosystems Research and Development Bureau (ERDB) and the Forest Products Research and Development Institute at Los Baños in Laguna.

Useful families

Table 1: Uses for plants grown in woodlots in the Ifugao community, the Philippines

Use	Number of plant families	Most common family	Plant part used
Food	36	Myrtaceae, Palmae	Fruits, leaves, tubers, shoots, flowers, stems, buds, seeds
Fuelwood	43	Moraceae, Euphorbiaceae	Stems and branches of trees and stems of bamboo plants
House construction	36	Euphorbiaceae	Stems and branches of trees and stems of bamboo plants
Medicine	28	Asteraceae	Leaves, sap, stem, bark, fruits and flowers
Veterinary	12	Musaceae	Leaves, fruits, seeds and sap
Woodcarving	5	Meliaceae	Branches and stems

Results

Woodlot plant composition

Overall, the woodlots contained 264 mostly indigenous plant species belonging to 71 plant families. Euphorbiaceae was the most common family (24 species) followed by Moraceae (fig or breadfruit family), Meliaceae, Leguminosae (pea family), Poaceae (grass family), Anacardiaceae (mango family) and Rubiaceae. The number of species found per woodlot ranged from 13 to 47 species (average = 30); most were endemic to the region.

Ifugao classification system

Unknown to most outsiders, Ifugaos have their own plant classification systems. They used the term *tuboh* (sprouted from the ground) to mean plants and to differentiate these from animals. They classify plants based on taxo-morphological characteristics and according to use. In particular, their classification system for rattans is more detailed and accurate than that of a formally trained systematist.

Uses of the woodlot plants

Of the 264 plant species, 234 were considered useful (with many having more than one use) and the rest (mostly grasses) were reported to have no known use. *Table 1* summarises some of the data collected.

All woodlots contained plants that were used as fuelwood, materials for house construction, food and medicines. Most woodlots (97%) had veterinary plants in them.

Conversion?

Ifugaos possess knowledge about the uses and husbandry of a wide range of local plant biodiversity, much of which is not widely known outside their community and would be useful in plant diversity conservation.

Ifugao woodlots are very rich in plant diversity and therefore play an important role in conserving the Ifugaos' plant resources—particularly since much of the surrounding primary forest has been cleared. Unfortunately, woodlots are increasingly being converted into other land-uses as the Ifugao people seek cash income: for example, almost all of the woodlots studied contained commercial plantings of coffee (88%), banana (66%) and citrus (49%). Moreover, seven woodlots were being cleared for residential development to accommodate a growing upland population. Unless such conversion is stopped, there will be no Ifugao woodlots to speak of in the future. And as the woodlots disappear, so too will a substantial part of the region's biodiversity.

In an effort to save the Ifugao woodlots from extinction, I presented the results of my study to various stakeholders in the region last year via workshops. Comments such as those below were common:

> *The list of Ifugao endemic species is timely. I personally do not want to use exotic species any more in our reforestation activities in Ifugao Province because they are not compatible with the native plants of our woodlots. Besides, we need to revive our native species as a way of conserving our biodiversity. I will make it sure that in our reforestation plans these species will be included* – Mr Edgar Pambig

> *The list of species found in our woodlots indicates that there are indeed native species that we can now use in rehabilitating the woodlots. It is now easier to decide on the kind of species to be used. Thank you for turning over the results of your research* – Mr Ignacio Bonulna

Reference

Rondolo, M. 2000. *The changing Ifugao woodlots: its implications for indigenous plant knowledge and biodiversity.* Ph.D. dissertation, Australian National University. Canberra, Australia.

ITTO Fellowships offered

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, the efficient use and processing of tropical timber, and better economic information about 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 mongraphs; and
- post-graduate studies.

Priority areas: eligible activities aim to develop human resources and professional expertise in one or more of the following areas:

- improving the transparency of the tropical timber market;
- improving the marketing and distribution of tropical timber species from sustainably managed sources;
- improving market access for tropical timber exports from sustainably managed sources;
- securing the tropical timber resource base;
- improving the tropical timber resource base, including through the application of criteria and indicators for sustainable forest management;
- enhancing technical, financial and human capacities to manage the tropical timber resource base;
- promoting increased and further processing of tropical timber from sustainably managed sources;
- improving the marketing and standardisation of tropical timber exports; and
- improving the efficiency of tropical timber processing.

In any of the above, the following are relevant:

- enhancing public relations, awareness and education;
- improving statistics;
- research and development; and
- sharing information, knowledge and technology.

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 **13 March 2002** for activities that will begin no sooner than July 2002. 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; itto@itto.or.jp (see page 2 for ITTO's postal address).

Ministers vow to deter forest crimes

Forest law Inforcement and governance East Asia ministerial conference

11–13 September 2001
Bali, Indonesia

The main output of this conference, which was attended by Ministers and officials from a number of East Asian countries and other regions, was a Ministerial Declaration, reproduced below (the preambular paragraphs have been excluded for reasons of space).

"Countries from the East Asian and other regions participating in this Ministerial Conference … declare that we will:

"Take immediate action to intensify national efforts, and to strengthen bilateral, regional and multilateral collaboration to address violations of forest law and forest crime, in particular illegal logging, associated illegal trade and corruption, and their negative effects on the rule of law;

"Develop mechanisms for effective exchange of experience and information;

"Undertake actions, including cooperation among the law enforcement authorities within and among countries, to prevent the movement of illegal timber;

"Explore ways in which the export and import of illegally harvested timber can be eliminated, including the possibility of a prior notification system for commercially traded timber;

"Help raise awareness, through the media and other means, of forest crimes and the threats which forest destruction poses to our future environmental, economic and social well-being;

"Improve forest-related governance in our countries in order to enforce forest law, *inter alia* to better enforce property rights and promote the independence of the judiciary;

"Involve stakeholders, including local communities, in decision-making in the forestry sector, thereby promoting transparency, reducing the potential for corruption, ensuring greater equity, and minimizing the undue influence of privileged groups;

"Improve economic opportunities for those relying on forest resources to reduce the incentives for illegal logging and indiscriminate forest conversion, in order to contribute to sustainable forest management;

"Review existing domestic forest policy frameworks and institute appropriate policy reforms, including those relating to granting and monitoring concessions, subsidies, and excess processing capacity, to prevent illegal practices;

"Give priority to the most vulnerable transboundary areas, which require coordinated and responsible action;

"Develop and expand at all appropriate levels work on monitoring and assessment of forest resources;

"Undertake the demarcation, accurate and timely mapping, and precise allocation of forest areas, and make this information available to the public;

"Strengthen the capacity within and among governments, private sector and civil society to prevent, detect and suppress forest crime.

"Further, in order to give full effect to the intentions of this Declaration, and to proceed with urgency to explore timely implementation of significant indicative actions developed by technical experts at this meeting, we:

"Undertake to create a regional task force on forest law enforcement and governance to advance the objectives of this Declaration;

"Invite the representatives at this conference from NGOs, industry, civil society and other relevant stakeholders to consider forming an advisory group to the regional taskforce;

"Decide to meet again at the Ministerial level in 2003 to review progress on first actions to implement these commitments, in cooperation with relevant international partners;

"Request the ASEAN[1] and APEC[2] countries participating in this Conference to inform the next ASEAN and APEC Summits of the outcome of this Ministerial Conference and to invite their support;

"Pledge to work to see that the issue of forest crime is given significant attention in future international fora, including by the World Summit on Sustainable Development (WSSD) and the United Nations Forum on Forests, and by the member organizations of the Collaborative Partnership on Forests;

"Request the G-8 countries and other donors to consider further how they can join in the fight against forest crime, including through capacity building efforts;

"Encourage other regions to consider creating similar regional initiatives to combat forest crime."

[1]*Association of South East Asian Nations*
[2]*Asia Pacific Economic Cooperation*

African countries determined to increase local processing

International conference on the further processing of African tropical timber

26–28 September 2001
Libreville, Gabon

This conference, which was jointly organised by ITTO, the African Timber Organization (ATO) and the Government of Gabon, attracted more than 80 experts from ATO/ITTO Central African member countries and regional and international organisations. Presentations by international experts covered the following topics: i) markets and marketing of African further processed wood products; ii) policy and legislation to promote further processing of African timber; iii) infrastructure, supply and sustainability of timber resources; and iv) training, research and transfer of technology. The conference highlighted the benefits that could be derived from an efficient timber industry, made a critical assessment of the situation in Africa, explored successes and failures in Africa and in other parts of the world, and analysed the requirements for the successful promotion of further timber processing, including with the assistance of the international community.

The conference made several recommendations, including that each member country should formulate an industrialisation strategy for timber processing that takes into consideration the available resources and

market outlook for further processed tropical timber products. The participants also recognised the technical nature of the conference and the necessity to convene another high-level conference involving African ministers in charge of forestry, and the heads of funding institutions and major timber companies in the region, in order to secure a strong commitment to promote further timber processing at the highest level. This follow-up conference would also involve high-ranking officials from those African countries that represent potentially important markets for further processed wood products. ITTO is providing funds amounting to US$100 000 to support the organisation of this follow-up conference, which will take place in the first half of 2002.

Natural forests need extra payments

3rd biennial Jack Westoby lecture

9 August 2001
Canberra, Australia

Report by A. Sarre

Sustainable forest management in natural tropical forests will be financially viable and a competitive land use option if the additional services provided by such forests are paid for.

This was the message delivered by ITTO Executive Director, Dr Manoel Sobral Filho, at the 3rd Jack Westoby Lecture, given to about 100 forestry and environment students, professionals and academics at the Australian National University. Dr Sobral was the first non-Australian to deliver the lecture, which was initiated in 1997 in honour of its namesake, an influential thinker about international forestry. The lecture series is intended to provide a forum for wide-ranging debate on the issues confronting forests and forestry today.

In his lecture, Dr Sobral enumerated some of the reasons why tropical forests are valuable. These include their biological richness, their cultural importance, their production of timber and non-timber products, and their manifold environmental services. Moreover, since the biodiversity such forests contain may prove essential in the future, particularly in the face of forthcoming environmental changes, a precautionary approach to their conservation is needed. However, he said, the current status of forest management and conservation suggests that the global community is not yet willing and/or able to pay the price of conservation. Nor can we expect sustainably harvested timber alone to fund the maintenance of natural tropical forest: plantations have a massive competitive advantage over natural tropical forests in timber production, and alternative land uses such as oil palm and soy beans provide a far higher annual income. In the face of economic pressures at the local level—where farmers must farm if they are to feed their families—and at the national level—where governments must pay for basic infrastructure, schools, hospitals and so on—most tropical countries cannot afford to conserve tropical forests.

The solution, according to Dr Sobral, is for the global community to start paying for the services provided by natural tropical forests, particularly biodiversity conservation, which is where the 'competitive advantage' of such forests lies. As prima facie evidence that subsidies—or defacto 'biodiversity' payments—can achieve forest conservation, he cited the situation in the Brazilian state of Amazonas, which contains 135 million hectares of tropical rainforest. For the last 33 years, the state's government and population have shown little interest in promoting forest industries, agriculture or pastoralism, not because they want to remain poor but because the state was granted tax-free status by the federal government in 1968. The state's capital, Manaus, is now home to more than 400 industries, most importing and assembling parts into manufactured goods. This tax-free industry, which annually benefits from a subsidy amounting to US$3 billion, is the only development engine in the state. Almost by default, said Dr Sobral, this subsidy has left the forest virtually intact and in pristine condition: the state government has not encouraged forest development, rural settlement, agriculture or pastoralism because it hasn't needed to. The tax holiday is due to end in 2013—because Brazilian taxpayers have decided they can no longer afford such a massive subsidy—after which Amazonas is likely to see a dramatic increase in rural development and associated deforestation.

According to Dr Sobral, payments for the global services performed by tropical forests must be shared. Since richer countries are most able to afford such payments, and since the clamour for tropical forest conservation is highest in such countries, they must start contributing in a far greater way to help make forest conservation and sustainable natural forest management financially attractive land uses.

Meaty issues

ATIBT 50th anniversary forum

4–5 October 2001
Rome, Italy

The International Technical Tropical Timber Association (Association Technique Internationale des Bois Tropicaux—ATIBT) holds a forum each year. This one, which was attended by 215 participants from 23 countries, commemorated the birth of the Association in 1951. During the general assembly held on the first day, office-bearers for 2002 were elected; Jean Jacques Landrot, for example, was elected as the new president.

The ATIBT used the forum to present its official position on a number of topical issues, including certification, illegal logging/trade, and the role of the tropical timber trade in arms trafficking. According to the report of the forum, the ATIBT facilitated a recent United Nations' mission to Liberia but advises against a boycott due to the dramatic effects this would have on the local population. In preference to a boycott, the ATIBT has asked the United Nations to provide it with the names of those companies or individuals implicated in the arms traffic so that it can advise its members to cease all commercial relations with them.

The second day of the forum saw a wide range of speakers on an even broader range of topics, from the bushmeat trade to the role of the World Bank in forest management.

Recent editions

Edited by Alastair Sarre

***FAO 2001.* State of the world's forests 2001. *Food and Agriculture Organization of the United Nations, Rome. ISBN 92-5-104590-9.* US$40.**

Language: *Arabic, Chinese, English, French & Spanish*

Available from: *Information Officer and Editor, Unasylva, Forestry Department, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy; Tel 39–0657052296; Fax 39–0657052151; Forestry-information@fao.org; www.fao.org/forestry*

This report is the fourth and most recent of the FAO series of the same name. In the report's foreword, FAO Assistant Director-General Hosny El-Lakany writes that its purpose is to make current, reliable and policy-relevant information widely available to policy-makers, foresters and other natural resource managers, academics, forest industry and civil society in the hope that it "will facilitate informed discussion and decision-making with regard to the world's forests".

According to the report, there are nearly 3.9 billion hectares of forest on the planet, covering about one-third of the world's land area. Forest is defined as land with a tree canopy cover of more than 10% and area of more than 0.5 hectares with trees able to reach a minimum height of 5 metres. The total therefore includes vast areas of savannah as well as forest remnants and many urban plantings, although fruit orchards and agroforestry plantings are explicitly excluded. The area of forest lost in the tropics annually between 1990 and 2000 is estimated to have been 14.2 million hectares, while newly established forest (either plantations or expanding natural forest areas) in the tropics amounted to an estimated 1.9 million hectares per year, giving a net annual forest loss of 12.3 million hectares. Outside the tropics, net forest area increased by an estimated 2.9 million hectares a year, although 0.4 million hectares were still deforested each year.

The report contains information on several aspects of forest management not previously included. For example, the area of forest under certification is reported against each country, as is the area under forest management plans and in protected areas. The text that accompanies the data tables provides a useful synthesis of recent debate on a wide range of forest-related issues, from forest fire to illegal activities and corruption in the forest sector.

Cunningham, A. 2001.* Applied ethnobotany: people, wild plant use & conservation. *Earthscan, London. ISBN 1 85383 697 4. 300 pp. £24.95.

Language: *English*

Available from: *Earthscan Publications Ltd, 120 Pentonville Rd London N1 9JN, UK; Fax 44–(0)20–7278 0433; earthinfo@earthscan.co.uk; www.earthscan.co.uk*

According to the author, this book "covers the borderland between cultural and biological diversity. It is intended as a practical guide to approaches and field methods for participatory work between resource users and field researchers." It is targeted particularly at Africans working in conservation, rural development and park management, although it is only available in English.

Pfund, J-L. 2000.* Culture sur brulis et gestion des resources naturalles: evolution et perspectives de trios terroirs ruraux du verstant est de Madagascar. *Ecole polytechnique fédérale de Zurich, Zurich.

Language: *French*

Available from: *ETH Zentrum HG FO 22.4, CH-8092, Zurich, c/o Dr Jean-Pierre Sorg; sorg@fowi. ethz.ch*

The *tavy* is an ancestral slash-and-burn agricultural system used to produce rain-fed rice in the eastern part of Madagascar. It is often perceived from the outside as an ecological disaster, but it is deeply rooted in local culture. This book, comprising the author's PhD dissertation, documents the practice of *tavy* and its impact on the environment, with the aim of identifying improved strategies and systems for the sustainable management of natural resources by local communities and for improving the living conditions of the communities as a whole.

Sandoval, C. (ed) 2000.* Estudio de especias maderables natives del bosque húmedo tropical de Honduras. *Jardín Botánico y Centro de Investigación Lancetilla, Tela, Honduras.

Lombardi, Y. & Nalvarte, A. 2001.* Establecimiento y manejo de fuentes semilleras, ensayos de especies y procedencias forestales, aspectos técnicos y metodológicos. *Jardín Botánico y Centro de Investigación Lancetilla, Tela, Honduras.

Language: *Spanish*

Available from: *Jardín Botánico y Centro de Investigación Lancetilla, Apartado Postal No. 49, Tela, Atlántida, Honduras; Fax 504–448 1740; lanceti@sdnhon.org.hn*

Both these booklets are outputs of ITTO PROJECT PD 8/92 REV.2 (F): 'Estudio de especies natives de interés commercial en Honduras'. The first outlines the work conducted under the project, including the range of species for which seeds

were collected and the results of laboratory, nursery and field experiments involving the seeds. The second sets out the basic techniques and methodologies for initiating a program of species selection for plantations. It describes the process of seed collection and documentation, the establishment and management of seed orchards, and the use of comparative plantation trials to test the performance of different seed sources.

DENR, ITTO & FAO 2001.* Proceedings of the international conference on timber plantation development 7–9 November 2000, Manila, Philippines. *Forest Management Bureau, Department of Environment and Natural Resources, Republic of the Philippines, Manila. ISBN 971-8986-39-1. 392 pp.

Language: *English*

Available from: *Forest Management Bureau, Department of Environment and Natural Resources, Visayas Avenue, Diliman, Quezon City, Philippines; Fax 63–2–928 2778*

This volume contains papers on a broad range of issues on the topic of tropical timber plantation development, some of which were highlighted in *TFU* 11/3.

Wiersum, K. (ed) 2000.* Tropical forest resource dynamics and conservation: from local to global issues. *Tropical Resource Management Papers No 33. Wageningen University and Research Centre, Wageningen. ISSN 0926-9495.172 pp.

Language: *English*

Available from: *Wageningen University and Research Centre, Department of Environmental Sciences, Forest policy and forest management group, Droevendaalsesteeg 3, PO Box 342, 6700 AH Wageningen, the Netherlands; Fax 31–(0)317–478078*

This book presents an overview of recent social science research in the Netherlands concerning the conservation and management of tropical forests. It comprises ten papers on topics ranging from resource dynamics, livelihood and social change at the forest fringes of the Papua New Guinean highlands, to the social and economic driving forces of forest destruction in the Ecuadorian Amazon.

Sánchez, H., Alvarez, R., Guevara, O. & Ulloa, G. 2000.* Lineamientos estrategicos para la conservación y uso sostenible de los manglares de Colombia. *Ministerio del Medio Ambiente, Bogotá.

Language: *Spanish*

Available from: *ITTO Information Officer, Yoko-hama, Japan (full address page 2)*

This book, an output of ITTO PROJECT PD 171/91 REV.2 (F) (Phase 2): 'Conservación y manejo para el uso multiple y el desarrollo de los manglares en Colombia' is intended as a discussion paper on a strategy for the conservation and sustainable use of Colombia's 380 000 hectares of mangroves.

Vannucci, M. & Lacerda, L. 2001.* Introduction to Global Mangrove Database and Information System (GLOMIS). *Volumes I–IV + Index. International Society for Mangrove Ecosystems, Okinawa, Japan. ISBN 4-906584-06-3.

Language: *English*

Available from: *International Society for Mangrove Ecosystems Secretariat, c/o Faculty of Agriculture, University of the Ryukyus, Okinawa 903–0129, Japan; Tel 81–98–895 6601; Fax 81–98–895 6602; mangrove@ryukyu.ne.jp; www.glomis.com*

This five-volume publication was produced under ITTO PROJECT PD 14/97 REV. 1 (F). It is a database of mangrove-related projects, researchers and research papers and is designed to facilitate the exchange of information and cooperation among scientists, governments and the people on all aspects of mangrove ecology, conservation and sustainable use. It is also available on the web at www.glomis.com

Tropical and topical

Edited by Alastair Sarre

Mangroves on the web

GLOMIS, the Global Mangrove Database and Information System, was launched on the worldwide web recently. This database contains lists of people, projects and institutions relevant to mangrove research, management and sustainable use. Developed as part of ITTO PROJECT PD 14/97 REV. 1 (F) and constructed by the International Society for Mangrove Ecosystems (ISME), GLOMIS contains data collected by regional centres in Brazil, Fiji, Ghana and India and transferred to ISME's headquarters in Okinawa, Japan. The database will continue to grow as more data are gathered. A 5-volume hardcopy version is also available (see previous page).

For more information contact: Dr Shigeyuki Baba, ISME Secretariat, c/o Faculty of Agriculture, University of the Ryukyus, Nishihara, Okinawa 903–0129, Japan. The website can be viewed at www.glomis.com

Certified ...

Dr Garo Batmanian was appointed recently as the first chairman of the board of the newly created Forest Stewardship Council (FSC) Brazilian National Initiative (Conselho Brasileiro de Manejo Florestal—CBMF). The first meeting of the board took place in Belo Horizonte, Brazil last October. The FSC itself has a new Executive Director, Heiko Liedeker. He replaces Dr Maharaj Muthoo.

Also on the topic of certification, a group calling itself the Certified Forest Products Council has established a website (www.certifiedwood.org). Its mission is "to conserve, protect and restore the world's forests by promoting responsible forest products buying practices throughout North America". Although the website doesn't reveal its funding sources, the site explains that currently the FSC is the "only forest certification system to fully meet all the CFPC's criteria" for evaluating and comparing forest certification systems. It also contains a searchable database of FSC-certified forests.

Meanwhile, two companies in India have received FSC-accredited certification for their bamboo harvesting operations, it was announced recently. The companies are: Assam Bengal Veneer Industries Pvt Ltd in Calcutta (abvi@cal2.vsnl.net.in) and Toyin Woodcrafts India Private Limited in Saharanpur (toyin@nda.vsnl.net.in). The latter produces toys, gifts and furniture made of timber and bamboo.

Local returns

A study published recently in *Ambio* (30:6, September 2001) reports on the economic importance of products extracted from Amazonian floodplain forests near the Peruvian town of Jenaro Herrera on the lower Ucayali river. The authors recorded and valued all products extracted from the forests over a 1-year period using three information collection techniques: interviews in all the twelve villages located in the district; interviews with all 116 households in two selected villages; and close collaboration over one year with two selected households. They found that the mean annual value of natural forest products extracted per household over the year was US$1658, of which US$1119-worth was used locally (either consumed within the household or exchanged) and US$539-worth was sold. The highest value was obtained from the harvest of fish for food (US$900, of which US$222-worth was sold), while fish sold for aquarium use netted some US$123. The harvest of timber and leaves was worth US$159, and the firewood harvest was worth US$145. Overall, the harvest of products from natural forest provided more than half of the average household income; the average value of agriculture was US$1169 (net of costs), and other income was worth an average US$68. In total, the value of these flood-plain forests under current rates of extraction is, on average, about US$13 per hectare per year; each household is dependent on an average of 113 hectares of forests for extraction purposes.

The authors caution that these results can only be generalised for nearby areas with corresponding characteristics concerning forest composition, population density, distance from a main market, and so on. Nevertheless, they say that the results show that "one cannot take for granted that local dwellers' use of natural forests is without importance".

Forest development plan discussed

A second joint seminar and workshop aiming to promote the formulation and implementation of a forest development plan for Colombia's Coffee Region was held in Pereira last October. This warm and lively city is located in the heart of the coffee-growing area of Colombia and in the Cauca river watershed.

The seminar/workshop was attended by about 70 people representing key stakeholders and institutions concerned with forest management and development. All attendees agreed on the main issues that must be addressed in the regional forest development plan, which should be fully approved by mid 2002. The regional plan will be developed using the National Forest Development Plan, officially launched this December, as a guide.

In the same city and after that meeting, stakeholders and institutional staff gathered again to discuss the elements of an action plan for *Guadua angustifolia*, a native bamboo species. This action plan will be included as part of the aforementioned regional forest development plan.

For more information and documents, contact Mr Ruben Dario Moreno at rudamor@terra.com.co

Reported by Antonio Villa Lopera.

Noticeboard

Community forestry email bulletin

The Regional Community Forestry Training Centre for Asia and the Pacific (RECOFTC) publishes a two-weekly, English-language email bulletin containing news and information on community forestry-related activities and issues. To subscribe, visit the RECOFTC website at www.recoftc.org

Amazonian biodiversity mapping

A Centre for Amazonian Biotechnology is to be established in the Brazilian state of Amazonia, co-financed by the federal Ministry of Environment and the state government. One of the main tasks of the centre will be to map the region's biodiversity.

Reported by Mauro Reis

Peruvian certification newsletter

The Peruvian Council for voluntary forest certification (Consejo Peruano para la Certificación forestal voluntaria—CPCFV) issues a free, Spanish-language electronic newsletter highlighting its activities. It can be subscribed to by writing to cp.cfv@terra.com.pe or visit the website at www.rcp.net.pe/ashaninka/cp-cfv

Mahogany mania

The valuable timber species mahogany (*Swietenia macrophylla*) has been in the news lately. First, in early October a Mahogany Working Group established under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) met for the first time in Santa Cruz, Bolivia. Mahogany is listed in Appendix III of CITES by several range states; this listing means that trade is permitted under the convention but an export permit is required from the country listing the species and a certificate of origin is required from other exporting countries.

The working group comprises representatives of all range states for the species, the principal importing countries, organizations such as ITTO, FAO, IUCN and others, the non-governmental organization TRAFFIC and other technical experts. It heard reports from TRAFFIC and representatives of member states and concluded that some range states listing the species—particularly Bolivia, Brazil and Peru—had "made considerable progress in the implementation of the Appendix III listing, and thereby in the effective regulation of harvest as well as national and international trade". However, the evidence presented at the meeting made it clear that illegal trade occurs, although its extent differs from country to country. The evidence also suggested that data on the distribution and abundance of mahogany were still lacking in many forests, pointing to a need for field studies to "assess the occurrence of mahogany and to determine the level at which the species can be exploited sustainably". The working group recommended that range states increase inspections of shipments of mahogany timber and timber of similar species before export, while Argentina and Bolivia requested that TRAFFIC "look into problems related to the trade through their common border".

Meanwhile, Brazil's national forestry agency, IBAMA, cancelled all harvesting, transportation and trade permits for mahogany logs and mahogany timber products last October, according to ITTO's *Market information service*. A court decision allowed companies to trade the mahogany products they have in stock, but IBAMA says that harvesting permits remain invalid, although mahogany may still be harvested in certified operations.

And Greenpeace recently released a report titled *Partners in mahogany crime: Amazon at the mercy of gentlemen's agreements*, which "sets out the evidence and names many of the key actors involved in the supply and trade of illegal mahogany from Brazil". It can be found at www.greenpeace.org

More information on the Mahogany Working Group can be obtained from Ger van Vliet, CITES Secretariat, Chemin des Anémones, CH-1219 Châtelaine, Switzerland; Tel 41–22–917 8120; ger.van-vliet@unep.ch

Making contact

I would like to make contact with researchers or organisations dealing with sustainable forest management marketing and other diverse forestry issues.

Ms Ashita Sharma

RDIC,

PO Box 6944, Kathmandu, Nepal; udayardc@col.com.np

Preferred language: English

Downtrodden plantations

Sir

I refer to your editorial on plantations (*TFU* 11/3), in which you report that "Many are called 'paper' plantations… because it's the only place they exist; in the field they have died of (a combination of) drought, sabotage, pest attack, fire or some other form of neglect". In India, particularly in Maharastra Pradesh state, the sabotage is often perpetrated by cattle, with or without the connivance of the cattle grazier. In creating plantations during a campaign to promote social forestry, we built fences and dug trenches around planted areas in an attempt to protect them. But practically all our efforts were wasted due to sabotage by cattle.

'No cruelty to animals' is an empty slogan. In India, the cattle are allowed to wander freely, but they are rarely cared for in managed ranches. In the absence of animal husbandry and adequate feed, many simply hover around urban rubbish dumps or manage to invade tree plantations—which are often the only islands of greenery in a generally bleak environment.

It seems that neither the national or state government in India is interested in formulating a national livestock-grazing policy. Without such a policy, the establishment of plantations and gardens and the provision of 'elbow room' for people will continue to be inhibited. Natural forests also suffer; often they are grazed at ten times' their carrying capacity.

S.S. Chitwadgi

Bharat Forestry Consultancy

156/A, Indrapuri, Bhopal 462 021 (MP), India

Courses

Remote sensing masters

The International Institute for Aerospace Survey and Earth Sciences offers a master's degree in forestry for sustainable development. It provides specialist knowledge and technical skills for the collection, analysis and management of information to support planning and decision-making processes in sustainable forest and tree resource management. Remote sensing (RS) and geographic information systems (GIS) are important tools for these tasks. Graduates will be forestry resources experts who can use RS and GIS products for assessing, mapping and modelling forestry-based systems and who are able to recommend practical interventions to client organisations. The course is designed for professionals who actively contribute to decision-making for:

- the management of forest resources for a variety of benefits;
- the management of tree resources in rural areas; and
- the conservation of biodiversity.

Contact: *International Institute for Aerospace Survey and Earth Sciences, Hengelosestraat 99, PO Box 6, 7500 AA Enschede, the Netherlands; Fax 31–53–4874400; pr@itc.nl; www.itc.nl/gen/gen.html*

18th International seminar on forest and natural resources administration and management

25 August–12 September 2002
Colorado, Arizona, North Carolina and Washington, DC, USA

Cost: to be determined

Jointly offered by Colorado State University and the US Forest Service International Programs office, this seminar is designed for senior natural resource management professionals. The 19-day program focuses on strategies and methods to develop, manage and conserve natural resources for the sustained delivery of goods and services to meet the full range of human needs.

For more information and application details, contact: *Ann Keith, College of Natural Resources, Colorado State University, Fort Collins, CO 80523–1401, USA; ifs@cnr.colostate.edu or visit www.fs.fed.us/global/is/isfam/welcome.htm*

2002 International seminar on protected area management

8–24 August 2002 **Missoula, MT, USA**

Cost: US$4 500

This seminar, jointly offered by the universities of Montana, Idaho and Colorado State and the US Forest Service International Programs Office, is geared for senior-level managers and policymakers working in protected areas. The program will examine and stimulate debate on management strategies, policies and innovative institutional arrangements to address the conservation and use of the world's most special places.

For more information and application details, contact: *Dr Jim Burchfield, School of Forestry, The University of Montana, Missoula, MT 59812, USA; jburch@forestry.umt.edu or visit www.fs.fed.us/global/is/ispam/welcome.htm*

Sustainable development masters

The American University's School of International Service and the University of Peace in Costa Rica are offering a dual master's degree in natural resources and sustainable development. This program will provide professionals with multi-disciplinary training for the challenges faced by a growing world population in a changing environment. Limited resources, environmental constraints and the unequal distribution of wealth in the world economy create a compelling need to address these issues through the application of natural and social science. As leaders in natural resources policy design, graduates of this program will facilitate international cooperation. Students will integrate the social, economic and environmental dimensions of the field and become skilled in environmental conflict management.

For more information contact: *School of International Service, American University, 4400 Massachusetts Avenue, NW, Washington, DC 20016–8071, USA; Tel 1–202–885 1617; Fax 1–202–885 2494; sisunup@american.edu*

MSc in tropical environmental forestry

This 12-month course provides interdisciplinary education and training in subjects of current and future importance for forest management in the tropics. It combines traditional forestry methodologies with detailed coverage of modern approaches to the assessment and protection of biodiversity and other components of the environment, sustainable production, participatory forest management, forest restoration and 'appropriate technology'.

Contact: *Dr Jeremy Williams, Course Director, MSc Environmental Forestry, School of Agricultural and Forest Sciences, University of Wales, Bangor, Gwynedd LL57 2UW, UK; Tel 44–1248–383 708; Fax 44–1248–354 997; j.h.williams@bangor.ac.uk; www.safs.bangor.ac.uk*

MSc in agroforestry

The principle aim of this 12-month, annually run course is to provide a specialist education and training in agroforestry as a land use to meet human needs from farming and forestry systems. It has two parts: a formally taught element that runs from September to April, and a subsequent, four-month element in which students research a specific area of interest and produce a dissertation.

Contact: *Dr Zewge Teklehaimanot, Course Director, School of Agricultural and Forest Sciences, University of Wales, Bangor, Gwynedd LL57 2UW, UK; Tel 44–1248–382 639; Fax 44–1248–354 997; z.teklehaimanot@bangor.ac.uk*

By featuring these courses, ITTO doesn't necessarily endorse them. Potential applicants are advised to obtain further information about the courses of interest and the institutions offering them.

Useful sites on the internet

Colombian forest policy

This website contains information on Colombian forest policy, regulations and planning, including a number of downloadable files.

www.minambiente.gov.co/html/ecosistemas/EcForest/index.htm

Language: Spanish

Other Colombian-based websites of interest include the site of the Colombian Corporation for Research in Agriculture and Animal Husbandry (Corporación Colombiana de Investigación Agropecuaria)—**www.corpoica.org.co**—and the site of the Colombian Ministry of Agriculture, which contains information on rural, agricultural and forest incentives—**www.minagricultura.gov.co**

Bolivian sustainable development

This site takes the user to the Bolivian Sustainable Development Network, including the Ministry of Sustainable Development.

http://coord.rds.org.bo

Language: Spanish

Meetings

31 January–1 February 2002. **2nd Certification Watch Conference: Forest Certification and Corporate Responsibility.** Montreal, Canada. ***Contact:*** *Sustainable Forestry and Certification Watch, Tel 1–514–273 5777; sfcw@sfcw.org; www.CertificationWatchConference.org*

18–22 February 2002. **2nd International Workshop on Participatory Forestry in Africa. Defining the Way Forward: Sustainable Livelihoods and Sustainable Forest Management through Participatory Forestry.** Arusha, Tanzania. ***Contact:*** *George Matiko, Forestry and Beekeeping Division, PO Box 426, Dares Salaam, Tanzania; Tel 22–286 5838; Fax 22–286 5165; workshop@africaonline.co.tz; www.fao.org/forestry/FON/FONP/cfu/cfinfo/en/tanz-e.stm*

19–21 February 2002. **ITTO International Mangrove Workshop.** Cartagena, Colombia. ***Contact:*** *Dr Steve Johnson, ITTO Secretariat; Tel 81–45–223 1110; Fax 81–45–223 1111; itto@itto.or.jp; www.itto.or.jp*

24–26 February 2002. **Working Forests in the Tropics: Conservation through Sustainable Management.** Gainesville, Florida, USA. IUFRO 3.00.00, 1.07.00, 1.07.20. ***Contact:*** *Daniel J. Zarin, Associate Professor, School of Forest Resources and Conservation, University of Florida, PO Box 110760, Gainesville FL 32611-0760, USA; Tel 1–352–846 1247; Fax 1–352–846 1332; zarin@ufl.edu; http://conference.ifas.ufl.edu/tropics*

27 February–1 March 2002. **Building Assets for People and Nature: International Expert Meeting on Forest Landscape Restoration.** Costa Rica (immediately prior to UNFF-2). Sponsored by IUCN, WWF, ITTO and a number of governments. ***Contact:*** *Dagmar Timmer, IUCN—The World Conservation Union, Switzerland; Tel 41–22–999 0260; Fax 41–22–999 0025; forests@iucn.org; Stephanie Mansourian, WWF International, Switzerland; Tel 41–22–364 9004; Fax 41–22–364 0640; smansourian@wwfint.org*

4–15 March 2002. **2nd Session of the United Nations Forum on Forests.** San José, Costa Rica. ***Contact:*** *UNFF Secretariat, Department of Economic and Social Affairs, United Nations, 2 UN Plaza, 22nd Floor, New York, NY 10017, USA; Tel 1–212–963 3401; Fax 1–212–963 4260; unff@un.org*

11–12 March 2002. **2nd China Timber and Wood Products Markets Conference. Beijing, China.** Supported by ITTO. ***Contact:*** *Claire Lim, Regional Conference Producer, Centre for Management Technology, Singapore; Tel 65–346 9134; Fax 65–345 5928; claire@cmtsp.com.sg*

20–21 March 2002. **Forest Valuation and Innovative Financing Mechanisms for Conservation and Sustainable Development of Tropical Forests.** The Hague, Netherlands. ***Contact:*** *Tropenbos International, Seminar 2002, PO Box 232, 6700 AE, Wageningen, the Netherlands; Fax 31–317–495520; tropenbos@tropenbos.agro.nl; www.tropenbos.nl*

25–27 March 2002. **International Conference on Utility Line Structures.** Fort Collins, Colorado USA. ***Contact:*** *Lisa S. Nelson, International Conference c/o EDM, 4001 Automation Way, Fort Collins CO 80525–3479 USA; Tel 1–970–204 4001; Fax 1–970–204 4007; lnelson@edmlink.com*

April 2002. **ITTO International Workshop on Certification.** Kuala Lumpur, Malaysia. ***Contact:*** *Amha bin Buang, ITTO Secretariat; Tel 81–45–223 1110; Fax 81–45–223 1111; itto@itto.or.jp; www.itto.or.jp*

8–19 April 2002. **6th Conference of the Parties to the Convention on Biological Diversity.** ***Contact:*** *CBD Secretariat, Montreal, Canada; Fax 1–514–288–6588; secretariat@biodiv.org; www.biodiv.org*

8–20 April 2002. **Alternative Ways to Combat Desertification: Connecting Community Action with Science and Common Sense.** Cape Town, South Africa. ***Contact:*** *Ms Roben Penny, Woodbine, Essex Road, Kalk Bay, Cape Town 7975 South Africa; Tel 27–21–788 1285; robenpen@jaywalk.com; http://des2002.az.blm.gov/homepage.htm*

7–9 May 2002. **Diseases and Insects in Forest Nurseries.** Kerala, India. IUFRO 7.03.04. *Contact: Stephen Fraedrich, USDA Forest Service, 320 Green Street, Athens, GA 30602, USA; Tel 1–706–559 4273; Fax 1–706–559 4287; sfraedrich@fs.fed.us*

12–16 May 2002. **7th International Workshop on Seeds.** Salamanca, Spain. ***Contact:*** *Gregorio Nicolaás; gnr@gugu.usal.es; www.geocities.com/workshop_on_seeds*

13–18 May 2002. **32nd Session of the International Tropical Timber Council.** Denpasar, Indonesia. ***Contact:*** *Collins Ahadome; Tel 81–45–223 1110; Fax 81–45–223 1111; itto@itto.or.jp; www.itto.or.jp*

22–26 July 2002. **FAO/ITTO/INAB International Conference on Criteria and Indicators for Sustainable Forest Management.** Guatemala City, Guatemala. ***Contact:*** *Eva Mueller, ITTO Secretariat; Tel 81–45–223 1110; Fax 81–45–223 1111; itto@itto.or.jp; www.itto.or.jp*

14–21 August 2002. **17th World Congress of Soil Science: Confronting New Realities in the 21st Century.** Bangkok, Thailand. ***Contact:*** *Congress Office, Kasetsart University, Box 1048, Bankok 10903, Thailand; o.sfst@nontrj.ku.ac.th*

29 July–2 August 2002. **Mountain Forests: Conservation and Management.** Vernon, British Columbia, Canada. IUFRO 1.05.00. ***Contact:*** *Tom Rankin, Forest Continuing Studies Network; Tel 1–250–573 3092; Fax 1–250–573 2882; tom.rankin@fcsn.bc.ca; www.mountainforests.net*

25–29 August 2002. **Population and Evolutionary Genetics of Forest Tree Species.** Stará Lesná, Slovakia. IUFRO 2.04.00. ***Contact:*** *Ladislav Paule, Faculty of Forestry, Technical University SK-96053 Zvolen, Slovakia; Tel 421–855–520 6221; Fax 421–855–533 2654; paule@vsld.tuzvo.sk; http://alpha.tuzvo.sk/~paule/conference*

2–11 September 2002. **World Summit on Sustainable Development (Rio +10).** Johannesburg, South Africa. Visit *www.johannesburgsummit.org*

3–4 September 2002. **Forest Information Technology 2002: International Conference and Exhibition.** Helsinki, Finland. ***Contact:*** *Leila Korvenranta, Finpro, Arkadiankatu 2, POB 908, FIN-00101 Helsinki, Finland; Tel 358–204 6951; Fax 358–204 695 565; info@finpro.fi; www.finpro.fi*

24–25 September 2002. **Malaysian Timber Marketing Convention.** Kuala Lumpur, Malaysia. ***Contact:*** *MTMC 2002, Level 18, Menara PGRM, 8 Jalan Pudu Ulu, 56100 Cheras, Kuala Lumpur, Malaysia; Tel 603–982 1778; Fax 603–982 8999; mtmc@mtc.com.my*

29 September–5 October 2002. **International Seminar on New Roles of Plantation Forestry Requiring Appropriate Tending and Harvesting Operations.** Tokyo, Japan. IUFRO 3.04. ***Contact:*** *Japan Forest Engineering Society Office, c/o Laboratory of Forest Utilization, Graduate School of Agricultural and Life Sciences, University of Tokyo, 1–1–1 Yayoi, Bunkyo-ku, Tokyo 113–8657, Japan; Fax 81–3–5841 7553; JFES-office@fr.a.u-tokyo.ac.jp; http://jfes.ac.affrc.go.jp/iufro2002.html*

14–18 October 2002. **Interpraevent 2002 in the Pacific Rim: Protection of Habitat against Floods, Debris Flows and Avalanches caused by Heavy Rainfall, Typhoon, Earthquake and Volcanic Activity.** Matsumoto, Japan. ***Contact:*** *Japan Society of Erosion Control Engineering, Sabo Kaikan, 2–7–5 Hirakawa-cho, Chiyoda-ku, Tokyo, 102-0093 Japan; Tel 81–3–3263 6701; Fax 81–3–3263 7997; IPR2002@ics-inc.co.jp; www.sabopc.or.jp/IPR2002*

4–9 November 2002. **33rd Session of the International Tropical Timber Council.** Yokohama, Japan. ***Contact:*** *Collins Ahadome; Tel 81–45–223 1110; Fax 81–45–223 1111; itto@itto.or.jp; www.itto.or.jp*

10–15 November 2002. **EucProd: International Conference on Eucalypt Productivity.** Hobart, Tasmania. ***Contact:*** *Penny Archer, Conference Design Pty Ltd, PO Box 342, Sandy Bay, Tasmania 7006, Australia; Tel 61–3–6224 3773; Fax 61–3–6224 3774; mail@cdesign.com.au; www.cdesign.com.au/eucprod*

11–17 November 2002. **Collaboration and Partnerships in Forestry.** Santiago, Chile. IUFRO 6.00.00. ***Contact:*** *Susanna Benedetti, Instituto Forestal, Casilla 3085, Santiago, Chile; Tel 56–2–693 0722; Fax 56–2–638 1286; sbenedet@infor.cl*

11–15 March 2003. **Forest Products Research: Providing for Sustainable Choices.** IUFRO Division 5. Rotorua, New Zealand. ***Contact:*** *Lesley Caudwell, Forest Research, Sala Street, Private Bag 3020, Rotorua, New Zealand; Tel 64–7–343 5846; Fax 64–7–343 5507; alldivsiufronz@forestresearch.co.nz; www.forestresearch.co.nz/site.cfm/alldivsiufronz*

11–15 March 2003. **Properties and Utilization of Tropical Woods.** IUFRO 5.03.00 and 5.06.00. ***Contact:*** *Gan Kee SENG, Forest Research Institute Malaysia, 52190 Kuala Lumpur Kepong, Malaysia; Fax 60–3–636 7753; ganks@frim.gov.my*

8–17 September 2003. **V World Parks Congress.** Durban, South Africa. ***Contact:*** *Peter Shadie, Executive Officer, 2003 World Parks Congress, IUCN Programme on Protected Areas, Rue Mauverney 28, 1196 Gland, Switzerland; Tel 41–22–999 0159; Fax 41–22–999 0025; pds@iucn.org; http://wcpa.iucn.org*

21–28 September 2003. **XII World Forestry Congress.** Quebec City, Canada. *Contact: XII World Forestry Congress, PO Box 7275, Charlesbourg, Quebec G1G 5E5, Canada; www.wfc2003.org*

8–13 August 2005. **XXII IUFRO World Congress.** Brisbane, Australia. ***Contact:*** *Dr Russell Haines, Queensland Forestry Research Institute, PO Box 631, Indooroopilly 4068, Australia; Tel 61–7–3896 9714; Fax 61–7–3896 9628; hainesr@qfri1.se2.dpi.qld.gov.au http://iufro.boku.ac.at*

Point of view

Enriching the forest to enrich the poor?

The latest Conference of the Parties to the Convention on Climate Change maintained the position that the restoration of tropical forests should be ineligible for carbon credits—but it was an opportunity missed

by André Gabus

Economic Advisor

CH-1256 TROINEX-Geneva
Switzerland

agabus@bluewin.ch

THE recent agreement on the implementation of the Kyoto Protocol reached in Bonn last July and confirmed last November in Marrakech was a missed opportunity for tropical forests and sustainable development.

The Kyoto Protocol is an agreement under the United Nations Framework Convention on Climate Change (UNFCCC) whereby developed countries (so-called 'Annex I' countries) have agreed to reduce their net emissions of greenhouse gases by 5% below 1990 levels. As reported in *TFU* 11/3, the 6th Conference of the Parties to the UNFCCC (in its second session—COP 6-II) decided, among other things, the details of the clean development mechanism (CDM). The CDM is designed to "assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention". The 'ultimate objective' is the mitigation of climate change caused by an increase in the atmospheric concentration of so-called greenhouse gases.

Not enough 'development' in CDM

However, the provisions of the CDM agreed in Bonn and confirmed at COP 7, held last November in Marrakech, do not go far enough. In forestry, they allow Annex I countries to benefit from carbon credits (to be offset against their carbon emissions) earned by reforestation and afforestation projects in developing countries *(see box for definitions)*; they do *not* allow credits for emission reductions achieved through reduced impact logging, enrichment planting, forest restoration or forest conservation projects, at least for the first commitment period of 2008–2012.

Many developing countries carry huge debt burdens and continue to borrow money to, among other things, implement their often-meritorious forest policies. Most field activities in application of these new policies, including those associated with natural forest management, such as enrichment planting and reduced impact logging, help reduce carbon emissions, but the Marrakech agreement offers funding only for plantations on already-cleared land. Moreover, many activities not allowed in the CDM

are permitted within the Annex I countries themselves under the categories 'forest management' and 'revegetation' *(see box for a definition of the latter)*. In other words, under certain conditions the restoration of natural forest will qualify for carbon credit payments if it is conducted in Annex I countries but not if it is conducted in developing countries. This not only seems discriminatory, it misses an excellent opportunity to provide additional funding for sustainable development. I contend, therefore, that donor countries should reconsider, as a next step, their decision to exclude forest restoration (or 'revegetation') projects from the CDM.

Scope for enrichment planting

The land available in the tropics for afforestation and reforestation is often limited. For example, the length of time that fields are allowed to stand fallow in West Africa and the coastal zones of Central Africa is becoming shorter and their area is diminishing as the rural populations grow. Afforestation or reforestation of such fallow lands cannot be expected to take place on a large scale but, rather, through small agroforestry projects. Under the strict rules and heavy constraints that will govern project approval under the CDM, the environmental services provided by these kinds of projects will most likely remain uncompensated.

Defining moments*

'Reforestation' is defined under the Protocol as "the direct human-induced conversion of non-forest land to forest land … on land that was forested but that has been converted to non-forest land" and was not forested on 31 December 1989. 'Afforestation' is defined as "the direct human-induced conversion of land that has not been forested for a period of at least 50 years to forest land …". 'Forest' is defined as "a minimum area of land of 0.05–1.0 hectares with tree crown cover … of more than 10–30% with trees with the potential to reach a minimum height of 2–5 metres at maturity …" Countries must 'choose' its own definition of forest within these parameters. 'Revegetation' is "a direct human-induced activity that has taken place since 1 January 1990 to increase carbon stocks on sites through the establishment of vegetation that covers a minimum area of 0.05 hectares and does not meet the definitions of afforestation and reforestation … ".

**applicable to articles 3.3 (afforestation, reforestation and deforestation) and 3.4 (other forestry activities retained for countries included in Annex I) and to be possibly adapted for developing countries when definitions and application modalities for the CDM are finalised.*

Source: UNFCCC The Marrakech Accords & the Marrakech Declaration, Advanced unedited version, November 2001

Continued on page 17