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ITTO

# Tropical Forest UPDATE

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## Assessing achievements

Evaluating progress towards an organization's goals or objectives is not easy. It requires a clear baseline to start such an analysis from, a good understanding of how outputs contribute to objectives and a willingness to examine faults and weaknesses as rigorously as positive achievements. Despite the difficulty, such evaluations are essential to growth and improvement as they are the best way to learn from successes and mistakes, and to make necessary changes so that the prospect of attainment of goals and objectives is enhanced.

ITTO has undertaken several evaluation exercises in recent years to assess attainment of its goals and objectives. One of the most notable of these was a recent evaluation of a series of diagnostic missions dispatched to countries to identify key constraints to the implementation of sustainable forest management (SFM). Since the promotion of SFM is part of ITTO's core mandate, this evaluation was undertaken to provide important inputs on how the diagnostic missions were helping to

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## Regular features




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**Cover image** Monitoring mission members studying forest census map in Diversoria community, Peru (PD 14/98). *Photo: R. Guevara/ITTO*

## ... Editorial continued

meet this goal. As the article by Dourojeanni (p. 3) points out, the impact of these missions has been at best mixed. While their cost-benefit ratio was deemed to be broadly positive (due mainly to the low cost of the missions), many weaknesses were pointed out. ITTO is now reformulating the terms of reference for any future diagnostic missions to ensure that the findings of this evaluation of their effectiveness are taken into account. While another ITTO evaluation exercise (the Status of Tropical Forest Management reports, the 2010 version of which is currently being prepared) has found that progress towards SFM is being made, there is no doubt that a more intelligent targeting of resources and technical assistance (as recommended in the review of the diagnostic missions) could speed this progress in many countries.

One of the weaknesses found by the evaluation of the diagnostic missions was the relatively low number of projects arising from the mission recommendations that were submitted and subsequently funded by ITTO. Projects have always formed a key plank in ITTO's assistance to member countries, providing the means to implement policies at the field level. During the 1990s, external evaluation (in contrast to the regular monitoring of project progress undertaken by the Secretariat) of project achievements by ITTO was somewhat haphazard. However, in 2000, the International Tropical Timber Council established a fund for ex-post evaluation of projects and provided guidance on the types of projects that should undergo mid-term or ex-post evaluation, including providing for thematic evaluations of similar projects and grouping of regional/country project evaluations. This issue of the TFU highlights the findings of several such evaluations carried out in recent years, including a themed evaluation of community involvement in forest restoration (p. 7), reviews of projects to promote development of rubberwood and rattan in Thailand (p. 11 and p. 17, respectively), community forestry in Brazil (p. 15) and reduced impact logging training in Guyana (p. 20).

Reports of ex-post evaluations of projects have recently been given a higher profile in ITTC sessions, where they are now considered at a joint Committee session with the participation of all key stakeholders, reflecting the importance Council attaches to this important topic. ITTO is also in the process of undertaking a meta-evaluation of ex-post evaluations of projects, to improve the consistency of evaluations in terms of both quality of analysis and methodology, so that the Organization and its member countries continue to learn and benefit from project evaluations.

While the regular project cycle implemented by ITTO over the past two decades will continue, the approval of five thematic programs on a pilot basis by the ITTC in 2008 and the looming entry into force of the ITTA 2006 (under which the thematic programs will become a permanent feature of ITTO's work) has shifted the focus of ITTO's assistance towards activities and projects consistent with the approved themes. The thematic programs will benefit from the project evaluation experience ITTO has garnered to date but will also require new approaches. The ITTO Secretariat will implement the thematic programs, and monitoring and evaluation of activities carried out under them by countries and other stakeholders will be guided by monitoring protocols that seek to ensure that the overall objectives, outputs and output indicators of each thematic program are being attained. The on-going review of ITTO's experiences in the evaluation of projects, together with the evolving system of monitoring and evaluation of the thematic programs, will serve to strengthen the impacts of projects and ensure that scarce funds are being used most effectively to achieve the shared goals of the Organization and its member countries.

**Steve Johnson**
**Editor**

# Fulfilling the mission

***A review of 20 ITTO diagnostic missions finds flaws in the program and recommends improvements***

**by Marc J. Dourojeanni**

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**Community diagnosis:** Greater involvement of local communities (like this one in Peru) was recommended by many missions. *Photo: INRENA*

In November 2000 the International Tropical Timber Council (ITTC), under Decision 2(XXIX), authorized ITTO's Executive Director "to render assistance to producer countries, on request, to identify, in each country, those factors which most severely limit progress towards achieving Objective 2000 and sustainable forest management and to formulate an action plan to overcome these constraints".

Objective 2000 is a commitment by ITTO member countries to move "as rapidly as possible towards achieving exports of tropical timber and timber products from sustainably managed sources". A review of progress towards this objective in 2000 (Poore and Thang, 2000) proposed "short diagnostic missions" to countries with a view to deciding "where assistance can be most effectively and economically targeted." Decision 2(XXIX) provided the authority and financial resources for such missions to be carried out.

***Two international consultants, including the current author, and six national consultants were appointed to undertake the review***

In November 2006, the Council decided to review the effectiveness of the diagnostic missions (DMs) that had subsequently been conducted. Two international consultants[1], including the current author, and six national consultants[2] were appointed to undertake the review, and eleven additional local consultants were employed to assist the governmental agencies to complete country questionnaires. The review was carried out between August 2008 and May 2009 on the 20 diagnostic missions that had been completed by the end of 2007 (see table). This article synthesizes its results, which were presented to the ITTC at the end of 2009.

**Wide ranging:** Diagnostic missions, 2001–07

| Region | Country | Mission date |
|---|---|---|
| Africa | Republic of Congo | October 2001 |
| | Central African Republic | March 2002 |
| | Gabon | January 2005 |
| | Liberia | May 2005 |
| | Nigeria | August 2007 |
| Asia and the Pacific | Indonesia | September 2001 |
| | Philippines | May 2003 |
| | Cambodia | September 2004 |
| | Fiji | October 2004 |
| | Thailand | March 2006 |
| | India | April 2006 |
| | Papua New Guinea | February 2007 |
| Latin America and the Caribbean | Brazil | October 2001 |
| | Guyana | October 2002 |
| | Trinidad and Tobago | December 2002 |
| | Peru | June 2003 |
| | Suriname | August 2003 |
| | Ecuador | April 2004 |
| | Panama | August 2004 |
| | Mexico | May 2005 |

1 *Marc J. Dourojeanni (Peru) and Willy Delvingt (Belgium).*

2 *Georges Ngasse (Central African Republic), Angelique Loukondo (deceased during her assignment) and Basile Mpati (Congo), Hour Limchhun (Cambodia), Dody Sukadri (Indonesia), Cecilia do Prado (Brazil) and Dimas Arcia (Panama).*

## Methodology

The key terms of reference for each of the diagnostic missions were to:

- identify the factors that are most critical in preventing the attainment of sustainable forest management (SFM) in the country
- assemble those constraints in order of importance
- recommend a sequence of actions to remove the constraints, providing cost estimates whenever possible.

In reviewing the missions, the ITTO secretariat suggested the following basic methodology:

- the preparation of six country case studies, one by each of the six national consultants, and visits by the international consultants for direct consultations
- a structured questionnaire for the relevant forest authority in each country for which a diagnostic mission was conducted
- a questionnaire for all consultants participating in the diagnostic missions.

The countries selected as case studies were Brazil, Cambodia, Central African Republic, Congo, Indonesia and Panama.

The key issue for the review was the effectiveness of the diagnostic missions, and the main measure of this was taken to be the extent to which the recommendations of each mission had been implemented. All other aspects, such as the acceptance of recommendations and the quality or methodology of the reports, would become largely irrelevant if the recommendations had not been implemented.

## Results

### Forest authorities

The questionnaires sent to relevant forest authorities focused on the extent to which the recommendations of the diagnostic missions had been accepted and implemented. Overall, for those countries that responded to the questionnaire, 403 (84%) of the 482 recommendations were "fully accepted", but only 73 (18%) of those fully accepted recommendations were declared to have been "fully implemented". Six forest authorities declared that none of the recommendations of the relevant diagnostic missions had been fully implemented.

The results of the six case studies confirmed this overall finding. In total, forest authorities in the case-study countries claimed in questionnaires that 21% of the accepted recommendations had been "fully implemented". However, further discussions with authorities and other stakeholders revealed that the actual figure was probably closer to 6%. Most recommendations were viewed as "being implemented", a fair but not fully satisfactory answer given that the time that had elapsed since the undertaking of the missions (four to seven years, depending on the country) had been sufficiently long for the full implementation of most recommendations.

In responses to questionnaires and interviews conducted during the case studies, a number of forest authorities expressed "high satisfaction" with the usefulness of the diagnostic missions. However, only three of those forest authorities responded positively to the question "is the diagnostic mission report being used by governmental staff and other stakeholders for planning and future actions?"; two responded "no" and six "not quite".

The case studies revealed that with, the exception of Indonesia, the diagnostic-mission reports were not known by current forest authorities or stakeholders (in Indonesia the report had been translated and made available as a booklet and on the internet). Responses from countries regarding the contributions of the diagnostic missions to the improvement of knowledge and innovation were not positive. However, most recommendations were considered realistic and applicable in their national contexts.

### Team members

The questionnaire to team leaders and other team members revealed satisfaction with local arrangements for missions, access to forest authorities, the number of team members, the contributions of local consultants, and ITTO secretariat support, and there were no serious language difficulties. Nevertheless, some respondents favored longer missions to disseminate results and also brief preparatory missions. The satisfaction of team leaders and other team members was less evident with regard to the terms of reference of the missions, pre-mission communication, the availability of technical information and the selection of team members. Clear dissatisfaction was expressed with regard to access to non-forestry authorities and also to relevant non-government stakeholders.

In some cases there were significant differences between the responses of team leaders and those of other members of the team. This was especially the case regarding the terms of reference: these were considered to be "not fully realistic and viable" by 44% of team leaders but "realistic and viable" by 73% of other team members. More than half (56%) of team leaders regretted a lack of opportunity to participate in the selection of other members of the team. While 75% of team leaders considered that adequate time was allocated to the missions, 50% of other team members considered that it was insufficient.

To the question "In your opinion…did the Government really endorse the DM report?", 50% of team leaders and 60% of other team members responded "no" or "not quite". To the question "In your opinion…did the forestry sector have the political capacity to adopt DM's policy proposals?", 57% of team leaders responded "no" or "not quite".

### Quality of reports

A quantified analysis of the 20 diagnostic-mission reports suggested that few missions respected their terms of reference. Several reports discuss the meaning of the expression "factors that are most critical" and especially the

viability of identifying one or a few recommendations to tackle them. Most decided to take a "business-as-usual" approach, meaning they would cover all aspects of forestry.

This decision generally produced a wide range of identified constraints and resultant recommendations, a fact that was criticized by forest authorities during case studies. In total the 20 diagnostic missions produced 502 recommendations (an average of 25 per country) and as many as 633 if those embedded in other recommendations are taken into account. One diagnostic mission made only six recommendations but another made 52. About half (49%) of the recommendations were of a policy nature, 24% were technical and 27% constituted project proposals. In general the diagnostic missions avoided dealing with issues outside the forest sector, even though they recognized that many of the constraints to SFM—such as a lack of certainty around land tenure and socioeconomic/political factors—required change beyond the forest sector.

Each of the 20 diagnostic-mission reports adopted a unique format and structure, making comparisons difficult. Most reports were well-written but, in the opinion of the reviewers, nearly half (45%) were too long (over 100 pages plus attachments) and 55% had inadequate summaries. Recommendations were often undifferentiated from general comments or suggestions. A few reports (mostly from Africa) focused on a limited set of key issues but the majority applied a very broad approach. The reviewers rated the level of innovation in the recommendations as low but the level of realism or viability as high.

### ITTO projects

Another indicator of the effectiveness of the diagnostic missions is the extent to which they induced more and better project submissions to ITTO. Of the 137 projects proposed by diagnostic missions, only 24 project proposals (18%) were submitted to ITTO and, of those, only ten (7%) were approved and executed. Those countries that received diagnostic missions subsequently submitted, in total, 71 project proposals not visibly connected with the missions. The project recommendations of the diagnostic missions were most effective in Africa, where 26% of projects proposed by missions were ultimately submitted to ITTO.

## Interpretation of results

Undeniably, the combined result of the 20 diagnostic missions constitutes a unique piece of information on the situation of SFM in the tropics that is certainly helpful to those interested in the subject. By most parameters used in this assessment, however, the diagnostic exercise was unsuccessful because it did not achieve a reasonable level of implementation of the accepted recommendations, it was not particularly innovative, and it did not significantly add to knowledge, increase awareness, or allow for more and better ITTO projects. Nor were the diagnostic-mission reports adequately validated, disseminated or put to use in-country; they were often described by those who were aware of them as "lacking focus".

Paradoxically, however, the diagnostic missions may have been very efficient in terms of their cost/benefit because the implementation of only one or a few recommendations in one or more countries could have rendered economic benefits many times greater than the small total amount invested by ITTO (about US$2 million). From this point of view, the diagnostic missions may be qualified as very successful.

Another valid interpretation of the diagnostic missions is that, while they may not have yielded the best possible outcomes, they have been no less successful than other similar, much more ambitious, time-consuming and costly exercises conducted in tropical countries since the launch of the Tropical Forest Action Plan in the 1980s. In conclusion, the diagnostic missions have probably been a valid undertaking and a worthwhile use of funds, but with differences in design they could have been considerably more effective.

The two major deficiencies of the diagnostic missions may be categorized as follows:

- The original idea of the diagnostic missions underwent progressive changes and, when applied in the field, the missions frequently became much larger and somehow unbalanced conventional forest planning exercises. Some suggestions in the terms of reference may have not been fully in line with the basic objective of "identifying the factors that are most critical", unintentionally encouraging a dispersion of focus. Therefore, the key deficiency of most diagnostic missions may be summarized as a failure to provide a clear list of the main constraints and corresponding prioritized recommendations.
- Most countries paid little attention to the diagnostic-mission reports for a wide range of reasons, such as the above-mentioned weaknesses in the reports; frequent changes in policy, legislation, institutions and staff; a "lack of political priority for the forestry sector"; and the extra-sectoral nature of many of the constraints to SFM (and their solutions).

## Recommendations for future diagnostic missions

The reviewers of the diagnostic missions made the following recommendations to the International Tropical Timber Council:

- Considering the results of this assessment, it is inadvisable to continue financing diagnostic missions in their current form.
- To continue the program of diagnostic missions there should be:
  - agreement on the importance to be given to the term "factors that are most critical in preventing the attainment of SFM". Almost always such factors will include what is generally referred to as "a lack of political will", which will require actions that involve government levels and sectors beyond the national forest sector or that touch on sensitive socio-economic policies and situations. If a country is not ready to accept recommendations that deal with these aspects it may be inadvisable to send a diagnostic mission to that country
  - a review of the objectives and terms of reference of diagnostic missions to clarify them and, especially, to differentiate them from those of other, more

conventional forest planning exercises financed by international and bilateral agencies

- inclusion, in the terms of reference, of the obligation to present a clear sequence of actions to implement each recommendation, with cost estimates
- adoption of a common standard for the approach, methodology and reporting of diagnostic missions, and for the presentation of recommendations
- consideration of the need to invite representatives of other donors to participate in the diagnostic missions, given that solutions to most of the critical constraints to SFM can be very complex and costly.

- The preparation of future diagnostic missions should take into account the following:
  - The approval of new diagnostic missions must be based on an official request that expresses a willingness to use the findings of the mission and is responding to a real national need and a clear opportunity.
  - The planning of such missions must be done carefully, with the full participation of the country's relevant authority and of a consensually selected team leader. The three parties (the country, ITTO and the team leader) must have the opportunity to discuss the timing and duration of the mission, the expertise required in the team, and the selection of team members, among other aspects of the mission.
  - In addition to their suitable professional qualifications and experience, team leaders should be selected according to their political experience, ability and (if possible) local influence.
  - The selected team leader and an ITTO official should undertake a short preparatory mission to refine the program, collect information, organize relevant meetings and visits, and inform stakeholders about the objectives of the forthcoming mission.
  - Considering the extra-sectoral nature of many of the critical factors constraining SFM, comprehensive discussions with authorities in other relevant sectors must be planned and undertaken.
  - The team leader and ITTO must ensure that appointed consultants receive all pertinent information on the country well in advance of the beginning of the mission.
- The execution of future diagnostic missions should take into account the following:
  - In small and mid-sized countries, two full weeks is sufficient time for in-country missions. Large countries may require missions of up to three weeks in duration. To a large extent the success of any given mission depends on the quality and relevance of programmed meetings.
  - It is essential that team leaders enforce the obligation of every member of the mission to stay focused on the mission's objective, avoiding the temptation to include issues or recommendations that relate to his/her expertise but which are of marginal relevance to the most critical constraints to SFM.
- The validation, dissemination and implementation of recommendations should take into account the following:
  - When the final report is approved by the International Tropical Timber Council the team leader should spend an additional week in the country to assist the government to validate and disseminate the results. To increase the profile of the report it is recommended that a high-level ITTO official also be present to help promote the report at higher governmental levels.
  - Budgets of diagnostic missions must allow for the translation (if necessary) and publication (in both hard copy and via the internet) of the report, and its distribution in the country.
  - should expedite the processing of projects recommended by diagnostic missions and, where possible and necessary, assist countries to obtain financial and technical assistance from other multilateral or bilateral sources.
  - Where a country shows genuine interest in implementing the results of a diagnostic mission, ITTO should, on request, organize one or more short ad-hoc missions to assist governments to refine recommendations or provide specific help, such as in the preparation of project proposals.

ITTO is now in the process of reviewing and reformulating the terms of reference for any future diagnostic missions, taking into account the findings and recommendations of this review.

## Reference

Poore, D. and Thang, H.C. 2000. *Review of progress towards the Year 2000 Objective*. Report presented at the 28th International Tropical Timber Council Session, 24–30 May 2000, Lima, Peru, revised November 2000. Available at www.itto.int.

*The complete report of the evaluation of the ITTO diagnostic missions and the revised TOR for future missions are available at www.itto.int or on request from the ITTO Secretariat (oed@itto.int).*

# Incentives are the key

***ITTO projects use innovative strategies to secure the support of communities for forest restoration***

**by Jorge Malleux**

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**Beats pit-sawing:** Portable sawmill in Asháninka community, Peru (PD 14/96 Rev.1 (F)). *Photo: A. Gaviría*

When forest ecologists discuss the rehabilitation of degraded forest they tend to talk about a science-based process to restore the forest's original ecosystem functions and biodiversity. They might also mention the various technical guidelines and criteria and indicators that are available to help achieve and assess such ecological objectives.

Among rural communities the concept of ecosystem rehabilitation is completely different. For them it has always been, and will continue to be, an opportunity to generate and regenerate economic options for short-to-medium-term benefit—that is, ecosystem rehabilitation is part of an ongoing search for alternative or complementary sources of income with which to balance household budgets. It could involve the planting of trees or the management of natural regeneration for future harvesting.

***The private sector is often unwilling to cover the cost of forest rehabilitation***

Nevertheless there is often some merging of the objectives of ecologists and rural communities. The ecologists' vision of the total or partial rehabilitation of biodiversity corresponds to a community vision of a forest that will once again produce fruits, timber, protein, resin and fiber that can be used to improve livelihoods.

The time horizon of an ecologist in such a situation might be the medium-to-long term, while that of a rural community is more likely to be the short-to-medium term. The question arises: how can these two differing horizons be accommodated in a cost-effective manner? The private sector is often unwilling to cover the cost of forest rehabilitation, while the public sector may be willing to assume the responsibility but ecological projects are rarely a priority. Communities usually have the most urgent need to engage in rehabilitation but lack the resources to do so.

## Community participation

In September–October 2009 the author led a small team[1] in the ex-post evaluation of five ITTO-financed projects that aimed to rehabilitate degraded forest. Two of the projects were in Togo, with one each in Ghana, Ecuador and Peru.[2] The aim of the ex-post evaluations was to assess, 4–5 years after project completion, the effectiveness and impacts of these projects.

Although the five projects were located in different geographic regions and ecosystems, and involved rural and Indigenous communities with very different backgrounds, organizations and cultures, they all had as their main objective the rehabilitation and sustainable management of degraded forest ecosystems. Baldly stated, such an objective is unattractive to the communities, whose priority is daily subsistence work to meet their basic needs. Even though the main aim of the ex-post evaluations was to assess project efficiency and effectiveness in forest ecosystem rehabilitation, the team also paid attention to the strategies used by the projects to address community issues, to capture the interest of the communities, and to gain their

1 *Jorge Malleux, ex-post evaluation mission leader, Benedict Fultang, regional expert for Africa, and Alfredo Gaviria, regional expert for Latin America.*

2 *PD 30/97 Rev.6 (F): Rehabilitating degraded forests through collaboration with local communities (Ghana).*
*PD 51/99 Rev.2 (F): Support to grassroots forestry promotion initiatives in the Yoto area (Togo).*
*PD 122/01 Rev.1 (F): Support for the establishment of a cuttings propagation unit for the production of samba and other local species (Togo).*
*PD 14/98 Rev.1 (F): Sustainable use and reforestation of Amazon forests by Indigenous communities (Peru).*
*PD 49/99 Rev.2 (F): Pilot plan for the sustainable management of 10 000 hectares of secondary forest in San Lorenzo, Esmeraldas (Ecuador).*

commitment to a medium-term and even long-term vision for forest restoration.

The Latin American projects were fully implemented within the territories of Indigenous communities. The Peruvian project was located in the lands of the Asháninka, the largest ethnic group in the country's highland forests. The Asháninka still use traditional organizational structures in their social and community work—the land belongs to the community, which decides the allocation of plots among individual families for the growing of subsistence crops, and there is no concept of private land ownership. Although the project proposed a management, rehabilitation and plantation strategy, the communities ultimately decided how they would be involved and what crops they would grow or what trees they would plant.

The project in Ecuador was based in an Afro-Ecuadorian community; each family that decided to participate in it was assigned its own well-defined plot of secondary forest, which the project called a 'pilot farm'.

While the projects in Togo and Ghana attempted to involve communities they were invariably implemented through a community authority and families or individuals decided if they wanted to be involved in the project. Those who did were bound to participate in a system established by the project, albeit with a certain degree of flexibility on decisions such as which crops to grow, the areas that would be worked and the species that would be planted. In Togo, the communities opted almost exclusively to plant teak (*Tectona grandis*) in their plantations. In the project in Ghana, all activities took place in state reserves under a scheme proposed by the Forest Research Institute of Ghana (FORIG); they comprised enrichment plantings of high commercial value native species. In every case, the communities required immediate incentives to support the project objective and work plan. These ranged from financial compensation to support agricultural production, either subsistence or commercial, to the sharing of the benefits to be derived from the plantations.

## Involvement strategies and benefits

A key strategy of all projects was to promote community participation through the integration of agricultural and forest activities according to a land-use plan in which fallow periods allowed the production of fast-growing timber species and non-timber forest products such as medicinal plants. In all projects there was an understanding that even if agricultural activities were inefficient and had very low productivity, and even if they caused ecological damage, it was infeasible to completely abandon or move away from them because they remained the most important livelihood activity of local farmers.

It was necessary, therefore, to integrate agricultural production into the technological package as part of the overall development plan. At the same time, improvements to those traditional systems were introduced or recommended, taking into account the capacity of the community to adopt such improvements. Improvements were also required in the management of production forests, which had been mismanaged in the past and were now under-stocked with commercially valuable species.

The model employed in all the projects under evaluation requires a land-use planning exercise based on land-use capacity and the needs of each individual community. This can be very complicated, especially—as in Africa—where the population density is high and the communities have access to only limited land areas, which often leads to conflicts over land-use. In Peru, the Asháninka have large areas of land at their disposal. Even so, land-use zoning can be difficult because the communities have their own zoning schemes, which are not necessarily based on land-use capability as they are in the professional agricultural sector. The project addressed this difficulty through a participatory approach that gradually merged differing concepts and proposals.

The sustainability of rural development projects such as the five evaluated projects is founded on the participation of the local communities, who should be able to progressively increase their involvement in the production and marketing of products. In each project, this involvement and value-adding happened to greater or lesser degrees according to the specific characteristics of the project and the end-products that were marketed. In all cases, the improved forest and land-use management systems that were introduced are contributing, albeit at different rates, to the restoration of the ecological balance and constitute models that should be considered in national policies.

The three projects in Togo and Ghana were very relevant to and have had an impact on the local communities, since they were designed with community involvement in mind and with the aim of helping the communities to benefit from project activities. Combining food crops with forest trees (taungya) has brought major benefits to the farmers involved in the projects. In addition to the various incentives offered to project participants (such as wages), all of the harvest-derived benefits from household consumption and sales went directly to the communities. In Ghana, a profit-sharing agreement designed by FORIG (as provided for in new legislation) ensured that the participating communities also received 40% of the income derived from the sale of the tree plantations. In both Ghana and Togo, the training and experience gained in forest plantation establishment is now being used by farmers to establish other forest plantations.

In Togo, the main incentive for communities to become involved in the projects was the opportunity to establish temporary subsistence crops in state forest reserves, because many community families do not possess land or have insufficient land for this purpose. Under the system

**Talking trees:** Briefing during the ex-post evaluation of project PD 30/98, Togo. *Photo: J. Malleux*

introduced by the two projects, the communities commit to planting forest trees and to tending them until they can survive by themselves. This approach has promoted reforestation in reserve areas, but it has not yet been fully successful on community lands. One of the reasons for this is that the communities most interested in this system are landless—that is, they are groups of migrant settlers in search of employment. Another reason is that those communities that do have land are unwilling to use a major part of their property for forest plantations because their priority is agricultural production, which is almost always their only source of livelihood. Nevertheless, after several years of experience in plantation development, some business-oriented farmers are establishing teak plantations on their farms and have set up small enterprises for the production of seedlings in on-farm nurseries for sale to other farmers.

In the project in Ghana, forest-enrichment plantations were established in state reserves. The incentive to take part in this activity was the opportunity, under provisions issued by the Ministry for the Environment, to own part of the plot or some of the planted trees. This scheme proved popular with the communities, even though it required a longer-term perspective because, according to an agreed management plan, owners must wait for the trees to reach commercial size before they can be harvested.

In the Peru project, the main incentive for undertaking forest-plantation or agroforestry activities was a system of direct payments to participants for the production, planting and tending of seedlings. The payments were US$0.17 per seedling produced in a nursery, US$0.17 per seedling planted in the field, US$0.17 per surviving seedling after six months of tending, and US$0.17 per surviving seedling after 18 months of tending. Thus, each family that established a plantation on its land received income from it, even in its initial stages. The system was very well received by the communities: 35 000 trees of high commercial value native species were planted, and 278 hectares were also planted with species to produce non-wood forest products such as sangre de grado (*Croton lechleri*) resin. The aim was to catalyze a wider uptake of reforestation in the local population by demonstrating its benefits. Many families are now expanding their plantations of their own accord. As part of the project, intensive work was also carried out to improve natural forest management and to achieve certification.

In the Ecuadorian project, all the work was carried out on community lands. In this case, and very particularly among Afro-Ecuadorian communities, the main incentive for the community to participate was the support provided by the project for its subsistence agricultural activities through the introduction of improved crops. Another incentive was the potential rehabilitation of their logged-over forests, which were being used for agricultural purposes (e.g. cocoa, maize and cassava production), to produce products such as vegetable ivory (tagua—*Phytelephas macrocarpa*), wildlife, fish and commercial-grade timber. In some cases the timber was to be produced from trees planted as part of the project, and in others it was to be produced from existing secondary forests. In addition, the project rewarded the work done by members of the community on its pilot farms, paying wages for days worked.

**Future revenue:** A proud owner of a *Terminalia superba* tree in Ghana (PD 30/97 Rev.6 (F)). *Photo: J. Malleux*

The strategies used in the projects to obtain local commitment were successful because in each case they were sensitive to the community identity, vision and perspective. The greater challenge, however, was to encourage the communities to commit to the sustainability concept, even when the project ended and even if the biggest benefits would only be realized some time in the future. This longer-term commitment was achieved in the field in all five projects.

The target beneficiaries of all these projects saw them primarily as an opportunity to achieve immediate benefits in the form of jobs, goods, seeds and the improvement of basic services. Nevertheless, the projects were also able to convey the message that it was possible to improve traditional forest-based production systems through the rehabilitation of the productive capacity of the forest ecosystem, the use of soils according to major land-use capability, and the regulation of water regimes and wildlife resources. All of the involved communities quickly understood this concept, perhaps because they already possessed a similar vision but, prior to the project, had lacked the mechanisms or resources to put it into effect.

## The future

A project is fully successful when its development objective is achieved, but this is subject to a number of internal and external factors and is not always in the control of the project implementers. In a broader sense, the most successful projects are catalysts for an idea that stakeholders are already interested in bringing to fruition. Relatively small projects, such as those under review here, can be successful beyond their immediate sphere of influence and have impacts at a larger scale if they are supported by clear and consistent political decision-making. If they are not, the project will be at most a successful short-term local experience but will have no major long-term impact, even for the community where it was implemented.

Project executors and beneficiaries assume great responsibility when they decide to implement and participate in a project with a long-term development objective. Thus, either as a separate action or parallel to the achievement of the immediate objectives and expected outcomes, they should develop strategies to contribute to or ensure the continuity of fundamental activities and propose relevant legal and administrative mechanisms to the government within a long-term policy framework.

In this respect, the ex-post evaluation team noted with satisfaction that the national forest reserve rehabilitation system—modeled under the two projects in Togo—is being adopted as a state forest institutional policy, and actions and provisions are being developed to this end. In Ghana, there is strong institutional support for the rehabilitation of degraded forests and secondary forest management through FORIG and the National Forest Service, and legal and administrative provisions have been developed to promote this program, offering major incentives to local communities willing to participate. In Ecuador, the Sustainable Forest Management Corporation (*Corporación de Manejo Forestal Sustentable*—COMAFORS) has developed and submitted for the government's consideration a set of guidelines on secondary forest management so that they might also become state policy. In Peru, the forest authority has recognized secondary and degraded forests as major components of the national forest estate, which should be brought under sustainable management with the active participation of rural and native communities.

*The complete report of the ex-post evaluation is available at www.itto.int or on request from the ITTO Secretariat (rfm@itto.int).*

# Rubberwood: more than a by-product

***An ITTO project has brought stakeholders together to strengthen Thailand's furniture industry***

**by Charlotte Cudby**

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**Latex and timber:** Young rubber plantation in Thailand. *Photo: C.Cudby*

Thailand's wood-based industries, and the furniture sector in particular, are important both economically and socially. The wood-based sector's 260 000 employees, for example, represent over 11% of the workforce in all manufacturing industries combined (ITTO 2006). In addition to its growing domestic market, the sector is a significant exporter in all key product groups.

After logging was banned in 1989 to protect Thailand's remaining natural forests, the wood-based industries were forced to move to other raw-material sources, such as rubberwood, bamboo, rattan and imported wood. The government instigated programs to establish planted forests, but those did not solve the short-term wood deficit.

The size of Thailand's rubber-tree plantation estate reflects its position as one of the world's top latex exporters. Latex yields from rubber trees decline significantly after 25–30 years, after which the trees are generally cut down and replanted. For the wood-based industry seeking new raw-material sources, this estate, therefore, represented a huge opportunity. But because of the branching nature of the tree, rubberwood logs are short (1–1.3 meters) and the timber quality is affected by both the latex and the tapping process. The milling of rubberwood is also more challenging than it is for many other woods and the timber must be sawn quickly to avoid insect and fungal damage.

These characteristics mean that rubberwood is unsuitable for some uses, such as construction timber and plywood. Nevertheless, Thailand's rubberwood resource has, since the logging ban, provided the wood-based sector with a plentiful and domestically available raw material for reconstituted panels and sawnwood for furniture—to the extent that Thailand is now one of the world's leaders in rubberwood furniture exports (valued at over US$560 million in 2004—ITTO 2006).

The evolution of rubberwood from waste material to furniture stalwart has not been without problems. The unique characteristics of rubberwood combined with a lack of skills, knowledge and information in Thailand about rubberwood availability, harvesting, processing and marketing have led to inefficiency, waste and the production of low-quality products. Thai rubberwood processing has tended to focus on speed and the maximization of throughput rather than on optimizing the log yield and/or improving conversion rates. There was (and still is) uncertainty and different views about the role of rubberwood in Thailand's broader development process. The resulting inconsistency in high-level leadership towards the sector has produced a conflicting policy environment. Moreover, rubberwood furniture exports have been under competitive pressure from other low-cost producers (such as China), some of whom import a significant part of their raw material from Thailand.

## The ITTO project

ITTO pre-project work in the late 1990s identified a need in Thailand's furniture sector for technical assistance to the extent that a large-scale national program for rubberwood development was required. But before such a program could be attempted, three deficiencies in the sector needed to be rectified:

- The core base of stakeholders in the rubberwood sector lacked a basic understanding of the issues and a willingness to work constructively together.
- Inadequate information was available on rubberwood and the sector. For example, there was no information

on resource availability or on rubberwood markets and economics, no information or support for the adoption of new and improved processing techniques, and no extension information to help farmers to optimize their production of both latex and rubberwood.

- There was no critical mass of human resources, especially in some areas, such as industry training in processing and marketing, and in rubberwood resource assessments.

Thailand therefore sought ITTO help through project PD 51/00 Rev. 2 (I,M): *Improvement of rubberwood utilization and marketing in Thailand.* The aim of the project was to address these shortcomings in a way that would prepare the ground for a national rubberwood development strategy which, ultimately, would improve the productivity and competitiveness of the Thai rubberwood furniture industry.

***Underlying the lack of high-level leadership is a perception that the development of the rubberwood industry will come at the expense of growth in other high-priority sectors***

In the period 2002–06 the project team completed a range of training courses and seminars covering saw-doctoring, surface-finishing of furniture, the industrial management of processing factories, export marketing, wood preservation, and design trends in key export markets. The project also facilitated a rubberwood resource assessment pilot study, a study tour to Malaysia, and a national forum to discuss future strategies for the sector. Key target beneficiary groups for the project included the sawmilling and furniture sectors, government departments, and academic and training organizations.

Ex-post evaluation of the project was undertaken in 2008. Overall the project was carried out efficiently, within the total budget of US$538 000. The remainder of this article examines the project's successes and deficiencies, and looks at how to sustain project impacts into the future.

## Successes

One of the most successful aspects of the project was the collaborative and adaptive approach taken in its governance. Many stakeholders were involved in implementation, from project design to completion. Each phase and element of the project had its own problems and stakeholder interests, and managing the various interests was the project's biggest challenge. This challenge was met successfully because representatives of each key group were able to work collaboratively in tackling different components of the project depending on their skills. This improved relations between stakeholders, created ownership of project successes, and allowed the project to evolve to changing sector needs.

As a result of the project, stakeholders have built good networks and now actively collaborate on issues of common interest, where previously there was little or no contact. For example, the industry and academia are cooperating to develop new courses in rubberwood processing techniques and furniture design. There is still room for government departments to improve their role in sector networking and collaboration, especially by working with other parts of government whose support may be needed for follow-up initiatives (such as the Education Ministry to help fund further courses).

Attitudes towards change in the wood-based sector also improved as a result of the project. But it didn't happen overnight. At first the sector was focused internally and on short-term issues. Companies were destructively competitive and unwilling to learn new skills or to cooperate with one another. As stakeholders began to work together they gained an appreciation of the views of and issues faced by other groups.

Once the courses began and the practical benefits to business became apparent, sentiments started to change. This has led to a wide range of day-to-day improvements by industry, government and relevant educational institutes that have all contributed to improving the productivity and competitiveness of the industry. Factories have increased the use of designers, for example, and improved log recovery rates and the quality of sawing, and there is better promotion of the sector at furniture fairs.

The project successfully used training courses to reach a range of people involved in the sector. For example, capacity was built by:

- training over 560 people in new technologies in six key subject areas
- training local trainers by involving international experts
- building capacity in government to support future courses and to fulfil its role as a provider of such courses
- developing and disseminating training materials (including visual aids and compact disks)
- improving knowledge on issues relevant to the rubberwood furniture industry among stakeholder groups by involving them in course planning and implementation.

A good information base on rubberwood has now been developed where before it was almost non-existent. Beneficiary groups have an improved awareness of sector issues and priorities and are better prepared to engage in efforts to develop a national rubberwood development strategy. There is also strong demand in the sector for future courses. But the evaluation showed that there remains a need for a one-stop shop for the gathering and dissemination of information relevant to the rubberwood industry. The available information could also be better packaged for end-users; for example, course materials could be simplified for practical use in on-the-job factory environments.

## Deficiencies

The project experienced problems in its design and preparation that are common to many ITTO projects. A series of regional workshops held by ITTO during 2007 reviewed the experiences of over 60 ITTO projects. It found that "many, if not most, of the problems faced in project execution are a direct consequence of the low quality of project preparation. Flawed project design elements such as: incoherence between objectives and means…; and deficient use of project design tools such as logical frameworks, are the most frequent causes of problems and failures" (Dourojeanni 2008).

The evaluation of this project found that the project strategy was not well-captured by the logical framework, although, as described in the project proposal, it was still a valid strategy. The specific objectives were actually long-term aims and the associated indicators were national-level statistics that were unlikely to be affected by the ITTO project over its four-year life, despite the excellent successes achieved. The production and productivity statistics of three indicators were not readily available, and the furniture-export statistics for another indicator were confounded by many factors including exchange rates, the relative gross domestic product of Thailand and trading partners, and the grouping of rubberwood with all other wooden furniture. In any case, no attempt was made to monitor or report on the indicators selected.

A better logical framework would have provided a more effective project design and performance management tool and would have helped facilitate the project ex-post evaluation. A stronger logical analysis of objectives and outputs would have better identified risks to the project and helped to adjust the project to address those risks. The lack of high-level and widespread government support for the development of the rubberwood industry, for example, was a very real risk to the project from the outset; the design of the project should have taken it into account.

Staff turnover is always a significant risk to the success of projects and could have been better managed in this project to ensure continuity. In a multi-year project it is almost inevitable that some key people will move on. Managing this risk by documenting project lessons and building project awareness and knowledge among other staff in stakeholder organizations is also a way to disseminate project benefits and therefore should be a priority in any project.

## Long-term sustainability of impacts

On the whole the project successfully took a first step toward a more coherent vision for rubberwood development in Thailand. Knowledge and skills across all target beneficiary groups improved, and cooperation and mutual learning was promoted among stakeholders who are now driving positive change in the rubberwood industry.

**Stacking up:** Innovative rubberwood furniture designs by Thailand's King Mongkut Institute of Technology students. *Photo: C.Cudby*

Nevertheless there is still a long way to go to lift the overall level of skills in the industry. The positive impacts of the project were muted by a lack of political leadership to promote development in the industry to the extent seen in other sectors. This has led to distorted policies, such as the proliferation of new processing facilities in areas of the country where there is no spare rubberwood availability. The lack of high-level leadership (and funding) has also stymied post-project efforts to implement follow-up courses to meet the strong demand for training.

The Department of Industrial Promotion (DIP), which is responsible for industry training, did not engage actively in the ex-post evaluation, despite the best efforts of the evaluator, ITTO and the Royal Forest Department (the executing agency). A review of the role and capability of DIP is therefore recommended as a priority.

An ITTO diagnostic mission conducted in 2006 (ITTO 2006) commented that, "without a concerted effort driven by the government, Thailand's thriving furniture industry is likely to become stagnant due to the heavy competitive pressure. The government's role is to address key bottlenecks … The Malaysian experience shows how this can be [done] successfully".

On the upside, however, a major positive impact of the project was that key stakeholder groups now realize that the lack of a common vision for the place of rubberwood in Thailand's development makes it extremely difficult for stakeholders to engage with government over inconsistent high-level leadership and the problems that brings. The Thai

Furniture Industries Association took the lead in addressing this by enthusiastically developing, with key stakeholder groups, a 'road map' for the industry. The road map has been completed and is being used to engage with government with the aim of securing agreement on the future development of the rubberwood furniture industry, including funding for a range of follow-up initiatives. There are also plans to use the road map to engage with landowners and other stakeholders.

Underlying the lack of high-level leadership is a perception that the development of the rubberwood industry will come at the expense of growth in other high-priority sectors, such as latex and oil palm. Latex production is a far bigger industry than rubberwood; for example, it provides rubber-estate landowners with more than 96% of their income. For it to be effective, therefore, any rubberwood development strategy must acknowledge and take into account the economic importance of latex. Latex and rubberwood development are not mutually exclusive. The focus should not be on how to shift from latex to wood production (as has been suggested in the past), but how to optimize the production of all products from rubber estates for net national benefit. This is likely to mean that patterns of development and production will differ depending on local circumstances; genuine stakeholder consultation and cooperation will be required.

A key role of government, therefore, is to help ensure that stakeholders have access to accurate information that will support good decisions about land-use and investment in industry. Currently, a lack of information to support economic decisions on the optimal mix of latex, rubberwood, inter-crops and other land-uses means that the focus of landowners and government remains firmly on latex production.

## Follow-up

The time is right for action to follow up on the progress made under this project. Economic conditions—especially high prices for both rubberwood and latex—mean that there is an increased desire for better information to inform land-use decisions, especially for clone selection for replanting and for timing the rubberwood harvest. Any follow-up actions should take advantage of this momentum.

The project ex-post evaluation summed up a number of lessons learned and set out some recommendations. The three major recommendations were for:

- the government to provide stronger and more consistent political leadership for rubberwood development and to address conflicting policies
- key stakeholder groups to work towards an agreement on a national rubberwood development strategy that will guide and support all future actions
- the dissemination of information on rubberwood to be improved and extension activities to be further enhanced and expanded.

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*The complete report of the ex-post evaluation is available at www.itto.int, or on request from the ITTO Secretariat (fi@itto.int).*

# Brazilian community produces the goods

***Capacity in processing and marketing of forest products is improved under an ITTO project***

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**Positive sign:** The general perception in Puerto Dias was that FSC certification could secure access to new markets.
*Photo: Erika López Rojas*

The Porto Dias Extractive Reserve is located in the municipality of Acrelandia about 140 km from Rio Branco, the capital of the state of Acre in Brazil's western Amazon. The reserve lies between the Abuña River (the border with Bolivia) to the south and BR 364 (a road), with its ranches and small farms along it, to the north.

Formerly a rubber estate, in 1987 the Federal Institute for Colonization and Agrarian Reform (INCRA) decided that 22 145 hectares of tropical forest in the area would become an agro-extractive reserve. Accordingly, the property rights of this forest are now governed by a contract between the local association of rubber-tappers and INCRA, with ownership vested in the state. About 90 local families in the reserve are able to pursue traditional lifestyles that involve rubber-tapping, the harvesting and marketing of brazil nuts, and other forest-based activities.

***The project contributed to a longer-term vision in which Porto Dias serves as a community-forest-management model for the development of public policies in the Amazon***

In November 2001 the International Tropical Timber Council approved Project PD 46/97 Rev. 3 (I): *Community forest-product processing in the Porto Dias Extractive Reserve*. Its development objective was to demonstrate the economic, social and environmental viability of forest use and its significance as part of a sustainable development model for the Amazon region. Specifically, the project was to train families living in the reserve in the processing of forest products with the aims of:

- developing an industrial unit for the processing of forest products on the basis of a multiple-use management plan
- promoting the incorporation of sustainable forest management in municipal policies.

The project was implemented in the period 2002–07 by the Center of Amazonian Workers (CTA). This article describes some of the findings of an ex-post evaluation carried out in 2009 to assess the project's effectiveness.

## Project results

The CTA understood that the project would be unviable in the longer term if not built in union with the community. It therefore avoided an interventionist approach, focusing instead on strengthening the construction and administration of participative processes and building capacity in the community to manage forest operations. The project successfully encouraged community participation in decision-making regarding the execution of project activities. In this way it followed the community rhythm of absorbing innovations, resisting the temptation to move to a new step before the previous step had been consolidated, and supporting the process through agreement and collective commitments.

The capacity acquired through the project has matured and the community has now assumed greater responsibility for its resource management. When the project concluded in mid 2007:

- 20 families had become involved in forest management and in processing

- 16 forest agents had become qualified in forest operations
- the forest management system was being implemented by the community
- the community was managing and administering harvesting
- FSC certification had been achieved and the community had assumed responsibility for maintaining certification
- a timber and small-artifact production and commercialization system was in place
- participating families had experienced a 100% increase in income through the adoption of multiple-use forest management practices
- 16 full-time employment positions had been created and five new families had been included in the forest management project.

The small-artifact production and commercialization system, however, did not endure beyond the project duration. Members of the community decided instead to rent the machines used for such processing to a larger cooperative, Cooperfloresta, of which the Porto Dias Rubber Tappers Association and four other extractive communities are members. This decision was based on a desire to reduce operational costs to the Porto Dias community, increase market access, and extend the benefits of the project to a larger community.

Overall, the community accepted responsibility for the project. The trained producers now have autonomy in the production processes: they work against specific standards, undertake quality control, pay their workers, maintain equipment, deal with requests, and plan production. Improvements in administrative control are still needed, although significant advances have already been made. Progress was also made by the project in promoting stakeholder involvement, mainly through participatory decision-making, raising the prospects of achieving SFM at a larger scale through Cooperfloresta.

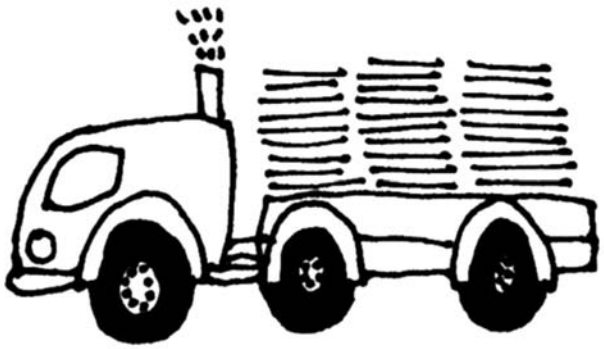
## Wider implications

Given its success, the project contributed to a longer-term vision in which Porto Dias serves as a community-forest-management model for the development of public policies in the Amazon. In the wake of the experience gained through the project, the Porto Dias Project Association participated in a Focus Group on Local Development. This group, which involved local and national governments, led to the amendment of Normative Act 005, which (among other things) regulates community forest management in Brazil.

The greatest weakness of the project was its sustainability in terms of production costs. When undertaking a for-profit project it is essential to carry out a feasibility study during the design stage. Baseline information is crucial for effective project design and an important tool for the evaluation of results. When designing future projects, cost–benefit and feasibility studies should be conducted as pre-conditions for sustainability.

The overall conclusion of the ex-post evaluation was that the project assisted the community to add value to its forest products. It helped to strengthen local capacity, not only in the basic skills of production and forest and business management, but also in decision-making. This is shown clearly in the way in which the community dealt with an unsustainable component of the project, the small-artifact production and commercialization system. The community's solution not only helped to disseminate the results of the project, it also benefited a greater number of stakeholders through the creation of a partnership with Cooperfloresta.

*The complete report of the ex-post evaluation is available at www.itto.int or on request from the ITTO Secretariat (fi@itto.int).*



# Rattan is no basket case

***An ITTO-funded project to promote rattan has created opportunities for forest-based communities***

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**Community bonding:** Villagers participate in a rattan furniture making workshop. *Photo: P. Denrungruang*

The local supply of rattan for Thailand's furniture and handicraft industries is derived almost entirely from the wild. Excessive and wasteful harvesting, including from illegal sources, however, has resulted in supply shortages. Rattan has been classified as a protected non-wood forest product (NWFP) in Thailand since 1988—even before a total logging ban was introduced in 1989. A permit system for the extraction of rattan from natural forests in quantities greater than ten kilograms was also introduced but, in most parts of the country, this regulation did not halt illegal harvesting activities (Subansenee 1994).

ITTO project PD 24/00 Rev.1 (I): *Promotion of sustainable utilization of rattan from plantation in Thailand* was approved and funded by the International Tropical Timber Council in November 2000 and implemented by Thailand's Royal Forest Department (RFD) between July 2001 and June 2005. Its objective was to develop and disseminate appropriate technologies for rattan plantation management and the efficient use of rattan for weaving and furniture-making. The target beneficiaries of the project were village farmers and forest communities. This article summarizes the findings of the ex-post evaluation of the project.

## Project achievements

The project established demonstration plots for rattan shoot and cane production at the RFD's Non-Wood Experimental Stations in the widely dispersed provinces of Sakon Nakhon, Narathiwat, Krabi, Trang and Songkhla. Basic information and techniques that were either generated in research and development studies conducted under the project, provided by international consultants and national experts, or gathered by project staff from study tours in Indonesia and the Philippines were published in technical reports and manuals. These addressed topics such as rattan plantation management, shoot processing, the protection and preservation of canes, and rattan weaving and furniture-making. Training courses were conducted on rattan-shoot processing and packaging and on rattan weaving and furniture-making. In collaboration with other government entities, two community-based enterprises, one on rattan-shoot processing (in Sakon Nakhon) and the other on rattan furniture-making (in Ratchaburi), were established.

In general, project beneficiaries and other stakeholders interviewed for the ex-post evaluation gave positive feedback. The success of project activities in one community generated support from the local government and led to improvements in infrastructure such as roads and water supply. The local-government community development officer also helped to create a website to further promote and market rattan products.

The Baan Kumphangsaen (BKS) Group, a furniture-making enterprise, was particularly successful, progressing from basket-making to medium-value and high-end furniture-making for export. The community obtained a 4-star certificate from the government's One Tambon–One Product program.[1]

On the other hand, further intervention would be required in the community enterprise in Sakon Nakhon engaged in rattan-shoot processing to transform it into an economically viable operation. External factors played a role in the failure

1 *In Thailand, One Tambon–One Product Certification is awarded to enterprises on the basis of the overall quality of their products, processing methods, packaging and use of indigenous materials. Five stars is the highest rating possible under the program.*

of this enterprise: in particular, the market for rattan shoots preserved in jars did not match the project's expectations. The enterprise needed to identify more carefully its target customers, how they might be reached, and how they make decisions about buying the product. More information was also needed on the degree to which and at what price bottled rattan shoots would become a compelling purchase.

Nevertheless, these experiences suggest that small and medium-sized community-based enterprises are promising options for reducing poverty and conserving resources through sustainable forest management. To maximize their chances of success, such enterprises must have legal access to the resource base, technological support for increased value-adding, financial capital for effective business management, access to micro-credit, and effective linkages to the market.

The RFD's extension program to promote NWFPs, which has been implemented at most of the project sites, provided strong support for the development of community enterprises in rattan-shoot and cane production and furniture-making. Collaboration among various RFD internal units was critical to the success of the project's extension activities.

## Impacts

An examination of the research-to-impact pathway of the project design showed that while the design focused more on outputs than outcomes, the project achieved its milestones for promoting rattan plantation management and efficient utilization techniques. Some technology-transfer activities, such as those on plantation management and rattan-shoot harvesting, led to the creation of new livelihood opportunities and an improvement in community income; on the other hand, some activities had only short-term effects. The demonstration plots established in the RFD's Forest Products Research Centers (FPRCs) gave the communities a clearer grasp of the benefits of adopting sound plantation-management and shoot-harvesting techniques. This was critical in the decision by farmers to replace crops such as cassava and sugarcane with rattan.

The project was able to make use of savings in project funds to create rattan demonstration plots, mainly for the production of canes. These were established in Sakon Nakhon (three hectares) using *Calamus caesius* (small-diameter rattan) and *C. siamensis* (medium-diameter rattan) and in Narathiwat, Trang and Songkhla (four hectares each) using *C. manan* (large-diameter rattan) and *C. caesius*.

As a result of the project there has been a considerable increase in the production of rattan shoots in both government and private plantations in Sakon Nakhon—in contrast to the market for preserved rattan shoots, the market for freshly harvested shoots is strong in the region. A total of 200 000 seedlings are given out to about 1000 families annually, with about 100 farmers and forest-dwellers having replaced their cassava plantations with rattan plantations for shoot production.

## Overall post-project situation

The project achieved its intended outcomes at the project sites, albeit to a limited extent. The sustainability of the activities and enterprises it spawned depend on many factors, including the continuation of technical support from the RFD's FPRCs.

Using rattan plantations for shoot rather than cane production is attractive to most rural communities. In Sakon Nakhon, rattan shoots are consumed by villagers of all income levels and not only the poor. Village farmers exchange rattan shoots for rice, meat and other basic needs. Fresh and steamed shoots can be bought every day at roadside stalls as well as in bulk (100–200 kg) by ordering in advance from plantation owners. Cooked rattan shoots served during meals, however, are available mainly in restaurants frequented by tourists and very seldom in small eateries.

The success of the BKS Group can be viewed as a model for developing enterprises in other previously subsistence-based communities. The One Tambon–One Product Four-Star Certificate awarded to the community has been instrumental in attracting further support from the local government and other government business-support units. The effectiveness of technology transfer depended to a large extent on the leadership of both the technical team (the 'technical champion') and the recipient (the 'business champion'). The sustainability of the BKS Group's business operations can be attributed largely to the project's technical interventions and the leadership of the group, which, aside from showing sound financial management and resourcefulness, has also encouraged innovation among its members. Further contributing to the BKS Group's success was the assistance given by other national-government organizations, such as the Industry Development Center, as well as the strong support of the local government.

The RFD FPRCs in Sakhon Nakon, Krabi, Narathiwat, Songkhla and Trang are committed to monitoring the performance of the plantations and to promoting sustainable plantation management techniques. At a wider level, more oversight of the sector is required. In Hat-Yai District in Songkhla Province, for example, some cottage-sized rattan-furniture-makers interviewed for the ex-post evaluation did not perceive a shortage in rattan canes. They claimed that as long as they had the money, buying large-diameter rattan canes in any desired volume from suppliers in Bangkok and small-diameter canes from within the province had not been a problem. Rattan-cane suppliers in Bangkok claimed to import their rattan from Singapore and Indonesia. Furniture-makers are aware that available rattan materials

are mostly illegally harvested, both from government-owned forest lands and from nearby countries such as Laos, Viet Nam and Myanmar.

## Recommendations

### Sustainability of effects

Projects on conservation and enterprise development covering a wide geographical scope tend to focus more on outputs than outcomes. The duration and scope of projects using enterprise development as a strategy, therefore, should be reviewed carefully to ensure that there are direct, straightforward links between enterprise development and conservation. Multi-stakeholder participation is critical during project formulation, and the involvement of experts on socioeconomic, business-development and marketing aspects can help ensure that the project achieves its intended outcomes.

### Enterprise-oriented forest communities

Aside from technological support, entrepreneurship and business-skills development are vital if subsistence-based communities (such as most forest communities) are to develop successful commercial enterprises. Such a strategy requires an enabling policy environment that supports access to financial capital, increased value adding, legal access to the resource base, and incentives for sound harvesting practices.

### Follow-up actions

The RFD, through its NWFP program, should embark on the preparation of a country-wide inventory of rattan resources and continue to monitor and assess the performance of the rattan demonstration plots established under the project.

Rattan canes in the project's demonstration plots will not be ready for harvesting until the end of 2010. While rattan conservation efforts have focused mainly on establishing and managing plantations and increasing utilization efficiency, it has been reported that harvesting may waste up to 40% of the harvestable rattan (Tesoro 2004). Therefore, studies on techniques to reduce wastage in rattan harvesting should be undertaken at the demonstration sites. In the medium term, the RFD should develop a germplasm or gene bank to help conserve the country's commercially important species.

The RFD should also find ways to highlight and replicate the success of the BKS Group by maintaining and expanding its productive collaboration with institutions such as the Industry Development Council, the Department of Export Promotion, King Mongkut's Institute of Technology, PRS Industry Co. Ltd, the Bangsai Arts and Craft Centre, and local governments.

**Pole position:** Villagers preparing rattan poles for processing. *Photo: F. Soriano*

In its technology-transfer activities the RFD should disseminate information and technologies more widely by partnering with industry associations such as the Thai Furniture Industry Club and the Thai Furniture Industries Association, as well as other organized groups.

Similarly, the RFD and its FPRC at Sakon Nakhon should conduct further studies on rattan-shoot processing and develop food products for carefully identified markets. They should seek partnerships with experts and organizations with a view to developing a successful community-based enterprise for rattan-shoot processing in the province.

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# Long-term logging

***Guyana's ITTO-supported forestry training centre is a key element in the shift towards SFM***

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**Spot the stump:** RIL techniques such as directional felling practiced during FTCI training leave a healthy residual forest. *Photo: E. López Rojas*

Large-scale logging by multinational firms started in Guyana in the 1980s. Such operations were typified by negative environmental impacts, low compliance with occupational health and safety standards and national forest management guidelines, poor harvesting practices, outdated management techniques, resource wastage, machinery damage, high maintenance costs and high labor turnover.

All of these problems could be traced to a lack of skilled workers and supervisors with adequate knowledge of appropriate techniques and the unfamiliarity of managers with field operations and good work practices. Increasing the capacity of the forest sector to provide vocational training, it was believed, would mitigate these problems and help ensure that forest enterprises complied with national guidelines on logging practices.

Reduced impact logging (RIL) technologies became widely accepted in the 1990s as part of a process to improve tropical forest management. RIL alone would not guarantee the sustainable management of tropical forests but it was generally agreed to be an important component of it. A 1996 review of progress towards ITTO's Year 2000 Objective, for example, concluded that training the workforce to accelerate the use of reduced impact logging was of the utmost priority and urgency.

For RIL to be implemented successfully in Guyana, an enabling environment had to be created. It was crucial, therefore, to train managerial and supervisory staff so they could understand the changes in management that were required if RIL was to succeed and the benefits that RIL could bring. At a workshop held in Georgetown in 2000, stakeholders agreed that the best strategy for upgrading the skills of field operatives in the forest sector was to establish a field-based vocational training centre. The centre would run a model logging operation to provide participants with hands-on, real-world training in RIL, and it would also train higher-level managers in managing the switch to a RIL regime.

In 2002 the International Tropical Timber Council approved project PD 68/01 Rev. 2 (I): *Training in reduced impact logging in Guyana* with the aim of improving the quality and efficiency of forest operations by implementing sound forest management and RIL. The project, which operated between 2002 and 2005, was implemented by the Guyana Forestry Commission with support from the Forest Products Association of Guyana and the Tropical Forest Foundation. The target beneficiaries were forest workers, forest rangers, Amerindian communities, small operators, universities, timber companies and forestry trainers. Its immediate aims were to establish a vocational training centre—the Forestry Training Center Incorporated (FTCI)—and to train 120 field operatives by the end of the project. This article summarizes the findings of an ex-post evaluation of the project conducted in 2009.

## Project achievements

Overall the project made a positive contribution towards the introduction of RIL techniques locally and regionally through on-site and off-site demonstration operations. Through the FTCI, Guyana has developed capacity—as embodied in manuals, a cadre of trained trainers and a basic, functional facility—for delivering practical hands-on training in RIL and forest management to personnel at all levels of the forest sector. By the completion of the project,

**Low impact:** Wide-tired tractor used in FTCI's RIL training. *Photo: E. López Rojas*

20 courses in eight different categories had been delivered to 199 participants. Eleven of the courses were convened on-site using the FTCI's facilities and nine were delivered off-site—the off-site courses were conducted on the basis of full cost recovery. At the time of the ex-post evaluation, the Centre, which also benefited from a second ITTO project (PD 33/05 Rev.2 (I), financed in November 2005), had delivered a total of 49 on-site courses to 465 participants and 28 off-site courses to 344 participants.

## Change in the field?

The acceptance and implementation of RIL, and demand for training in RIL, are growing. Without monitoring or a formal analysis, however, it is difficult to assess the extent of improvement in the quality and efficiency of forest operations as a result of this increase in training. An important independent indicator of the impact of the project will be the contribution of the training courses toward timber industry adherence to the recently adopted Code of Practice for Timber Harvesting, which is now mandatory for all forest operations in Guyana.

## Sustainability

The FTCI is a major asset for Guyana: the need for training persists due to competition for workers from other industries such as gold and diamond mining. The degree of interest and motivation shown by participants has been very high. Moreover, in interviews with the author the Guyana Forestry Commission and academic institutions were firm in their conviction that the training courses offered by the Forestry Training Centre were necessary for the realization of their own respective goals.

The main challenge faced by the FTCI is the relatively high cost of field training because of the requirement for heavy machinery and the relatively large number of staff needed to carry out preparatory work. The high cost contrasts with the low willingness of the forest industry to pay for training. Therefore, special attention needs to be given to ensuring the FTCI's long-term sustainability, including through the development of a strategic plan and an expansion of the training plan beyond its focus on RIL.

Undoubtedly the development of the Forestry Training Centre was timely: hands-on training is the fastest and most effective way to promote the widespread adoption of RIL. It has also become clear that the implementation of RIL depends largely on the timber industry's willingness to train sufficient people to transform their enterprises and to make other required changes to their operations.

*The complete report of the ex-post evaluation is available at www.itto.int or on request from the ITTO Secretariat (fi@itto.int).*

## ITTO Fellowship supports study on new economics of Babassu palm in Brazil

**By Vag-Lan Borges**

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This article details work carried out under an ITTO Fellowship to: (1) assess the economic system of harvest and industrial processing of the Babassu-nut and palm (*Orbignya* spp.) and its ecological impacts and (2) formulate a model to assess the integral use of the Babassu nut and palm so as to increase the allocation efficiency for communities and small and medium-sized factories. The map shows the distribution of Babassu in Brazil and sites where work was carried out under this study.

### Widespread

Babassu palm distribution in Brazil


## Babassu revitalized

The trend in Brazil's forest sector has been toward integrated forest and land-based industries where the same economic cluster processes wood and other materials for timber, non-timber products, energy, chips, pellets, composites, carbon sinks and other environmental services.

After thirty years of crisis and decline, the market for products from Babassu palm (*Orbignya* spp.) from the Brazilian tropics has been revitalized, led by new demand for green products such as activated charcoal, biofuels, veneers, and wood pellets. The large number of products demanded requires a refined system of pricing and coordinated marketing strategies. There are many market segments and niches that interact, which in turn, require sophisticated business strategies for both products and services. Technological innovation is also required for establishing sustainable forest management regimes for Babassu. Innovation is therefore required from procurement and harvest to sale and delivery of Babassu products along the entire supply and value chain.

The work carried out under the ITTO Fellowship analyzed seven trends in Babassu pod markets in various states in the Brazilian Amazon (the pod and its seeds are primarily used for biofuel, charcoal and pellet production).

## Market trends

**Ban on pod burning.** Tocantins State bans the industrial processing of Babassu pod for charcoal making and fuel pellets, creating a negative market distortion. Open market pricing for the Babassu pod and its parts could competitively balance markets, for different end-uses of the pods. Recently large quantities of Babassu pods have been discarded to rot in the forest due to lack of markets.

**Charcoal manufacturing.** After the crisis of the oil industry due to the increasing imports of palm oil from Asia and the boost of palm (*Elaeis guineensis)* crops in Pará State, Babassu pods have been largely used to prepare charcoal to fuel the production of pig-iron and aluminum in the mineral cluster of Grande Carajás. This has given rise to a new cluster of small and medium-sized enterprises (SMEs) that are involved in the manufacturing of charcoal from Babassu pods, creating new opportunities to trade the pods. According to Teixeira (2004), charcoal from Babassu pods could produce 615 MW of energy yearly.

**Minimum price security policy.** In September 2008 the Brazilian government launched a new policy to subsidize non-timber forest products by making their harvest and commercialization financially worthwhile for local populations of the Amazon. For the trade of Babassu pods, the price is set at R$1.46 (US$ 0.60) per kg, twice the average market price paid prior to introduction of the policy.

**Growing demand for biofuels.** In February 2008, a Virgin Atlantic aircraft made a test flight between London and Amsterdam fuelled by biodiesel made from Babassu nuts. The technology to use Babassu oil as feedstock for jet-fuel was developed in Brazil by Professor Expedito Parente of TecBio as a way to reduce aircraft carbon emissions. This project is funded by a consortium formed by Boeing, GE, NASA, and Emperium Renewables. The so-called B20 fuel is made by blending 20% Babassu nut oil with 80% kerosene in a process known as transesterification. As shown in the table, the potential of Babassu for biodiesel is huge, since its productivity per hectare is very competitive in comparison to other oleaginous crops (see table on next page).

## Babassu best

Potential of various oleaginous crops for biodiesel in Brazil

| Species | Oil content (%) | Productivity (kg/ha/year) |
|---|---|---|
| Castor oil | 45 - 55 | 680 |
| Sunflower | 45 - 55 | 1 425 |
| Peanut | 40 - 50 | 2 353 |
| Sesame | 48 - 55 | 600 |
| Canola | 38 - 45 | 1 100 |
| Palm (Elaeis guineensis) | 35 - 45 | 15 000 |
| Soy-bean | 18 - 21 | 2 400 |
| Cotton | 15 - 16 | 1 950 |
| Babassu | 6 - 7 | 25 000 |
| Corn | 4 - 5 | 3 300 |

**Activated charcoal.** Activated charcoal for industrial filters has also become an important component of Babassu pod industrialization. This is the principal market niche for at least one company (Tobasa A.S.). However, this is a very small market niche in Brazil, which does not demand a large quantity of pods.

**New technologies.** Tobasa A.S. uses patented technology to utilize the entire pod in its production process. While this process is proprietary and not generally available, the Mussambê Foundation, in the north-eastern state of Ceará, has promoted the creation of new technology for SMEs that also processes the entire nut. In this process the epicarp is extracted to produce fibres, the endocarp to produce flour and starch, the mesocarp to produce charcoal, and the nut to produce oil. This new process has been successfully implemented in the state of Ceará. The challenge now is to make this new technology widely available to be transferred and absorbed by others interested in processing Babassu pods.

**Manual break:** In manual extraction, only the nut (roughly 7% of the pod) is used. *Photo: Jose M.F. Frazao*

It is known that technological innovation accompanied by disruptions or radical organizational changes is not easy, especially in places such as the Amazon, where market barriers are huge; information is very costly; and knowledge and human capital are not adequately managed by enterprises and industries. Brazil requires a national or regional innovation system and policy to make such changes faster, safer, and more efficient for stakeholders.

## 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 the sustainable management of tropical forests, the efficient use and processing of tropical timber, and better economic information about the international trade in tropical timber.

**Eligible activities include:**

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

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

- improving transparency of the international tropical timber market;
- promoting tropical timber from sustainably managed sources;
- supporting activities to secure tropical timber resources;
- promoting sustainable management of tropical forest resources;
- promoting increased and further processing of tropical timber from sustainable sources; and
- improving industry efficiency in the processing and utilization of tropical timber from sustainable sources.

*In any of the above, the following are relevant:*

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

**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 will be in the the early spring of 2011 for activities that will begin no sooner than mid-summer 2011.

Details will be available online in December and in future issues of the TFU.

*Further details and application forms (in English, French or Spanish) are available from Dr. Chisato Aoki, Fellowship Program, ITTO; Fax 81 45 223 1111; fellowship@itto.int (see page 2 for ITTO's postal address) or go to www.itto.int.*

**Land and resource use conflicts.** The new markets and uses for Babassu pods have created social problems and conflicts concerning the use of natural resources in the Amazon. Around 400 000 women still rely on manually breaking Babassu pods and extracting and selling the nuts for income. Besides classical problems related to their access to the land and its resources, they now have competition from alternative uses for complete (unbroken) Babassu pods, such as charcoal, liquid biofuels, and fuel pellets.

Conflicts between the charcoal industry, landowners, pod collectors and pod breaking women have recently been increasing. Charcoal companies have rented large areas of Babassu forest zones to collect the pods, which reduces the stock of pods to be broken manually by pod breaking women as well as reducing the price offered for the nuts sold by them.

## Conclusions

Sustainable management of Babassu palm forest requires new technologies, marketing and business strategies. Many of these already exist. What is lacking is the implementation of innovation and new strategies in practice.

To facilitate implementation of new technologies and strategies, a regional entrepreneurial system of innovation and technology transfer should be established. This should aim to make the new cluster of Babassu-based businesses competitive in order to promote employment and investment as well as contributing to wealth creation and well-being in the region (Cooke 2007).

It is clear that is not easy to settle conflicts involving land use and rights, social fairness and sustainable natural resources management. However, it is also evident that new and efficient technologies for processing Babassu palm products are part of the solution to reconcile usage, protection, and conservation of the species.

## References

Cooke, P. 2007. Regional innovation, entrepreneurship and talent systems. *International Journal of Entrepreneurship and Innovation Management*. 7: 5-27.

Teixeira, Marcos Alexandre. 2004. *Estimativa do potencial energético na indústria de processamento do oleo de Babaçu*. Doctoral thesis. Unicamp, Campinas, São Paulo.

*The authors acknowledge the support of ITTO's Dr. Steven Johnson and Dr. Chisato Aoki and also Prof. Phillip Cooke for having accepted Vag-Lan Borges as visiting scholar for one month (November 2008) at the Centre for Advanced Studies of the Cardiff School of City and Regional Planning, Wales, where he could develop the conceptual and reference framework of his final research report.*

## Fellowships awarded

Twenty-nine fellowships were awarded by the International Tropical Timber Organization in May 2010. Awardees were:

**Mr. Henri-Christian Abo Eyafa'a** (Cameroon) to undertake the Engineer of Forestry and Water Management program at Institut Polytechnique Rural de Formation et de Recherche Appliquée in Katibougou, Mali; **Mr. Akouèthê Agbogan** (Togo) to prepare a Ph.D. thesis on "Contribution to the recovery of *Sclerocarya birrea* (A. Rich) Hochst, Lannea microcarpa Engl. & K. Krause and *Hematostaphis barteri* Hook.f.: three spontaneous food timber of savannah region in Togo" at the University of Lome, Togo; **Mr. Lord Ameyaw** (Ghana) to undertake Masters research on "Farm forestry: A viable option to poverty alleviation and climate change amelioration in Ghana" at the Kwame Nkrumah University of Science and Technology in Kumasi, Ghana; **Mr. Augustine Arthur** (Ghana) to undertake training courses in "MCITP: database developer and database administrator and MCPD: web developer" at KOENIG in New Delhi, India; **Dr. Budi Leksono** (Indonesia) to attend the XXIII IUFRO World Congress 2010 in Seoul, Korea; **Dr. N'Da Hypolite Dibi** (Cote d'Ivoire) to prepare a technical document on "Contribution of remote sensing and GIS to study climate change and their interaction on the forest dynamics in Côte d'Ivoire"; **Mr. Aimé Effa Meka** (Cameroon) to undertake a Masters program in Cartography, Remote Sensing and Geographic Information Systems applied to Sustainable Land Management at the University of Yaoundé in Yaoundé, Cameroon; **Dr. Abdul Gafur** (Indonesia) to attend the 9th International Mycological Congress (IMC9) in Edinburgh, U.K.; **Ing. Patricio Guzmán Bustán** (Ecuador) to participate in an international course on "Extension Methodologies for Sustainable Rural Development" at CATIE in Turrialba, Costa Rica; **Dr. Ekeoba Matthew Isikhuemen** (Nigeria) to attend the XXIII IUFRO World Congress 2010 in Seoul, Korea; **Dr. Shadananan Nair Krishnapillai** (India) to attend the 18th Commonwealth Forestry Conference in Edinburgh, Scotland, U.K.; **Mr. Humphrey Menyong Mbelli** (Cameroon) to undertake Ph.D. research on "A study of the diversity and population dynamics of mammals in relation to anthropogenic disturbances in forest management units of south Cameroon" at University of Yaoundé in Yaoundé, Cameroon; **Ms. Nina Mindawati** (Indonesia) to undertake Ph.D. research on "Study on site quality of *Eucalyptus urograndis* industrial plantation forest as raw material of pulp in sustainable forest management" at Bogor Agricultural University, Bogor, Indonesia; **Dr. Gangadharappa Nadiagara Rudrappa** (India) to attend the 18th Commonwealth Forestry Conference in Edinburgh, Scotland, U.K.; **Mr. Columbus Njualem Ndeloa** (Cameroon) to attend the XXIII IUFRO World Congress 2010 in Seoul, Korea; **Ms. Laxmi Kumari Neupane** (Nepal) to undertake Masters research on "Distribution pattern and economic importance of *Dalbergia latifolia* and its associated species on rural livelihood in Nepal" at Tribhuvan University, Institute of Forestry in Pokhara, Nepal; **Mr. Brice Nganda** (Gabon) to undertake a Masters program in "Development and integrated management of territories" at National Museum of Natural History with Institut AgroParis Tech and University of Montpellier in Montpellier, France; **Dr. Naresworo Nugroho** (Indonesia) to participate in the 11th World Conference on Timber Engineering 2010 in Trentino, Italy; **Ms. Deborah Oluwaseyi Ogundolapo** (Nigeria) to undertake a short course in "Spatial ecology, geospatial analysis and remote sensing for conservation" at Center for Conservation Education and Sustainability of Smithsonian Institution, Virginia, U.S.A.; **Ing. Tatiana Lizbeth Ojeda Luna** (Ecuador) to attend the 5th International Global Observation Research Initiative in Alpine Environments meeting and the Global Change and the World's Mountains Conference in Perth, Scotland, U.K.; **Mr. Adedeji Robert Ojo** (Nigeria) to undertake Ph.D. research on "Characterization of the wood properties of *Borassus aethiopum* (Mart) from different ecological zones in Nigeria" at the University of Ibadan in Ibadan, Nigeria; **Ing. Nathaly Rodríguez Santos** (Colombia) to attend the XXIII IUFRO World Congress 2010 in Seoul, Korea; **Mr. Calros Andrés Rogríguez Plazas** (Colombia) to publish "Study of timber markets in the Caribbean region of Colombia for forest species: *Bombacopsis quinata*, *Eucalyptus tereticornis*, *Tectona grandis* and *Gmelina arborea*"; **Ing. Nestor Javier Sagui Gómez** (Guatemala) to undertake the XXII International Intensive Course in Diversified Management of Tropical Natural Forests at CATIE, Turrialba, Costa Rica; **Mr. Mustapha Kaluwe Seidu** (Ghana) to undertake the Darwin Scholarship Programme: Monitoring and Communicating Biodiversity Course at Field Study Council in Shrewbury, U.K.; **Dr. Vindhya Prasad Tewari** (India) to attend the XXIII IUFRO World Congress 2010 in Seoul, Korea; **Ms. Wai Wai Than** (Myanmar) to attend the XXIII IUFRO World Congress 2010 in Seoul, Korea; **Dr. Thaung Naing Oo** (Myanmar) to prepare a document entitled "Assessment on community forestry management and its development with special reference to three critical areas of Myanmar"; and **Ms. Patricia Pamela Torres Muñoz** (Peru) to undertake the XXII International Intensive Course in Diversified Management of Tropical Natural Forests at CATIE, Turrialba, Costa Rica.

# Market trends

## Trade restrictions will have far-reaching impacts

**By Jani Holopainen**

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The first half of 2010 saw the continuing implementation of economic stimulus measures, but the timber sector was hit by bans and restrictions that are likely to have a long term impact on the timber trade. A log export ban by Gabon came into effect in May. As a result, the availability of okoume logs has been substantially reduced. This annual loss of over 500 000 m³ of okoume logs is set to have a long term impact on plywood manufacturers in Europe, China, North Africa and elsewhere. The ban triggered frenetic log buying from neighbouring countries, but the situation has eased due to the subdued economies of importing countries.

In June, the European Union reached agreement on legislation against illegally harvested timber which will set new conditions for European importers. The Indonesian government had also announced a 2-year moratorium on new permits to convert natural forests to oil palm or other crops beginning in 2011 that may impact availability of raw material supply to the timber processing industry.

Fluctuating exchange rates, higher freight costs and uncertainty over the economic recovery had a significant influence on timber markets during the first half of 2010. Despite the reduced availability and long lead times for tropical timber, importers in Western markets tended to keep stocks low and place only small orders. China and ASEAN countries continued to be the main drivers of tropical timber consumption.

In its latest forecasts, the IMF predicts that global output will experience decent growth of 4.2% this year, a full percentage point more than foreseen at the end of 2009. Other forecasts are slightly more optimistic, predicting global growth of 4.5% in 2010 – close to the average pace of the boom years prior to the recession. The largest emerging economies, namely China, India and Brazil, are experiencing the fastest growth, close to, or exceeding double-digit rates. The IMF reckons that the US will grow by as much as 3% this year. In contrast its growth forecast for Europe, where the downturn was particularly pronounced during the first half of 2010, is only 1% in the Euro-zone and 1.3% in the UK this year.

## Mixed trends

China's timber sector continued to grow in the first half of 2010 and this having a positive effect on tropical hardwood imports. However, the economic situation in EU and North America has made it difficult for importers and sawnwood producers to pass on higher log and sawnwood prices to buyers in spite of low stocks and reduced availability of tropical timber. In addition, longer lead times of up to several months and rising ocean freight costs are undermining the market environment, resulting in lost market share for tropical timber. In particular, European manufacturers are replacing tropical sawnwood with temperate species, while South East Asian plywood is facing stiff competition from Russian birch and Chinese plywood products.

Nevertheless, hardwood demand is benefiting from housing renovation activity in some parts of Europe and demand for sawnwood has revived to some extent. Sawnwood prices have firmed and sawmillers in Central and West Africa are contemplating increasing output and some are re-opening mills that were forced to close when the recession hit consumer demand hardest in 2008/2009.

Intra-African trade has not been affected by the global recession to the same extent as international trade. However, Voluntary Partnership Agreements between the EU and some African countries, the latest of which was just concluded with Cameroon, are expected to boost timber exports to Europe.

South-sea (Asia and Oceania) tropical timber supplies fell short of demand from Chinese and Japanese manufacturers pushing up price levels. Demand is expected to strengthen further if the predicted recoveries of the US and European economies materialize. Local manufacturers in producing countries reportedly have strong order books and their aggressive purchasing is also lifting log prices. The tight log supply is anticipated to last at least until late August.

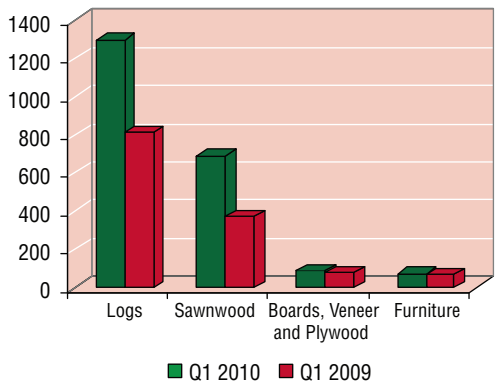
## Chinese imports soar

In the first quarter of 2010, total log imports to China were 7.7 million m³ valued at US$1.3 billion, up 37% in volume and 60% in value over the same period last year. Tropical log imports amounted to 2 million m³, increasing 48% over last year. Imports from Malaysia increased 144% to 264 200 m³. Tropical logs accounted for 27% of total log exports.

Around 3 million m³ of sawnwood (including sleepers) valued at US$691 million were imported in the first quarter of 2010. Sawnwood imports increased 83% in volume and 85% in value over the first quarter period of 2009. Plywood imports were 40 100 m³ in volume and US$22 million in value, increasing 20% and 12% respectively from 2009, as did all other wood panel products. SPWPS and wooden furniture imports were up 45% and 4% respectively over the same period last year. All these trends were maintained into the second quarter of 2010.

### Rebound

China's timber Imports (million US$)

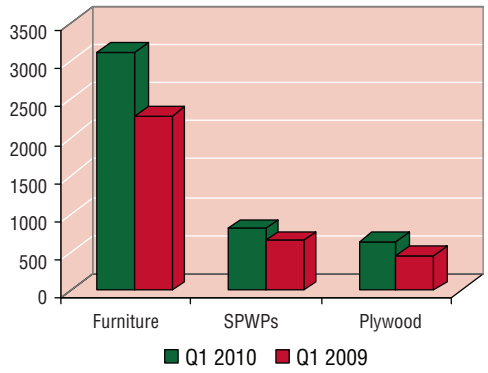


## Sharp increase in exports

Soaring imports of logs and sawnwood by China in the first quarter of 2010 have contributed to the strong export performance for processed timber products. The total value of wooden furniture exported was over US$3.1 billion, up 36% from the first quarter period of last year. The second largest export category was other SPWPs including wooden doors and windows, flooring, wooden handicrafts and wooden packaging. A total of US$808 million was exported in this category, up 24% over the same period in 2009. Plywood exports also increased considerably in the first quarter of 2010.

### Furniture leading

China's wood products exports (million US$)




Chinese national policy is tending towards a scaling down of domestic harvesting and domestic timber supply. Timber consumption for domestic home decoration and furniture production is said to account for 65% of the end uses for wood in China. As the rate of house building accelerates in China, so does consumption of wood products. In a situation of declining domestic and international supplies amid growing demand, prices are set to climb. This implies improved prospects in the Chinese market for timber suppliers, particularly for Least Developed Countries (LDCs) following China's removal of all tariffs on wood products imports from these (mostly tropical) countries.

## US imports stable

Many US hardwood companies expect demand in 2010 to be similar to that in 2009, although higher ocean freight rates will be a challenge for US importers. While some expect a slight improvement in business towards the end of 2010, the consensus is that if the market recovers faster than expected, hardwood suppliers would not be able to keep up with demand. Inventories are currently very low and thus have kept prices up.

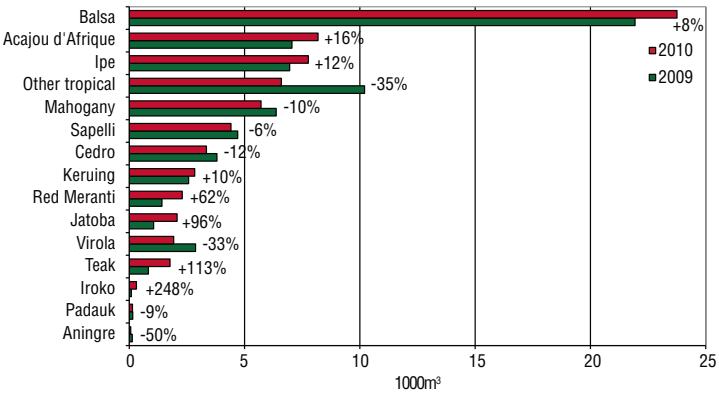
Total US imports of tropical sawnwood in the first five months of this year were nearly the same as in 2009. There has been no significant recovery since the downturn in imports in 2008 and 2009, except for a few species. Hardwood demand from flooring producers remains strong in the US market. There has also been little change in hardwood moulding imports, with the US$71 million in imports to May 2010 down by 4% on the same period last year.

January to May 2010 imports of hardwood flooring were 60% below 2009 levels. The largest drop has been in imports from China which plunged 79%. Hardwood flooring imports from Brazil were US$959 000 (-26%), while imports from Malaysia were US$868 000 (-31%). Bucking the trend, Indonesian flooring exports increased 38% to US$226 000 in the five months to May 2010.

In general, many US customers are tending to replace more pricey hardwoods with less expensive alternatives, affecting demand for tropical species such as mahogany. However, demand for tropical timber traded in euros is an exception, given the depreciation of the euro. As initial enforcement of the Lacey amendment coincided with the recession, it is difficult to say if the Act is having any impact on imports.

### Up and down

US tropical sawnwood imports by species (Jan-May)




Source: Department of Commerce, U.S. Census Bureau, Foreign Trade Statistics

## No recovery in EU imports

Trade in tropical hardwoods remained at depressed levels in the first quarter of 2010, with aggregate imports of hardwood logs, sawnwood, plywood and veneers from tropical countries less than 775 000 m³. This is slightly below the volume recorded in the first quarter of 2009, a year when total European imports of tropical timber fell by over 40%. In value terms, imports of these commodities during the first quarter of 2010 fell 12% compared to the same period in 2009.

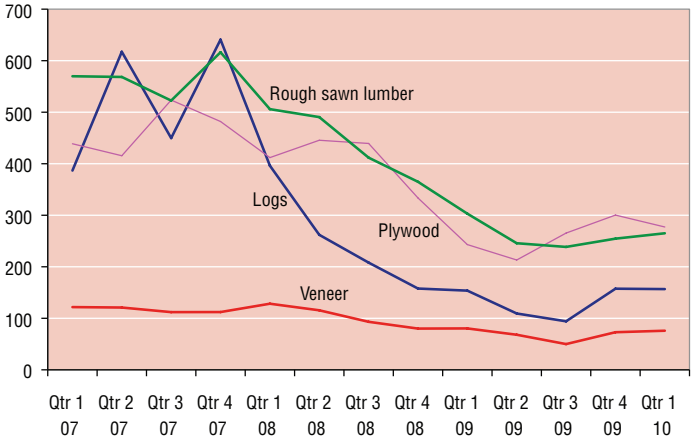
The decline in unit values for tropical sawnwood and plywood indicates that European importers and manufacturers are switching to lower grade materials in an effort to cut costs during the recession. The figures support reports suggesting that tropical hardwood shippers seeking to push through CIF price increases in Europe this year have continued to come up against firm resistance from European importers.

The continuing weak hardwood import performance in the first quarter of 2010 is all the more disappointing as it seems to confirm that the apparent upturn in European buying in the last quarter of 2009 was not a response to any real improvement in European consumption. Rather, as many suspected, it seems to have been the result of short-term efforts by importers to fill gaps in heavily depleted stocks at a time when CIF prices seemed set to rise.

One reason for declining tropical timber imports in Europe is a drop in parquet flooring production (down 20% in 2009) combined with an increase in the use of temperate hardwoods like oak. According to the European Parquet Flooring Federation, oak's share of total parquet flooring production grew from around 56% in 2008 to nearly 63% in 2009 while that of tropical hardwoods fell from 15% to 10%. Some of this decrease is attributed to supply problems for tropical hardwoods, with producers often unable to meet manufacturers' growing demand for wood on a just-in-time basis. Another factor was increased environmental concern which led some manufacturers, notably in Austria, to boycott the use of tropical wood last year.

### Reaching bottom?

EU quarterly tropical timber imports (1000 $m^3$)




## Exchange rate impacts

During the first half of 2010, the downward trend of major currencies against those of producer countries had the effect of making tropical timber imports more expensive. Exports to Western markets are expected to pick up if the euro and US dollar appreciate. However, some importers, such as in India, have already been able to take advantage of fluctuating exchange rates to fill stocks, implying a slight easing of sales and shipments if exchange rates become more stable.

The euro has been weakening due to the effect of the Greek crisis and the UK pound has also been dragged down. This means that CIF prices for tropical hardwood products from the Far East (quoted in dollars) have increased markedly in European markets, while prices for African hardwoods (quoted in euros) have been less affected. For US buyers, the reverse effect of increasing demand for tropical timber traded in euros was seen. The appreciation of the Brazilian currency against the US dollar has hit exporters who already faced weak US demand.

China has recently set the RMB exchange rate against the US dollar at 6.7858, the highest since July 2005. The appreciation of the RMB is expected to make Chinese exports more expensive in global markets but will at the same time strengthen China's purchasing power.

## Post-stimulus outlook

Tropical timber demand from the Chinese manufacturing sector has improved but new clouds are gathering in terms of increasing labour and other costs. Some analysts are predicting that furniture manufacturing will gradually move out from China as costs are getting higher than in some ASEAN countries. On the other hand, increasing purchasing power of China and also improving ASEAN economies could drive demand for tropical timber products, in spite of continuing subdued market conditions for tropical timber in Western markets.

Although the global economy seems to have returned to growth, this has largely been driven by various government stimulus measures since 2009. For example India has reduced interest rates, exports and furniture production have benefited from Brazil's stimulus package, the US has granted rebates for energy efficient home construction and renovation, and fiscal stimulus packages have been launched in all countries in Europe. These measures, however, have yet to result in any significant improvement in demand for tropical hardwood.

News from the European construction sector suggests that sustained improvement in Europe's domestic consumption of tropical hardwoods and other wood products will take time to materialize. The European construction sector fell by 8.8% in 2009 and a further contraction of 4% is expected in 2010. Construction output across Europe is expected to increase only by 1.2% in 2011. Nevertheless, there is some optimism in the European hardwood trade as demand from renovation activity is improving.

Immediately after the federal tax credit programme for homebuyers expired at the end of April, home sales in the US fell sharply by 32.7%. In order to sustain housing activity, the US Congress extended the programme until the end of September 2010. Housing starts also dipped in May after showing some improvement in the earlier months of 2010. Japan's housing activity has largely followed the US pattern.

However, opportunities for tropical timber products are emanating from the buoyant real estate market in China. Although the Chinese government is implementing measures to cool the property market so as to avoid an asset bubble, the impact has not yet been felt and investment in property is continuing.

With the improving economic situation and the impact of stimulus measures in India, house building has become more active. House prices in India are almost back to levels seen prior to the economic slowdown in 2008/2009. This is translating into firming prices for wood and wood products in India and in countries where India buys logs.

All in all, markets continue to be uncertain over the sustainability of the global economic recovery as government stimulus measures are gradually being removed and austerity measures are being introduced in an effort to calm market concerns over the level of public debt. The phasing out of stimulus packages coupled with the consolidation of public finances is expected to negatively impact on Western economies in coming years.

*MIS correspondents are acknowledged for their opinions and inputs to composition of this article.*

# Tropical and topical

## Biodiversity's dirty secret

Recent research has shown that the secret to the high biodiversity in tropical forests lies in the soil. A study[1] published in June in the journal Nature found that tree seedlings have a better chance of survival if they are grown farther away from adult trees of the same species, including their own mothers. Scott Mangan, postdoctoral fellow at the University of Wisconsin-Milwaukee and the Smithsonian Tropical Research Institute in Panama, explained that the adult trees harbor pests and diseases in the soil surrounding them that are more detrimental to their own seedlings than those of other species. The research showed through a series of controlled experiments on five tree species that such underground organisms are the key to maintaining species diversity and that they also contribute to the abundance of tree species. These results were backed by another recent study[2] by Smithsonian researchers presented in the journal Science, based on a survey of the survival of 30 000 seedlings of 180 different tree species on Panama's Barro Colorado Island, showing that the rarer tree species were most adversely affected by adult trees of the same species. The studies, which show that tree species (and thus forest) diversity is not random but controlled by traits and organisms specific to individual species, will contribute to efforts to conserve tree species faced with extinction.

## New global initiative to take on illegal logging

The Environment News Service reported that a new global initiative known as the Forest Legality Alliance has been established to bring together conservation groups, government agencies, corporations and business associations involved in the promotion of legal forest supply chains and to work against illegal logging. The group, launched in late May in Washington D.C., aims to promote better forest governance and biodiversity conservation by cutting the demand for illegally harvested forest products while increasing the capacity of suppliers to deliver legal wood and paper products. Some of members of the alliance include the World Resources Institute, the Environmental Investigation Agency, US Agency for International Development, American Forest and Paper Association, the Hardwood Federation, IKEA, the International Wood Products Association, the Retail Industry Leaders' Association, and Staples Inc.

1 *Mangan, S.A., Schnitzer, S.A., Herre, E.A., Mack, K.M.L., Valencia, M.C., Sanchez E.I. and Bever J.D. 2010. Negative plant-soil feedbacks predict relative species abundance in a tropical forest. Nature. http://www.nature.com/nature/journal/vnfv/ncurrent/full/nature09273.html*

2 *Comita,L.S., Muller-Landau, H.C., Salomón, A. and Hubbell, S.P. 2010. Asymmetric density dependence shapes species abundances in a tropical tree community. Science. http://www.sciencemag.org/cgi/content/abstract/science.1190772*

## US Lacey Act grinds an axe with Gibson guitars

With about $40 billion worth of imported timber making its way into the US market, the legality and sustainability of wood products have become important issues especially since the Lacey Act, a century-old environmental law, was amended by the US Congress in 2008. The amended law bans the import of wood products from illegal logging operations and will hold US companies that violate the law responsible. Penalties under the act include stiff fines, jail time, and confiscation of wood and products deemed illegal. Last November, Federal Agents from the US Fish and Wildlife Service raided Gibson Guitar's factory in Nashville, Tennessee and seized wood and guitars in one of the first enforcement actions under the Lacey Act. The company was under suspicion of using illegally harvested wood from Madagascar. Gibson Guitar (whose CEO sits on the board of NGO Rainforest Alliance) stated that it takes the issue of responsible wood sourcing seriously and was cooperating with investigating officials.

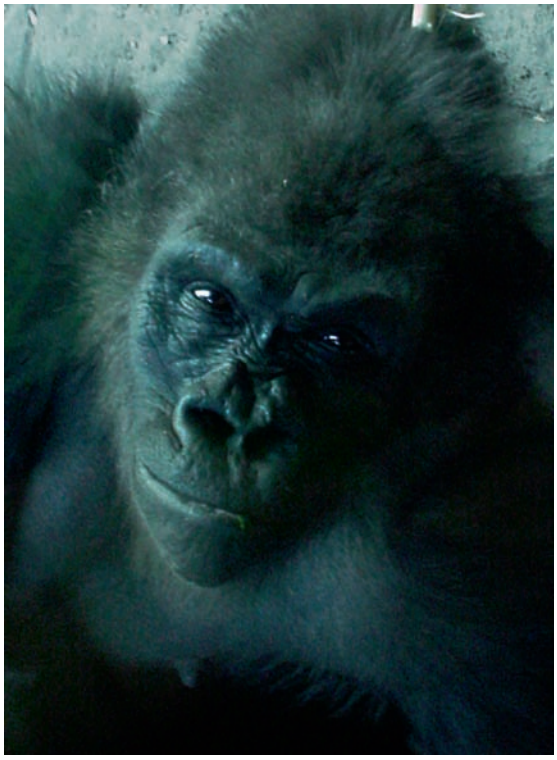
## US groups pushing to improve business by ending deforestation

US farm and forest products groups have issued a new report on the economic effects of deforestation to pressure Congress to protect tropical rain forests. According to the report, "Farms Here, Forests There: Tropical Deforestation and US Competitiveness in Agriculture and Timber"[3], overseas agriculture and logging industries are flooding the market with cheap forest products by cutting down the world's rainforests. Ending tropical deforestation would significantly increase revenue for US producers by up to $267 billion by 2030 – approximately the amount projected to be spent by farmers on energy during that time. The report also stated that including affordable tropical forest offsets in USclimate legislation would save U.S. agriculture and related industries about $49 billion in compliance costs due to lower energy and fertilizer costs while increasing revenue for US timber producers up to $60 billion by 2030.

## Gorilla tactics

The first mobile phone application ("app") for iPhones and iPads dedicated to supporting the plight of Africa's endangered mountain gorilla was released in February. The app is called iGorilla and was released by the Virunga fund, an organization run by Virunga National Park rangers which manages funds for conservation programs in the park. It allows users, through the efforts of park rangers, to follow a gorilla family in their habitat via written reports and videos directly from Virunga National Park in the Democratic Republic of Congo (DRC). The park, a UNESCO World

3 *http://www.adpartners.org/agriculture/*



**Ape app:** New mobile phone software follows gorillas in their natural habitat. *Photo: K. Sato*

Heritage Site, covers 7800 km² in DRC, Rwanda and Uganda. The conservation efforts are to secure the safety of the great apes inhabiting the park region, whose population has been reduced by poaching, civil conflict, and deforestation. This app and others like it may open new opportunities for funding the park's conservation efforts while offering the possibility for users to take an active role in witnessing the difficulties in implementing such efforts.

## Technology shows ancient Mayans practiced sustainability

CNET reported in May that an archaeological team has uncovered a complete ancient Mayan city that used a system of green urban architecture. The team, who have been on the ground manually excavating the Mayan city of Caracol from the thick jungle undergrowth for over 25 years, used LIDAR (Light Detection and Ranging) and NASA technology to make their recent discovery of thousands of new structures, as well as causeways, agricultural terraces and hidden caves. The system of agricultural terraced roofs is a sign that the Mayans implemented sustainable practices in their city of some 140 000 inhabitants. The LIDAR technology has allowed the archaeologists to incredibly speed their research. Using traditional manual excavation methods to map the city took 25 years to map out 9 miles, whereas using LIDAR they were able to map about 77 miles of the city in a span of 4 weeks.

## Illegal logging declining

A new report published by Chatham House (see *Recent Editions*) found that illegal logging is declining. Improved enforcement and stricter rules are being cited as the cause for what is considered a dramatic drop in illegal logging in areas of Cameroon, Indonesia and the Amazon, with up to 17 million hectares of forest protected from illegal logging activities over the past few years. The report found that illegal logging in the Amazon, Indonesia and Cameroon has been cut by 50-75 percent and the production of illegal timber has fallen by approximately 25 percent since 2002.

## Indonesia not ready for REDD?

The Jakarta Post reported that in early July, Indonesia and Norway signed a partnership agreement on Reducing Emissions from Deforestation and Forest Degradation (REDD) at the Oslo Climate and Forest Conference. The US$1 billion deal, including an immediate two-year moratorium on natural forest conversion aimed at mitigating greenhouse gas emissions, may have a flaw. According to a statement by Indonesian President Susilo Bambang Yudhoyono, the deal excludes current concessions, which means that the palm oil industry will continue converting forest and peat swamps in already approved areas, and that the pulp and paper industry will maintain production from existing forest or land concessions, including in natural forests. Indonesia's weak legal framework, with limited protection of customary/indigenous rights combined with national and regional governments' need for the revenue provided by oil and timber, have led many environmental and social NGOs to be skeptical of a successful implementation of the moratorium commitment. They are calling for more effective involvement of local communities in implementation of the moratorium and in allocating the funds resulting from it.

## EU eschews illegal timber

In early July the European Parliament voted to bar the import and sales of illegal timber and wood products. The new rule could impact as much as one fifth of all timber imports into the EU. This legislation follows a similar law passed in the US two years ago, and is an internationally important breakthrough. Under the new EU rules, importers will have to seek sufficient guarantees that the timber they are bringing in is legally harvested. Traders such as furniture sellers must then make sure that the origin of the wood used to make their products is traceable. Dealers of illegal wood will face punishments that are to be decided individually by the 27 EU member states. The European Council must now formally approve the legislation which will be implemented starting in 2012 to give national governments time to draft their own sets of sanctions and fines.

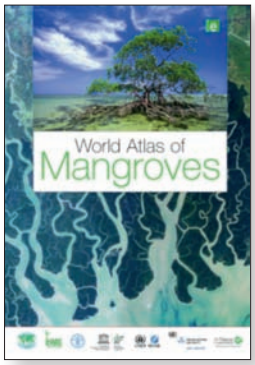
# Recent editions

**Edited by Ken Sato**

***Spalding, M., Kainuma,M. and Collins, L. 2010. World Atlas of Mangroves. Earthscan. London, UK. ISBN: 978-1-84407-657-4***

***Available from:*** *Earthscan (www.earthscan.co.uk)*

***Available in:*** *English (summary to be published as special issue of TFU in English, French and Spanish by the end of 2010)*




This atlas provides the first truly global assessment of the state of the world's mangroves. Written by a team led by Dr. Mark Spalding, a leading expert on mangroves, with support from more than 100 top international mangrove researchers and organizations, this full color atlas contains 60 full-page maps showing locations of all the world's mangroves, hundreds of photographs and illustrations and comprehensive country-by-country assessments of mangroves. The detailed maps and new mangrove area statistics are derived from recent satellite imagery, comprising the most comprehensive study ever undertaken of these important ecosystems. The atlas was the result of a multi-agency collaborative project involving ITTO, ISME (implementing agency), FAO, UNEP-WCMC, UNESCO-MAB, UNU-INWEH, and The Nature Conservancy. ITTO provided primary funding for the atlas through a grant from the government of Japan.

***ITTO. 2010. Good neighbours. ITTO Technical Series 35. Yokohama, Japan. ISBN: 4-902045-67-2***

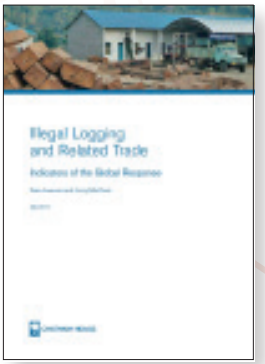
***Available from:*** *ITTO Secretariat (see page 2 for contact details); online under Publications at www.itto.int*

***Available in:*** *English and French*


This publication contains the proceedings from the International Conference on the Promotion of Intra-Africa Trade in Timber and Timber Products convened in Accra, Ghana in July 2009, and the outcomes of a 2009 study on the regional trade in tropical timber and timber products in Africa, which served as the background paper for the conference. The report provides recommendations to further promote the regional trade of forest products from sustainably managed sources.

***Lawson, S., MacFaul, L. 2010. Illegal Logging and Related Trade: Indicators of the Global Response. Chatham House. London, UK. ISBN: 978-1-86203-235-4***

***Available from:*** *http://www.chathamhouse.org.uk/research/eedp/papers/view/-/id/911/*




This study attempts to measure the scale and the effectiveness of the response to illegal logging. It examines the response in countries where illegal logging occurs and also in countries that import, process and consume illegally sourced wood. It measures the extent to which illegal logging and associated trade has changed over time, and examines how attention to the problem has changed and how governments and the private sector have responded. These changes were assessed using various indicators and means of verification that have been designed, tested and used by Chatham House to measure responses in five timber producing countries, five consuming countries, and two countries whose timber trade is largely based on processing imported raw material for export. The study found that while illegal logging remains a major problem, the impact of the response has been considerable. It is estimated that illegal logging has fallen by 50 percent during the last decade in Cameroon, by between 50 and 75 percent in the Brazilian Amazon, and by 75 per cent in Indonesia, while imports of illegally sourced wood to the seven consumer and processing countries studied are down 30 per cent from their peak.

***UNECE/FAO. 2010. Forest Products Annual Market Review 2009-2010. Geneva, Switzerland.***

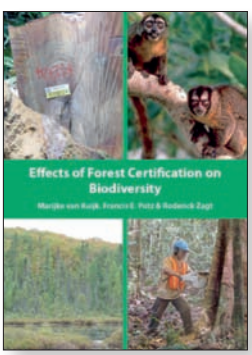
***Available from:*** *http://timber.unece.org/index.php?id=2*

***Available in:*** *English (French and Russian available soon)*


The theme for this edition of the UNECE Annual Market Review is "Innovation for structural change recovery". The publication illustrates how a structural change has occurred in the forest sector, and how the sector is adapting and innovating for short-term survival and long-term growth. This document covers almost all wood and paper market sectors, as well as forest carbon markets and policies in the ECE region. Sawnwood, panels, roundwood and pulp and paper chapters are based on statistics from official sources from UNECE's 56 counties in Europe, North America and the CIS. Additional chapters cover value-added wood products, certified forest products, tropical timber markets (authored by ITTO) and wood energy.

***van Kuijk, M., Putz, F.E. and Zagt, R.J., 2009. Effects of forest certification on biodiversity. Tropenbos International. Wageningen, the Netherlands. ISBN:978-90-5113-090-4***

***Available from:*** *http://www.tropenbos.org/index.php/news/forestcertificationbiodiversity*




This report analyzes the available scientific literature on the effects of forest management activities and certification on biodiversity. It finds that good forest management practices such as reduced impact logging associated with forest certification appear to benefit biodiversity in managed forest, but that further studies of the impacts of forest management on biodiversity is required. This information will help define acceptable trade-offs between

biodiversity conservation and the social and economic interests of forest management, and will provide a sound basis for assessing the effectiveness of forest management practices commonly associated with certification.

***Gardner, T. 2010. Monitoring Forest Biodiversity. The Earthscan Forest Library. London, UK. ISBN 978-1-84407-654-3***

***Available from:*** *http://www.earthscan.co.uk/?TabId=102271&v=511953*


This book studies the factors that make biodiversity monitoring programs successful. It lays out the context and importance of biodiversity monitoring, and sheds light on some of the key challenges that have confounded many past efforts. It presents an operational framework for developing monitoring programs that have the potential to make a meaningful contribution to forest management. The book is based around the belief that biodiversity monitoring should be viewed not as a stand-alone exercise in surveillance but rather as an explicit mechanism for learning how to improve opportunities for conservation.

***TFD. 2010. TFD Review: Investing in REDD-plus. The Forest Dialogue. Connecticut, USA.***

***Available from:*** *http://environment.yale.edu/tfd/uploads/TFD_Review_InvestingInREDD-plus.pdf or http://unfccc.int/methods_science/redd/items/4717.php*

***Available in:*** *English, French and Spanish*


This report presents the outcome of four dialogues on frameworks for the financing and implementation of REDD-plus, which were organized by The Forests Dialogue (TFD) between April and August 2009. This publication reflects the perceptions, opinions and recommendations expressed by the participants of the dialogues preparing for the 15th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in Copenhagen in December 2009 and should be seen in the context of that time frame since, in many cases, participants expressed their views in language that reflected ongoing discussions and deliberations on REDD-plus in the international negotiations.

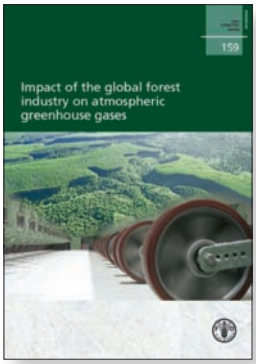
***Intergovernmental task force. 2010. Synthesis Report: REDD+ Financing and Activities Survey.***

***Available from:*** *http://www.oslocfc2010.no/documentslinks.cfm*


This report synthesizes information on REDD+ financing pledges and activities as of mid-May 2010 gathered from a voluntary survey conducted by the governments of Australia, France, and Papua New Guinea. The survey was an effort to support a partnership, formed by countries at the International Conference on the Major Forest Basins hosted by France in March 2010, whose focus is to scale-up and improve the effectiveness, transparency and coordination of REDD+ financing and activities, while international negotiations continue under the UNFCCC. Although this report does not attempt to interpret the information received or analyze gaps, the information presented will support effective, transparent and coordinated action under the REDD+ partnership. To supplement this synthesis report, individual country and organization data sheets can be found at http://www.oslocfc2010.no/.

***Miner, R. 2010. Impact of the global forest industry on atmospheric greenhouse gases. FAO Forestry Paper. Rome, Italy. ISBN 978-92-5-106560-0***

***Available from:*** *http://www.fao.org/docrep/012/i1580e/i1580e00.htm*




This publication examines the influence of the forest products (roundwood, processed wood products and pulp and paper) value chain on atmospheric greenhouse gases. It finds that many forest owners and forest product companies engage in practices that will either increase forest ecosystem carbon stocks or help avoid their decline, mainly through the establishment of planted forests on previously unforested areas, sustainable management practices in production forests and, increasingly, participation in chain-of-custody certification programs. The analysis contained in this report strongly supports assertions made by the Intergovernmental Panel on Climate Change (IPCC) that sustainable management of production forests represents an important mitigation option over the long term.

***The International Bank for Reconstruction and Development / The World Bank. 2009. Roots for Good Forest Outcomes: An Analytical Framework for Governance Reforms. Washington D.C. USA.***

***Available from:*** *The World Bank; http://siteresources.worldbank.org/INTARD/214578-1253636075552/22322823/ForestGovernanceReforms.pdf*


This study aims to create a framework to assist in analyzing the challenges facing forest governance through a set of building blocks. It draws on the World Bank's knowledge of governance in general and forest governance in particular. It reflects the theoretical understanding of governance while being oriented toward action. It also builds upon the work that others have done, incorporating successful measurement approaches and lessons learned. The framework is generic and is amenable to being customized to different forest types and specific country contexts.


***Baumüller, H., Brack, D., Umpfenbach, K. 2009. Keeping illegal fish and timber off the market: a comparison of EU regulations. Chatham House. London, UK.***

***Available from:*** *http://www.chathamhouse.org.uk/research/eedp/papers/view/-/id/782/*

This briefing paper compares recently adopted EU regulations on imports of illegal fish and timber products. The authors contrast the different approaches of these regulations and point out areas that might need further strengthening.

# Meetings

22-25 September 2010
**International Symposium on Integrated Sustainable Livelihood Development in Mountain Forest Areas**
Lin'an, Zhejiang Province, China
*Contact: International Network for Bamboo and Rattan (INBAR); Zhu Zhaohua, Jin Wei; Tel: 86-10-64706161 ext. 301, 310; Fax: 86-10-64703166; zhzhu@inbar.int; Wjin@inbar.int*

30 September - 2 October 2010
**The Future of Forestry and Forest Science Conference**
Melbourne, Australia
*Contact: Conference Managers c/o Event Planners Australia; 113 Abbotsford Street West Melbourne VIC 3003 Australia; Tel: +61 3 9320 8676; Fax: +61 3 9320 8699; forestry2010@eventplanners.com.au; www.forestscience.unimelb.edu.au/centenary*

4-8 October 2010
**20th Session of the United Nations Food and Agriculture Organization's (FAO) Committee on Forestry (COFO)**
Rome, Italy
*Contact: www.fao.org/forestry/cofo/en/*

4-9 October 2010
**United Nations Climate Change Talks**
Tianjin, China
*Contact: onlinereg@unfccc.int, https://onlinereg.unfccc.int*

5-7 October 2010
**International conference: "Emerging Economic Mechanisms: Implications for Forest-Related Policies and Sector Governance"**
Rome, Italy
*Contact: forest_conf_FAO@unitus.it*

6-8 October 2010
**3rd International Timber Trade Federation Day "Maintaining the momentum – marketing legal and sustainable timber"**
Geneva, Switzerland
*Contact: Céline Krebs, Tropical Forest Trust, c.krebs@tft-forests.org*

7-15 October 2010
**Travelling workshop: Canopy processes in a changing climate - South East Australia**
Contact: Anthony O'Grady, anthony.ogrady@csiro.au

11-15 October 2010
**Society of Wood Science and Technology. 53rd International Convention**
Geneva, Switzerland
*Contact: Victoria L. Herian; vicki@swst.org*

11-15 October 2010
**UNECE Timber Committee, 68th session, held jointly with Society of Wood Science and Technology**
Geneva, Switzerland
*Contact: Ed Pepke; ed.pepke@unece.org; http://timber.unece.org/index.php?id=124*

18-29 October 2010
**10th Conference of the Parties to the Convention on Biological Diversity (COP 10)**
Nagoya, Japan
*Contact: Secretariat of Aichi-Nagoya COP 10 CBD Promotion Committee, 3-2-1 Sannomaru, Naka-ku, Nagoya; aichi-nagoya@cop10.jp; www.cop10.jp/aichi-nagoya/english/index.html; Tel: +81-52-972-7778 or +81-52-972-7779; Fax: +81-52-972-7822*

19-21 October 2010
**IX Seminar on Remote Sensing and GIS applied to Forestry/IX Seminário de Atualização em Sensoriamento Remoto e Sistemas de Informações Geográficas Aplicados à Engenharia Florestal**
Curitiba, Brazil
*Contact: Tomasz Zawila-Niedzwiecki, tzawila@ibles.waw.pl; w.9seminarioflorestal.com.br/home/*

21 October 2010
**6th National Wood Convention of Peru**
Lima, Peru
*Contact: Ms. Ana Maria Planas, aplanas@adexperu.org.pe*

21-23 October 2010
**3rd International Forest Furniture and Joinery Industry Trade Fair (FENAFOR 2010)**
Lima, Peru
*Contact: fenafor@fenafor.com; www.peruforestal.org , www.fenafor.com*

3-4 November 2010
**Conference on "Genetic and isotopic fingerprinting techniques – practical tools to verify the declared origin of wood"**
Eschborn, Germany
*Contact : Dr. Stefanie von Scheliha, GTZ-International Forest Policy (IWP), stefanie.scheliha@gtz.de*

15-19 November 2010
**Enhancing the Legality of the International Timber Trade: Creating enabling environments and opportunities for the private sector and other stakeholders, a CLI in Support of UNFF**
Hanoi, Vietnam
*Contact: Tran Kim Long, Deputy Director General; International Cooperation Department, Ministry of Agriculture and Rural Development, Vietnam; longtk.htqt@mard.gov.vn; Tel:+844-38436812; Fax:+844-37330752;*

29 November - 10 December 2010
**The Sixteenth Conference of the Parties (COP) and the Sixth Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP)**
Cancún, Mexico
*Contact: http://cc2010.mx/swb/*

8-10 December 2010
**Fourth International Conference on Plant and Environmental Pollution**
Lucknow, India
*Contact: Conference Secretariat, isebnbrilko@sify.com; isebmail@gmail.com; http://isebindia.com/icpep-4/icpep-4.html*

13-18 December 2010
**46th Sessions of the International Tropical Timber Council and Associated Committees**
Yokohama, Japan
*Contact: ITTO Secretariat; itto@itto.int; www.itto.int; Tel: +81-45-223-1110; Fax: +81-45-223-1111*

24 January – 4 February 2011
**9th Session of UNFF**
New York, USA
*Contact: http://www.un.org/esa/forests/session.html*

8-10 February 2011
**Short Rotation Forestry: Syniergies for Wood Production and Environmental Amelioration**
Ludhiana, India
*Contact: Sanjeev Chauhan, chauhanpau@rediffmail.com; www.iufro.org/download/file/5651/1325/india11-1st-announcement.doc/*

8-10 February 2011
**Australasian Forest Genetics Conference: integrating quantitative and molecular tools**
Christchurch, New Zealand
*Contact: Luis A. Apiolaza, Luis.Apiolaza@canterbury.ac.nz; http://www.forestgenetics.com.au/*

21-25 February 2011
**26th Session of the UNEP Governing Council/Global Ministerial Environment Forum**
Nairobi, Kenya
*Contact: Secretariat of the Governing Bodies, Jamil Ahmad; jamil.ahmad@unep.org*

5-9 March 2011
**Global Conference on Entomology**
Chiang Mai, Thailand
*Contact: http://entomology2011.com/*

2-6 May 2011
**International Forestry Conference "Planted Teak Forests – a Globally Emerging Forest Resource"**
Guanacaste, Costa Rica
*Contact: Luis Dalpra LDalpra@catie.ac.cr (Costa Rica-Central America) Walter Kollert Walter.Kollert@fao.org*

18-20 May 2011
**13th International Symposium on Legal Aspects of European Forest Sustainable Development**
Kaunas, Lithuania
*Contact: Romualdas eltuvas, Romualdas.Deltuvas@lzuu.lt; Peter Herbst, hp@net4you.at*

7-11 June 2011
**20th International Wood Machining Seminar**
Skellefteå, Sweden
*Contact: Anders Gronlund, info@iwms20.se; http://www.ltu.se/ske/IWMS-20/IWMS-20*

26 June 2011 - 2 July 2011
**Tree Biotechnology 2011 - From genomes to integration and delivery**
Arraial D'ajuda, Porto Seguro, Bahia, Brazil
*Contact: Dario Grattapaglia, dario@cenargen.embrapa.br; http://www.treebiotech2011.com/*

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