

# ITTO-CITES PROGRAM FOR IMPLEMENTING CITES LISTINGS OF TROPICAL TIMBER SPECIES NEWSLETTER



## Donors



This is the fifth issue of the *ITTO – CITES Program for Implementing CITES Listings of Tropical Timber Species* newsletter. It is published on a quarterly basis, in English, Spanish and French, and is mainly made available to our African, Asian and Latin American colleagues, sponsors and other individuals interested in the progress of the ITTO-CITES Program. This issue covers a summary of program activities during the period January-March 2010.

Suggestions and contributions from project participants are essential to make future issues of this newsletter as informative and interesting as possible. Please send any correspondence to the relevant contact(s) listed on the last page.

## EDITORIAL

2010 marks the end of the first decade of the 21st century. During this decade we saw exciting as well as challenging events take place from economy to sports to the field shared by readers of this newsletter – forestry. This issue will provide information on implementation of the ITTO-CITES programme, will provide information to new readers on the programme, and will share information on the 2010 work plan.

The ITTO-CITES programme that started in 2007, the first on-the-ground project to implement CITES for timber species at national level since its inception in 1975, covers three main themes – Planning and Management, Forest Management and Social Economic and Institutional. To date, more than twenty activities are being implemented in Africa, Asia and Latin America. These activities are to contribute to species' sustainability in trade. In implementing these activities, we have addressed several pressing questions regarding sustainability of tropical timber species listed in CITES and helped to make capacity improvements in range States. And we continue to receive good proposals to address sustainability issues and to build up capacity where required in tropical timber range states.

In 2010, a string of major activities is in the pipeline for the programme:

- 3rd Advisory Committee in conjunction with the 59th CITES Standing Committee and 15th meeting of the Conference of the Parties (CoP 15) in Doha, Qatar
- ITTO-CITES jointly organized with the German Scientific Authority (BfN) a side event "Forging Cooperation on Tropical Tree Species" in Doha, Qatar
- New activities to be commenced in 2010 for three regions
- Regional workshops on sharing of findings and experience from the activities implemented under the programme
- Publications and proceedings reporting activities' results

This programme has successfully raised awareness on CITES implementation for tropical timber species among CITES Management Authorities and Scientific Authorities, increased cooperation and involvement of the private sector with these authorities, increased interest from a wide range of stakeholders in the programme and developed a team committed to its successful implementation across individuals, organizations and regions.

Best wishes to everyone for a good year ahead!

By **Pei Sin Tong, ITTO**

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## ITTO-CITES PROGRAM IN A NUTSHELL

The "ITTO – CITES Program for Implementing CITES Listings of Tropical Timber Species" aims to ensure that international trade in CITES-listed tropical timber species is consistent with their sustainable management and conservation. The specific objective of the program is to assist national authorities to meet the scientific, administrative and legal requirements for managing and regulating trade in *Pericopsis elata* (afroormosia) found in Central Africa, *Swietenia macrophylla* (bigleaf mahogany) found in Latin America, and *Gonystylus* spp. (ramin) found in SE Asia and, in particular, to develop guidance to ensure that utilization is not detrimental to the survival of these CITES-listed timber species.

The main range states exporting significant volumes of these species covered by the program in are Cameroon, Republic of Congo and Democratic Republic of Congo in Africa; Indonesia and Malaysia in Asia; and in Bolivia, Brazil and Peru in Latin America.

The direct beneficiaries of this Program are public authorities and private sector operators in the timber sector in the range States. The indirect beneficiaries are other countries party to CITES that trade in these species, who will benefit through capacity building and awareness raising.

## FUNDING

The program has received funding from the European Commission, United States of America, Japan, Norway, New Zealand, Switzerland, and through ITTO's Bali Partnership Fund.

The European Commission provided a grant worth 2.4 million euros for programme implementation, with over USD 900 000 provided from the other donors in aggregate to date. ITTO will encourage donors to continue providing funds as requests for support under the programme exceed available resources. Additional pending activities were being selected for funding as this issue of the newsletter went to press (see "MOUs to be Signed" below); these will be announced in full in the next newsletter. Funding for pending proposals after this announcement will be contingent on additional financial support from donors.

## AGREEMENTS BETWEEN ITTO AND INSTITUTIONS OF RANGE STATES

Over 40 country activity proposals in Africa (5), Asia (19) and Latin America (20) have been submitted to ITTO for consideration under the Program. Of these, 9 activities in Asia, 5 in Africa and 6 in Latin America have been receiving funding from ITTO since 2008. All approved activities are still on-going except for one activity in DRC, one in Indonesia and one activity in Peru, which have been concluded. One project in Brazil "Bigleaf mahogany (*Swietenia macrophylla*) in the Brazilian Amazon" coordinated by Jimmy Grogan ended in January 2010. Given the importance of the project, ITTO extended funding of the project through 2010.

ITTO has signed agreements with the following institutions since program inception:

### SIGNED MOUs

#### Brazil

**FUNPEA** (Foundation for Supporting Research, Extension and Teaching in Agrarian Sciences) – 2 activities

**IFT** (Tropical Forest Institute)/J. Grogan – 1 Activity plus extension

#### Bolivia

**MEBCC** (Ministry of Environment, Biodiversity and Climate Change) – 1 activity

#### Peru

**UNALM** (Universidad Nacional Agraria La Molina) – 2 activities

#### Cameroon

**ANAFOR** (Agence Nationale d'Appui au Développement des Forêts) – 2 activities

#### Democratic Republic of Congo

**DRFC** (Direction des Ressources Fauniques et Chasse /CITES RDC) – 2 activities

#### Republic of Congo

**MINFE** (Ministère de l'Economie Forestière) – 1 activity

#### Indonesia

**SEAMEO-BIOTROP** (Southeast Asian Ministers of Education Organization, Regional Center for Tropical Biology) – 1 activity

**CFNCRD** (Center for Forest and Nature Conservation Research and Development) of FORDA (Forestry Research and Development Agency) – 3 activities

#### Malaysia

**MNRE** (Ministry of Natural Resources and Environment Malaysia) – 5 activities

**FDS and SFC** (Forest Department Sarawak and Sarawak Forestry Corporation) - 2 activities

**FDPM** (Forestry Department Peninsular Malaysia) -2 activities

**FRIM** (Forest Research Institute Malaysia) -1 activity

## MOU TO BE SIGNED

ITTO has recently approved four new activities in Asia for 2010; three in Malaysia and one in Indonesia. A draft MOU between ITTO and the Government of Malaysia for the implementation of the 3 new activities is currently being prepared by ITTO; the draft MOU between ITTO and the Government of Indonesia is in its finalization stage.

Information about each country activity (country, title, abstract, executing agency) can be found on the ITTO website <www.itto.int>. The following section provides brief descriptions and progress reports during the period January - March 2010 for all activities that are currently underway, and information on new activities.

## ACTIVITIES IN DETAIL

### Africa

#### Cameroon

##### **"Management of *Pericopsis elata* in forest concessions" (ANAFOR)**

This activity was proposed to collect data on the state-of-the-art of *Pericopsis elata* in the forest concessions in Cameroon, including data on phenology, processing, status and stocking, and to promote silvicultural system of the species. Major outputs include: (i) abundance/density specified for each concession; (ii) the minimum exploitable diameter well-defined for the country; (iii) indices of harvest; (iv) sustainable harvest quota of *P. elata* calculated on a scientific basis; (v) conversion ratio for *P. elata*; and, (vi) silvicultural operations. Except for the last output (silviculture), all other outputs were completed during the first year of the activity. Specific activities related to the promotion of the silvicultural operations of *P. elata* in forest concessions are being conducted as planned. One expert of the project from the Department of Forestry at the University of Dschang, Cameroon, produced a training book on the silviculture of *Pericopsis elata*.

##### **"Management of *Pericopsis elata* in forest plantations" (ANAFOR)**

This activity addresses the management of *Pericopsis elata* plantations in Cameroon to determine tools for enhancing its silvicultural system in the country. Major outputs include: (i) a report on the state-of-the-art of the plantation; (ii) zoning; (iii) protection of the plantation; (iv) research results; and, (v) capacity-building and dissemination of silviculture of *P. elata*. Specific activities related to the capacity-building output are those currently being conducted in the field. The results of studies were compiled in a training book on the silviculture of *P. elata*, which was used for the field training at Ngola, on 3-4 March 2010. The identification of additional funds to better implement the prescriptions of that document is required.

#### Democratic Republic of Congo

##### **"Training of different stakeholders in the verification of the CITES permits compliance and the use of 'CITESWOOD ID' tool in the Democratic Republic of Congo" (OCC/OFIDA)**

This activity refers to the national training workshop held in Kinshasa, Gombe in June 2009 on the use of CITES tools. The goal was to contribute to the control of international trade in *Pericopsis elata* through the training of field inspectors. This activity has been concluded and the report is now available on the program website.

##### **"Dissemination of the CITES convention and its implementation texts within the distribution area of *Pericopsis elata* (Afrormosia/Assamela) in the Democratic Republic of Congo" (DRFC)**

This activity aims to disseminate information on CITES and its implementation tools. The first dissemination workshop was held in Kinshasa, Gombe, on 3-5 February 2010. A total of 35 participants from the Congolese Control Office (OCC), the Congolese Customs Office (OFIDA), forest officers, transporters, trade companies attended the workshop. The courses included: (1) the CITES convention; (2) the Memorandum of Understanding between the Ministry of Environment, Nature Conservation and Tourism and the OCC and OFIDA; and, (3) the CITES regulations in DRC. The country has not made much progress for conserving flora species compared to the wildlife sector. Therefore, there is a need to develop a list of threatened plant species in DRC. Some challenges in implementing CITES regulations in DRC include quotas, inclusion of species in the appendix, difficulty in the border control checkpoints due to the lack of safety, lack of logistics for control and monitoring, and difficulty to gather statistics based on the results presented in the permits. DRC authorities plan to organize three additional dissemination workshops in Matadi, Mbandaka, and Kisangani this year.

#### Republic of Congo

##### **"Assessment of Afrormosia in a production forest to ensure its sustainable management in Congo-Brazzaville" (MINFE)**

This activity is being implemented as scheduled. Two reports on current practices and analyzing the gaps between the CITES and the national policy have been concluded and submitted to the coordination team and the steering committee. The forest inventories conducted by February 2010 were carried out as planned. Major results are: i) 75 000 ha of the Tala Tala FMU has been 80% exploited; ii) afrormosia is not threatened in the Tala Tala forest; iii) average density 0.22 stems/ha; iv) all afrormosia trees over 60cm of Minimum Exploitable Diameter (MED) were logged; v) mother trees were not kept; vi) forest openings stimulated regeneration of afrormosia; vii) 60 cm MED does not allow desirable regeneration in terms of the Average Annual Volume (AAV) limiting its regeneration rate to 42%; viii) 70cm MED would allow regeneration rate up to 74%. Based on the results SIFCO should adopt 70cm diameter as the managed minimum exploitable diameter for the AAV 2009/2010 and enrich the block A by planting afrormosia for regeneration of the forest. The report on the simple management plan of afrormosia in the Block A of the Tala Tala FMU will be finalized by mid-April 2010, and the non-detriment findings report of afrormosia will be completed by May 2010. At this moment, no difficulty is foreseen to delay the completion of this activity.



National workshop of the ITTO-CITES project, Yaoundé, Cameroon. Photo by: ANAFOR

## Asia

### Malaysia

#### **"Non-detriment findings report on *Gonystylus bancanus* – a quantitative assessment of *G. bancanus* in two selected permanent forests of Sarawak" (FDS/SFC)**

All the fieldwork involving data collection at the Kayangeran Forest Reserve in Lawas and the Saribas Lupar Protected Forest in Sri Aman had been completed. The analysis of the data involving stem structure and distribution of ramin in both the areas for the computation of the sustainable level of harvest had also been completed. The technical report is currently being finalized which will then be disseminated to all interested parties.

#### **"Quantification of dry and wet inland *Gonystylus* spp. (ramin), *Aquilaria* spp. (agarwood) and *Intsia* spp. (merbau) in Peninsular Malaysia" (FDPM)**

All the 59 sample plots containing *Gonystylus* species, 1 plot of *Aquilaria* and 7 plots of *Intsia* had been re-sampled, while 20 percent of the collected data had been validated, processed and analyzed. Furthermore, based on the 59 sample plots containing *Gonystylus* species, the planned 10 Permanent Sample Plots had been identified and currently action has been taken to establish them. These Plots will be used for the periodic monitoring of growth, mortality and recruitment of *Gonystylus* species in Peninsular Malaysia.

#### **"Generation of spatial distribution maps of *Gonystylus bancanus* (ramin) using hyperspectral technology and determination of sustainable level of harvest of ramin in production forests of Peninsular Malaysia" (FRIM)**

The acquisition of airborne hyperspectral data at Compartment 77, Pekan Forest Reserve, Pahang, had been completed and presently pre-processing of the hyperspectral data is in progress. The development of tree distribution map of *Gonystylus bancanus* based on ground survey data in Compartment 77 had been completed. In this regard, an estimated 670 of *G. bancanus* trees covering both logged-over and virgin forest areas had been recorded in the survey and mapped in a GIS database. A training course on the use of AutoCAD and GIS for forest mapping had also been successfully conducted. As recommended by the ITTO Mid-term Review Evaluation Mission, the species *Calophyllum ferrugineum* has also been included in the study as a reference to *G. bancanus* trees distribution and to-date about 60 percent of the species in Compartment 77 have been recorded in the GIS platform. The assessment of *G. bancanus* stocking and population dynamic had been completed based on available secondary data, as well as some additional primary data, such as data from three ecological plots and twelve seedling dynamics plots. In addition, data analysis to develop growth projection model of *G. bancanus* using available data had been conducted and some of the preliminary results had been reported and presented at various meetings.

#### **"The development of *Gonystylus* spp. (ramin) timber monitoring system using radio frequency identification (RFID) in Peninsular Malaysia" (FDPM)**

Preliminary procedures in the issuance of the Logging License, such as demarcation and confirmation of logging boundary, and determination of trees cutting limits had been completed. Preparation of the license document is now in progress. The electronic marking and tagging of trees had been completed, while a total of six units of computerized data loggers with RFID scanners had been provided by the contractor as rental with another four units acquired by the Malaysian Government.

#### **"Developing DNA database for *Gonystylus bancanus* in Sarawak" (FDS/SFC/FRIM)**

Extraction of DNA from leaves and bark samples had been successfully completed where it was found that the extraction of DNA from bark samples was much easier as compared to the extraction of DNA from leaf samples because the former contained less polysaccharide. Optimization of PCR (polymerase chain reaction) mixed for PCR amplification of DNA and work on DNA fragmentation (microsatellite analysis) of the optimized PCR mix using the ABI sequencer at the Forest Research Institute Malaysia (FRIM) had also been completed. In is regard, a total of 18 microsatellite markers were used for the fragmentation analysis. Currently, the fragments data are analyzed using the Applied Biosystem GeneMapper v.3.2, while the genetic diversity of the populations will be analyzed using the statistical software, such as FSTAT and GeneAEx. In addition, the genotype profile database had been created using Microsoft Excel program and consists of samples number, population name, name of locus, and allele frequency.

#### **ITTO has recently approved three new activities in Malaysia for 2010. They are:**

#### **"Sawn Timber and Plywood Recovery Study of Ramin (*Gonystylus bancanus*) in Peninsular Malaysia" (FDPM/MNRE)**

The objectives of the Activity are: (i) to determine the recovery rate of ramin logs for the manufacture of sawn timber and plywood; and (ii) to develop a technique for quantifying wood waste from sawmilling and in plywood production. The expected outputs are: (i) improvement of the recovery rate and maximize the utilization of ramin timber; and (ii) calculation of the quantum of wood waste for estimating the recovery rate of ramin log in the production of sawn timber and plywood.

#### **"National Workshop on Enforcement Compliance for Trade in Ramin (*Gonystylus* species)" (Malaysian Timber Industry Board (MTIB), Ministry of Plantation Industries and Commodities)**

The four-day Workshop is to further enhance the understanding amongst the Malaysian CITES implementing agencies on the proper handling of trade in ramin (*Gonystylus* spp.). The objectives of the Workshop are: (i) to understand ramin enforcement and implementation mechanism under CITES; (ii) to develop common understanding and practices related to trade control for ramin and related timber/plant species listed under CITES; (iii) to establish a Task Force to coordinate effective implementing of CITES regulation; and (iv) to establish effective networking and communication channel within the enforcement agencies in Malaysia directly or indirectly involved in ramin trade. The expected outputs of the Workshop are: (i) the understanding of the CITES Convention and proper enforcement of regulations by the various agencies in Malaysia; (ii) the implementation and transfer of knowledge to enforcement personnel in the various agencies in Malaysia; (iii) the establishment of a special body that will act as the focal point for the enforcement and trade control of ramin; and, (iv) the Malaysian Timber Industry Board (MTIB) and the Sarawak Forestry Corporation (SFC) will be the Joint-Working agencies in addressing all matters related to the verification of CITES permits and certificates issued.

**"Regional Workshop on the Sharing of Findings from the Activities Implemented in Indonesia and Malaysia under the ITTO-CITES Project on Ensuring International Trade in CITES-listed Timber species is Consistent with their Sustainable Management and Conservation" (FRIM/MNRE)**

The objectives of the three-day Workshop are: (i) to share, learn and discuss the findings of each Activity implemented in Indonesia and Malaysia under the ITTO-CITES Project; (ii) to identify and adapt relevant findings from the Indonesian Activities by Malaysia and vice versa; and, (iii) to identify potential ramin related projects and activities to further ensure that the international trade in ramin is consistent with their sustainable management and conservation. The expected outputs of the Workshop are: (i) compilation of outcomes and findings of all the Activities implemented in Indonesia and Malaysia under the ITTO-CITES Project; (ii) identification of findings from the Indonesian Activities that might be of relevance and could be adapted by Malaysia and vice versa; and, (iii) identification of new projects and activities for enhancing the sustainable management and conservation of ramin in Indonesia and Malaysia.

## Indonesia

**"Improving inventory design to estimate growing stock of ramin (*Gonystylus bancanus*) in Indonesia" (SEAMEO/BIOTROP)**

Using the data from the re-interpretation of satellite imageries and the cost-effective inventory design that was field tested in selected natural habitats of peat swamp forests in Sumatra and Kalimantan, the current status of ramin and the volume of its standing stock was estimated. A stakeholders' consultation was held to review and evaluate the estimation made on the standing stock of ramin where it was found that the most cost-effective method was in using a combination of both terrestrial (ground) survey and satellite imageries. A comparison between the developed and conventional methods in terms of costs required for data collection with similar level of accuracy was also conducted. In this regard, field reports on the method and the relative efficiency, including the use of double sampling, in peat swamp forests were prepared. Currently, the Activity is implementing two additional activities that were recently approved by ITTO, namely, to develop guidelines for ramin inventory and Non-detriment Findings (NDF) assessment on ramin; and to conduct a short training workshop on the inventory method for ramin and NDF assessment. These two activities are expected to be completed in May 2010.

**"Assessing silvicultural system on ramin: review on the current practice and re-vitalization of existing permanent sample plots" (CFNCRD)**

The revised silvicultural system for peat swamp forests have been completed, including its relevance to the recently issued Ministerial Regulation No. 11 which allows the minimum diameter cutting limit for ramin and some other tree species found in peat swamp forests in Indonesia to be reduced from 40 to 30 cm. Presently, work on the review and evaluation of the existing Permanent Sample Plots of ramin and the other species found growing in the plots in Sumatra and Kalimantan is still ongoing, while the re-design and re-establishment of the Permanent Sample Plots has just been initiated. This would include the establishment of Permanent Sample Plots on newly identified, highly accessible sites, which is expected to be completed in April 2010. In addition, the Activity is also implementing three additional activities that were recently approved by ITTO, namely, in developing guidelines for monitoring fruiting-flowering and ramin seed handling; a manual on vegetative propagation techniques; and to conduct a short training workshop on the manual for monitoring fruiting-flowering and ramin seed handling, and on vegetative propagation techniques. All these activities are expected to be completed in June 2010.

**"Exploratory assessment on the population distribution and potential uses of non-*Gonystylus bancanus* species in Indonesia" (CFNCRD/FORDA)**

Field survey to identify and collect up-to-date information on the ecological distribution, population, management and conservation of the targeted non-*Gonystylus bancanus* species at several chosen sites has been completed where over ten species were found growing naturally in Sumatra, Java, Kalimantan, Sulawesi and Papua. A stakeholders' consultation on the findings involving participants from research institutions, universities and the scientific authority of CITES and non-governmental organizations was conducted. The findings are expected to be used for developing management and conservation strategies for ramin, especially for the non-*G. bancanus* species. Currently, this project activity is also implementing three additional activities recently approved by ITTO, to conduct further analyses of the genetic relationship between species and *in vitro* propagation of *Gonystylus* species; develop a guidebook for species identification and holding a training workshop on species identification for field staff; and undertake initial establishment of ramin gene pool in Merang Kepahyang (Sembilang National Park, South Sumatra) and the Sebangau National Park, Central Kalimantan. All these activities are expected to be completed in July 2010.

**"National Workshop on the Identification of Information Gaps Towards the SFM of Ramin and Thematic Programs to be Included in the 2009 and 2010 Work Program of the ITTO-CITES Project - Ensuring International Trade in CITES-listed Timber species is Consistent with their Sustainable Management and Conservation" (CFNCRD/FORDA)**

The project is completed. The workshop was held in Bogor, Indonesia from 21-22 January 2009; more details are available on the program website.

**ITTO has also approved one new project activity in Indonesia for 2010.**

**"Review on Ramin Harvest and Trade: CITES Compliance, Tri-National Task Force on Trade in Ramin, Trade Control and Monitoring" (Forest Protection and Nature Conservation, Indonesia Ministry of Forestry)**

The main objectives of the Activity are: (i) to contribute to the sustainable management and conservation of ramin through the improvement of CITES implementation; and, (ii) to enhance regional cooperation and improvement in trade data monitoring. The expected outputs are: (i) a roadmap for sustainable management and conservation of ramin, as well as CITES trade compliance system; (ii) a review on the effectiveness of regional forum to combat illegal trade, including ramin; and, (iii) improved trade data collection, monitoring and trade control.



3<sup>rd</sup> Advisory Committee Meeting , Doha, Qatar.  
Photo by: ITTO

## Latin America

### Brazil

#### **"Bigleaf mahogany (*Swietenia macrophylla*) in the Brazilian Amazon: long-term studies of population dynamics and regeneration ecology towards sustainable forest management" (IFT/J. Grogan)**

Results from this Project's initial 18-month period conformed to expected outcomes. By successfully implementing re-censuses in 2008 and 2009 of three mahogany populations under study since 1995. Through long-term monitoring of populations large enough to reflect the range of environmental conditions under which mahogany occurs in this region, we can determine how populations develop over time, observe the principal causes of mortality and variable growth rates, and predict population responses to a range of forest management practices. As well, the annual return to research sites in southeast Pará ensured the continued survival of unique and threatened mahogany populations.

Scientific articles and technical documents published during this period covered several topics relevant to forest management, including:

**Mahogany population dynamics.** Thirteen years (1995-2008) of annual censuses of large numbers of mahogany trees at multiple field sites enabled us to estimate the relative impact of several readily observable tree-level factors on performance. The best predictor of future survival and diameter growth rates is current growth rate – that is, trees that grew fast during the previous year or years are the ones most likely to survive the longest, and to grow the fastest, during the interval between harvests. While this result may seem intuitively obvious, it suggests an extremely useful management tool for forest managers faced with decisions about seed tree retention (in Brazil, 20% of commercial-sized trees must be retained for seed production between harvests). A single year of diameter growth measurements before the first harvest could indicate which trees are growing fastest and therefore have the highest potential for survival and fruit production between harvests. All things being equal, these are the trees that should be retained under the 20% rule, because these are the trees that will maximize commercial volume and seed production during the interval before the second harvest.

Impacts of crown vine coverage and vine cutting on survival and growth. Experimental vine cutting accelerated growth and fruit production by previously moribund trees; five or more years were required before growth and fruit production by 'released' trees matched that by trees without history of vine coverage. This means that silvicultural practices such as vine cutting can reduce mortality during intervals between harvests and increase long-term growth and timber yield. Financial returns from vine cutting are likely to be higher than treatments such as liberation thinning to reduce crown competition from neighboring trees because the effect – elimination of vines – is more persistent.

**Enrichment planting.** With colleagues from this activity's facilitating agency, the Instituto Floresta Tropical (IFT), a study of seedling enrichment planting in artificial gaps opened in liana-dominated forests after logging was published. While mahogany growth performance lagged behind that of other fast-growing native timber species, survival and growth by mahogany seedlings over the eight-year study period was nevertheless excellent, with a mean diameter of ~10 cm attained (pole size). This paper describes methods for site preparation, seedling out-planting, and maintenance for optimal survival and growth.

#### **"Ecology and silviculture of mahogany (*Swietenia macrophylla* King) in the western Brazilian Amazon" (UFRA/FUNPEA)**

The high commercial importance of mahogany and its ecological vulnerability have been the subject of intense controversy about how to ensure the conservation and sustainable use of this species. One important step is to know the natural history of mahogany (in particular, the regeneration pattern) over its range area. For the study of regeneration pattern, the technical team, during November-December 2009, established permanent plots to monitor the dynamics of young seedling establishment. In addition, data on mahogany natural regeneration from four trees was collected and data from 16 remaining trees are currently (March) being collected. The methodology and data collection were established as follows: Twenty trees in reproductive age were selected within the annual production unit (UPA-1R) to study the regeneration and establishment of mahogany seedlings, before and after logging. Three plots of 10x200 meters were established in each of 20 selected trees, totaling 60 plots of 10x200m and 1800 subplots of 10x10m. The plots are long and narrow, set in three directions with a center and two at 45 degrees towards the prevailing wind direction North/ South. Each plot was divided into 20 subplots of 10x10m to facilitate its monitoring, the diameter of all individuals of mahogany trees with DBH > 5.0 cm and <20 cm are being tagged and measured. All individuals from young seedlings up to DBH <5.0 cm will be registered in the sub-plots. To find the location of seedlings easily in the subsequent measurements, wooden stakes of about 50cm are being placed next to each seedling. Partial results shows that the regeneration of mahogany of four trees are 34,9 young seedlings/ha and 1,2 seedlings/ha.



Identification for future mahogany monitoring measurements.  
Photo by: Paulo Contente

#### **"Management of *Hypsipyla grandella* in *Swietenia macrophylla* King Plantations in Pará and São Paulo States, Brazil" (UFRA/FUNPEA)**

The goal is to establish a management system of mahogany drill insect, through field and greenhouse experiments. In three field experiments, positive results were observed: 1) In Igarapé-Açu, the application of 4 Colacid formulations from September has shown a high degree of control, especially the paste-like Colacid formulation presenting 100% control of the mahogany drill. To improve the application of these treatments, on 12/03/10 the research team acquired the lifting platform which will help the application of treatments; 2) the experiment of mahogany drill insect management in Aurora do Pará shows encouraging results in the drill control. The result shows that prior to the application of the treatments in January 2010, the mahogany shoot borer was registered in the experimental area (15% to 40%), and after the application, this attack was drastically reduced, especially in T4 with 100% control combining the consortium Mahogany x Toona + Colacid + Calcium and Boron; 3) In the São José do Rio Preto (SP) experimental area, there is no record of shoot borer attack. It is assumed that a systematic application of colacid carried out in 10,000 mahogany plants in the experimental area has an effect on the outcome of the experiment, since borer attack has not occurred during 8 months of experiment. It is worth noting an excellent mahogany development at 2 years and 4 months of age reaching up to an average 7.08 m in height, a height that is beginning to limit the application of Colacid even with the help of a lifting platform.

## Bolivia

### **"Population density and forest harvesting impact on natural regeneration and diameter growth of mara (*Swietenia macrophylla*) (MEBCC)**

Mahogany (*Swietenia macrophylla*) is one of the most important species in the Neotropics and Bolivia. To better understand its population status and to make non-detriment findings is necessary to know the current distribution, its actual regeneration and growth. The objectives are: 1) to assess current and potential density and population structure in the main ecoregions of natural distribution and under different scenarios of disturbance; and, 2) to study its natural regeneration and growth under different intensities of timber harvesting and application of silvicultural treatments. The study will be conducted in the whole mahogany distribution area, comprising at least 4 major ecoregions, and also in two sites where mahogany trees have been monitored. This project aims to: a) strengthen the CITES Scientific Authority in Bolivia, b) know the current status of mahogany populations in Bolivia; and, c) determine harvest levels based on the results of this project complemented with the existing data. The implementation of the project started in January 2010.

## Peru

### **"Evaluation of commercial stocks and strategy for the sustainable management of mahogany/cedar in Peru" (UNALM)**

Project final report completed in November 2009 and available on ITTO website.

### **"Design, validation and adjustment of the methodology for monitoring and periodic evaluation of the plots for characterization of mahogany and cedar populations in Peru"**

During the period October - November 2009, the Faculty of Forestry-UNALM continued all planned activities of the project. The methodology was reviewed and refined, which was applied in the field; as a result of information collected in the field, some necessary adjustments have been done to improve the methodology. For the fieldwork, different maps have been produced, principally showing the locations of the parcels to be evaluated, as well as a field instruction and data form for respective data collection were prepared. One of the achievements of the project is the constant updating of the cartographic database linked to the WEB system. Since this is an ongoing activity, the project has managed to keep the database up to date with the most recent information. The first field data on the evaluation of forest parcels in the Madre de Dios and Ucayali region have been obtained. The next steps involve the data entry process, data processing and analysis, and introduction to the information system.



ITTO/CITES/BfN Side Event, Doha, Qatar.  
Photo by: ITTO.

## RECENT EVENTS

### CITES Conference of the Parties (CoP 15)

The 15<sup>th</sup> meeting of the CITES CoP was held in Doha, Qatar, from 13 to 25 March, 2010. The 59<sup>th</sup> Meeting of the Standing Committee (SC59) of CITES also met on 12<sup>th</sup> March in the same place. The SC59 discussed and noted reports on bigleaf mahogany and ramin; it was agreed that these two items would be in the agenda for SC61 scheduled for mid-2011, in Geneva. Among the timber related matters at the CoP 15, the results of the International expert workshop on non-detriment findings were reported and non-detriment findings (NDF) for timber, medicinal plants and agarwood were discussed. The Plants Committee will continue working on the development of guidance, to be followed by Parties on a voluntary basis, to formulate their NDFs. The CoP15 also agreed on an updated version of the Action Plan for the range States of *Cedrela odorata*, *Dalbergia retusa*, *Dalbergia granadillo* and *Dalbergia Stevensonii*; the work on *Cedrela odorata* will be also tackled by the Bigleaf Mahogany Working Group which now has been renamed as the "Working group on bigleaf mahogany and other neotropical timber species". Two new tropical tree species from Latin America were listed (*Aniba rosaeodora* from Brazil and *Bulnesia sarmientoi* from Argentina), although neither has significant volumes of timber in international trade; the Plants Committee will review the need to adopt a single annotation. Peru was given 6 months to strengthen data on mahogany movements, regularize handling of leftovers from previously approved mahogany export quotas and to improve communications between authorities responsible for mahogany. If at the end of this period these weaknesses are still perceived to exist a ban on the export of mahogany from Peru may be proposed.

### Third ITTO-CITES Program Advisory Committee Meeting

The Third ITTO-CITES Program Advisory Committee (AC) meeting was held in Doha, Qatar, on 11<sup>th</sup> March 2010 in conjunction with the CITES CoP 15. The role of the AC is to review progress, assess gaps and to provide guidance to regional coordinators for the implementation of existing/development of new activity proposals. AC members include representatives of the ITTO and CITES secretariats, government representatives of program donors and target countries as well as representatives of ITTO's trade and civil society advisory groups. In addition to its review of on-going work, program funding, etc, the AC recommended that ITTO and CITES work together to formulate a follow-up funding proposal to allow work under the program to continue.

### Side Event at the CITES CoP 15

ITTO, CITES and the German CITES scientific authority jointly hosted a side event on the ITTO-CITES programme on 16 March 2010 at the CITES COP 15 held in Doha, Qatar. Presentations from Malaysia, Bolivia and Cameroon focused on the work being implemented under the programme in these countries. In addition, Cameroon presented work it was undertaking on *Prunus africana* which it hoped would attract ITTO support to help to lift a European trade ban on that species' medicinal bark. Germany's CITES scientific authority chaired a segment of the event on merbau (*Intsia* spp.), with presentations from PNG and TRAFFIC focusing on conservation concerns about this important timber species. The event was attended by over 70 people and a lively discussion followed the presentations.

### National Workshop in Cameroon

The Ministry of Forest and Wildlife organized a national workshop in the Yaoundé Congress Palace on 25 February 2010. The objective was to present the results of the ITTO-CITES Program in Cameroon, including activities in forest concessions and forest plantations. The workshop was opened and closed by the State Secretariat. Approximately fifty persons attended the workshop. A total of 13 presentations were made by experts and the coordination team. The following recommendations were made by the workshop: (1) the Government should continue to play its role to better conserve CITES-listed species and others; (2) use the results obtained from the ITTO/CITES program as a model for managing CITES-listed species; (3) to encourage trade companies to continue to support studies and the process of establishing NDFs for other species; (4) to establish a permanent monitoring system/tool to gather data and update the situation of a given species in Cameroon; (5) to take into account the results of the project for the revision of the forest law; (6) to encourage the Government to implement the results of the project; and, (7) to implement the results of the simple management plan of the Bidou forest.

### Training Workshop on the Silviculture of *Pericopsis elata*

The National Agency for Support to Forestry Development (ANAFOR) organized a training workshop on the silviculture of *Pericopsis elata* at Ngola 35, Yokadouma, East Region of Cameroon on 1–4 March 2010 for the Silviculture Advisors (SA) and Peasant-Forest Committee Members (PFCM). The main objective is to disseminate knowledge and know-how to be used for sustainable management of *P. elata* in the Congo Basin. A total of thirty seven people attended the workshop. The training was related to seed and nursery stock production and silviculture practices of Assamela, including cultural operations carried out nursery-up stream, within the nursery, and some nursery-down stream. The silviculture practices comprised of: an enrichment planting method consisting of "pseudo lines and plots"; site selection and preparation; planting scheme; and continuous stand follow-up. A follow-up of the nurseries established will be carried out every two months by the technical staff of the project to make eventual technical adjustments. The national coordination team will visit all nurseries established by early May 2010 for monitoring and necessary adjustments.

## UP COMING EVENTS

### National Technical Committee Meeting in Republic of Congo

An extraordinary meeting of the National Technical Committee is planned for April 2010 to organize the process of establishing NDF report.

### Dissemination Workshop in DRC

DRC authorities plan to organize three additional dissemination workshops in Matadi (early April 2010), Mbandaka, and Kisangani.

## PROGRAM MONITORING

In order to increase the transparency of the ITTO-CITES Program, external monitoring has been regularly conducted, including independent European Commission monitoring carried out in mid-2008 and 2009, and an ITTO-funded External Monitoring Review/Evaluation of the Program in late 2009-early 2010. In addition, annual monitoring of field implementation is conducted in Africa, Asia and Latin America by respective regional coordinators.

### Monitoring Mission in Latin America

In addition to external monitoring, the regional coordinators undertake on-going real time monitoring of all activities, including at least one visit to each activity site. The Regional Project Coordinator for Latin America is planning to conduct a monitoring mission to Bolivia and Brazil, as a part of annual monitoring of field implementation of existing activities under the ITTO-CITES Program. The field monitoring missions are scheduled for the second quarter 2010.

## BOLIVIA-SPAIN COOPERATION ON FOREST TRAINING/MONITORING

This is a short article presenting preliminary results of the UCO-UAGRM project in Santa Cruz de la Sierra (Bolivia). Center for Advanced Forest Technology (Centro Tecnológico Avanzado Forestal - CTAF) is funded by the Spanish Agency for International Cooperation for Development under its Program for Interuniversity Cooperation. The main researchers involved in the project are: Mr. Roberto Quevedo, Dr. Edgar Ponce from UAGRM; and Dr. Rafael M<sup>a</sup> Navarro, Ing. Guillermo Palacios, Dr. Daniel Griffith from UCO.

### Center for Advanced Forest Technology, Santa Cruz de la Sierra, Bolivia: a collaborative project between the Autonomous University of Gabriel Rene Moreno (Bolivia) & the University of Cordoba (Spain)

#### 1. Introduction

Forests represent a critical resource upon which rural and indigenous populations in Bolivia depend for their livelihood. They also provide the basis for a growing commercial industry which generates employment and important government revenue. Nearly half of Bolivia's territory - over 53 million ha - remains under forest cover. Key to sustainable forest management is the integration of technologies that enable careful monitoring of logging with management models that incorporate the objectives of diverse stakeholders.

The Center for Advanced Forest Technology (Centro Tecnológico Avanzado Forestal - CTAF) was created in response to the need for this integration within Bolivia's forest sector. Funded by the Spanish Agency for International Cooperation for Development from 2009-2012, CTAF promotes forest research and education in Santa Cruz de la Sierra, in eastern Bolivia. As a collaborative effort between the forest engineering departments of the Autonomous University of Gabriel Rene Moreno (UAGRM) and the University of Cordoba (UCO), CTAF aims to convert UAGRM into a pivotal regional center for forest science by forming collaborations with institutions in Bolivia, South America, Europe, and North America.

## 2. Objectives

The principal objective of CTAF is to strengthen the capacity of UAGRM's Forest Engineering Department for the generation and transfer of knowledge promoting sustainable forest management. Targets of knowledge transfer are the diverse stakeholders involved in the chain of production, including community and company managers, technicians, and exporters. CTAF has three specific objectives:

- Incorporate the latest technologies and management models into the forestry curriculum to insure that students have the knowledge and skills necessary to adapt to a dynamic, multi-stakeholder forest sector.
- Strengthen a specialized training program for indigenous foresters that focuses on community-based management and promotes participants' return to their communities to implement sustainable practices.
- Enhance UAGRM's capacity for high-quality, competitive research in forest science by providing excellent education at the graduate level.

## 3. Academic activities

Building capacity among and transferring knowledge to multiple stakeholders requires a diverse array of educational programs. CTAF conducts the following activities targeting stakeholders' distinct needs for applied knowledge and tools within the forest production cycle.

### University education

CTAF coordinates undergraduate and graduate forestry courses that cover recent advances in GIS, telemetry, CAD, inventory monitoring, and statistical analysis. Classes are taught by UAGRM faculty with contributions from invited professors from the University of Cordoba.

### Forest technicians

Technical training is provided to forestry professionals based on a comprehensive modular structure that covers management, production, and conservation of tropical forests. This program is conducted at the UAGRM campus located in San Ignacio de Velasco Province.

### Timber companies

In close collaboration with timber companies operating in the region (e.g. CIMAL, INPA, La Chonta), CTAF designs and implements training focused on different responsibilities within the company.

### Community-based forests

In the context of the new Bolivian forest law which promotes small, community-based enterprises, CTAF conducts training in collaboration with Bolhispania, S.A. (Maderas Chiquitanas, S.A.), a consortium of local producers. As community-based forestry grows in Bolivia, CTAF seeks to extend its educational and research capabilities to this sector.

## 4. Active research

In addition to education, CTAF has initiated the following projects to strengthen UAGRM's capacity for forest research:

### Wood Technology

- Establishment of a reference collection containing botanical and anatomical samples from 120 timber species to support physical-mechanical studies.

### GIS and Telemetry

- Development of a methodology for determining the traceability of mahogany (*Swietenia macrophylla*) logging in Bolivia through remote sensing.

- Creation of a reference collection of maps and satellite images from Santa Cruz de la Sierra to support regional land use research and management.
- Application of remote sensing to monitor land use change within the San Miguel Experimental Forest and neighboring communities in San Ignacio de Velasco Province.

### Silviculture

- Comparison of the effects of different silvicultural techniques and enrichment planting methods on mahogany regeneration in logged forests.
- Dendrochronological characterization of Spanish cedar (*Cedrela odorata*) and other important timber species in Bolivia.
- Design of a management plan for sustainable timber extraction in the San Miguel Experimental Forest in collaboration with local communities.

## 5. Research infrastructure

To support the research described above, CTAF has established and equipped the following three laboratories on the UAGRM Agronomy Campus:

### 1) GIS and Telemetry Lab (Forestry Engineering Department)

10 computers for lab use, 1 central server, 4 research computers, 1 HP printer, 25 ArcGIS program licenses with Analyst 3D and Spatial Analyst extensions.

### 2) Wood Anatomy and Technology Lab (Wood Technology building)

3 computers, 3 Labomed CXL binocular compound microscopes, 1 Labomed LX 400 trinocular stereo microscope with 15-megapixel digital camera, 1 CZM4 Zoom stereo microscope.

### 3) Silviculture and Dendrochronology Lab (Wood Technology building and field camp in the San Miguel Experimental Forest)

1 Garmin GPSMAP 60CSx GPS receiver, 1 Criterion RD1000 Relascope/Dendrometer, 3 Sonin Combo Pro Distance Measuring Devices, 2 Convex Model A Spherical Densimeters, 1 Suunto Bark Gauge, 1 Haglof Digitech Professional Electronic Caliper with LATINTAX Software, 2 Suunto KB-14 Precision Compasses, 2 penetrometers, 1 LINTAB 6 Professional Pack for dendrochronology analysis.



Traceability project UAGRM-UCO "La chonta" sawmill, Santa Cruz de la Sierra, Bolivia. Photo by: Rafael Cerrillo

## MAHOGANY SITUATION IN PERU

By **Ignacio Lombardi\***

The Universidad Nacional Agraria La Molina in Peru, recently presented the results of the study on populations of mahogany (*Swietenia macrophylla*) in Peru, which was developed with the support of the International Tropical Timber Organization (ITTO) and other national institutions, both public and private.

The aim of this study was to identify existing mahogany stocks for commercialization (diameter at breast height-DBH-> 0.75 m) within Permanent Production Forest, where forest concessions and Native Communities are located, as well as making a proposal for the recovery of this species in natural areas.

The main conclusions and recommendations are the following: the existing population is between 119,000 and 130,000 trees greater than the minimum cutting diameter (MCD > 0.75m), representing 60% of the current total population; a growing population which is between 60,000 and 66,700 individuals or in other words below the minimum cutting diameter, which correspond to a future harvest representing 40% of the current total population. This data is the result of work in building a database using information collected in the field under the study funded by this program. In addition, an analysis of the distance between mother trees after harvesting, form factor, dendrochronology, bark thickness, and other parameters of trees were examined.

In the established plots, information on target tree species that are associated with mahogany in each of the zones has been collected. The botanical specimens are deposited at the herbarium of the University.

The soil types suitable for mahogany's development were identified, with the species found to grow in very particular conditions which make it develop in groups (patches) and not distributed evenly throughout the whole forest. Therefore, the association with other vegetation is essential to its recovery in natural forests.

Based on these results, a proposal to better organize the general forest management plans and the respective annual operating plans was developed. The study presents a model for implementing this proposal in an ordered manner and how the different activities link from the forest to the forest resources use.

Several workshops in different parts of the country, with the support of various business associations, forest concessionaires, NGOs and the government, were carried out to present the results of the project. After analyzing the proposal for recovery of mahogany, the workshops reached a consensus on the integration of various activities and defined a follow-up strategy.

For more information see the project website:

<<http://www.lamolina.edu.pe/proyectocaoba>>

*\* Comments on some concerns expressed in a letter of TRAFFIC dated 30 August 2009 addressed to Mr. Ignacio Lombardi of UNALM, the CITES Scientific Authority for Timber species of Peru.*



"La chonta" sawmill, Santa Cruz de la Sierra, Bolivia.  
Photo by: Rafael Cerrillo

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