

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



Donors



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This is the fourth 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 October–December 2009.

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

In tropical countries, policies have been established to ensure the sustainable management of forests, including listing timber species on CITES Appendices. However, enforcement and compliance issues are still persist.

A key requirement of CITES Appendix II is the non-detriment findings (NDF) by the Scientific Authority of the range State, a quantitative study that export is not detrimental to the survival of the species. This requires information on the location, stocking, growth and condition of the species as well as its ecology, regeneration and conservation. Such information is often lacking, incomplete or inaccurate making an evaluation of sustainable level of utilization difficult. Additionally, Scientific Authorities face obstacles in personnel because of inadequate trained resource staff. A third key requirement is assurance from the designated Management Authority that exports are legally sourced, yet inadequate trained staff and resources hamper implementation of tracking and compliance systems. Therefore, development of clear procedures for NDFs remains a priority for most producer countries.

Africa's forests cover a total of 635 million ha, which represents 16% of world forest cover. The most important African forests are found in the Congo Basin, considered as the world's second largest tropical forest, after the Amazon rainforest. The Congo Basin forests generate a wide range of goods and services that benefit communities. *Pericopsis elata* (afromosia/assamela) is a timber species listed on CITES Appendix II for sustainable trade and population survival.

Congo Basin countries have made efforts to demonstrate that exports of afromosia are legally sourced and compatible with stocking volumes and conservation requirements.

National Forest Development Agency (ANAFOR) has been appointed as the CITES Scientific Authority for plants in Cameroon. ANAFOR is benefiting from the support provided by the ITTO – CITES Program for implementing CITES listings of tropical timber species and is drafting first NDF guidelines for *Pericopsis elata* in Cameroon. Other CITES Scientific Authorities of range States are welcomed to learn from the NDF guidelines developed by ANAFOR.

This fourth issue of the Newsletter on the joint ITTO-CITES program provides readers an overview of the progress made on such activities, implementation of national projects in participating countries, recent and upcoming events, additional funding released by donors, articles and others.

Jean Lagarde Betti, Regional Coordinator for Africa

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* (afro-rosalia) 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.

AGREEMENTS BETWEEN ITTO AND INSTITUTIONS OF RANGE STATES

Over 30 activity proposals in Africa (5), Asia (15) and Latin America (16) 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 ongoing except for one activity in Indonesia and one activity in Peru which have been concluded. 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

Bolivia

Vice Ministry of Environment, Biodiversity and Climate Change – 1 activity (signed on 25 November 2009).

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

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

Ministry of Natural Resources and Environment Malaysia (NRE) – 5 Activities (2 Activities implemented by the Forest Department Sarawak and Sarawak Forestry Corporation; 2 Activities by the Forestry Department Peninsular Malaysia; and, 1 Activity by the Forest Research Institute Malaysia)

MOU TO BE SIGNED

One MOU is to be signed soon with the IBAMA (Brazilian Institute for Environment and the Natural Resources). This MOU is finalized and is currently at the legal Department of IBAMA for final review. This activity is set to commence as soon as the MOU is signed.

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 October - December 2009 for all activities that are currently underway.

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 are expected to be selected for funding in early 2010 and will be announced in the next newsletter. Funding for pending proposals after this announcement will be contingent on additional financial support from donors.

ACTIVITIES IN DETAIL

Africa

Cameroon

"Management of *Pericopsis elata* in forest concessions"

The activity concerning establishment of permanent plots and study of biology and ecology of *P. elata* in natural forests, included plot establishment, sample gathering, identification of target trees, gathering of biological data, was conducted between October and November 2009. Timber companies agreed to support research in these plots until 2013. A second activity refers to determining soil properties favorable to the growth of Assamela, including analysis of soils, litter, roots and leaves in both natural and plantation forests of Assamela. The preliminary results reveal that the absorption of soil nutrients is in the following decreasing order: Nitrogen (N) > potassium (K) > sodium (Na) > phosphorus (P) > calcium (Ca) > magnesium (mg). The high value of nitrogen can be explained by the fact that Assamela is a leguminous tree species, which may have a high capacity of nitrogen fixation. The Non-Detriment Findings report for *Pericopsis elata* was presented by the focal point of the CITES Scientific Authority; this report was based on results of different studies conducted within the ITTO-CITES Program.

"Management of *Pericopsis elata* in forest plantations"

Data on establishment of permanent plots and study of biology and silviculture of *P. elata* in plantations and natural forests have been collected and analyzed. Preliminary results indicate that the re-growth method is more flexible, wild seedlings can be re-educated, the germination is good with a high rate, the best substratum (soil) for germination is the mixture of soil and river sands, the diversity of the undergrowth of the plantations explains the lack of small stems of Assamela, due to the inter-species competition. Based on results obtained from the socioeconomic survey and the ligneous resource inventory, a simple management plan of the Bidou plantation has been proposed to safeguard the initial objectives of the plantation, produce seedlings necessary to develop new plantations, contribute to the improvement of the livelihoods of local populations, contribute to the conservation of biodiversity and carbon stocking.

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"

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"

The implementation of this activity is delayed. Two workshops were planned according to the work plan. The first workshop was planned for September 2009 in Kinshasa (Kinshasa Gombé) and the second in November 2009 in the lower Congo (Matadi). More than 70% of timber export goes through these two regions. No workshop has been organized due to changes in the national coordination team, within the Minister of Environment, Nature Conservation and Tourism that changes two important authorities (National Coordinator and CITES Management Authority). A training book for dissemination of the CITES has been drafted, it still needs to be improved. The Regional Coordinator for Africa will be negotiating shortly (16-18 December 2009) with relevant stakeholders in Kinshasa to organize these workshops.



ITTO monitoring visit to the nursery of *Pericopsis elata* in Kribi, Cameroon.
Photo by: Jean Lagarde Betti.

Republic of Congo

"Assessment of Afrormosia in a production forest to ensure its sustainable management in Congo-Brazzaville"

The National Technical Committee (NTC) held its first meeting of the activity on 12th October 2009 at the Ministry of Sustainable Development, Forest Economy and Environment (MDDEF). Other participants were representatives of the Directorate of Forest Economy, MDDEF, the Marien Nguabi University, Ministry of Scientific research. The General Director of Forest Economy talked about the global view on the Congo Government's policy on forest management, reminding the international context which led to the ban of Afrormosia products from Congo. The expected outputs include: (i) report of the state-of-the-art in managing the species, (ii) assessment/inventory report of Assamela, (iii) document of the forest management unit. The activity started effectively in November 2009. Forest inventories have not been conducted due to rainy season (October-November). Therefore, activities related to Assamela inventory will be carried out from mid-December 2009 to February 2010. The first draft of the simple management plan for the Tala Tala forest is expected by the end of March 2010.

Asia

Malaysia

"Non-detriment findings report on *Gonystylus bancanus* – a quantitative assessment of *G. bancanus* in two selected permanent forests of Sarawak"

To-date, a total of 38 transects had been established and enumeration in the various forest types in the Kayangeran Forest Reserve in Lawas had been completed, while enumeration of the 11 sampling lines established in the Saribas Lupar Protected Forest in Sri Aman had also been completed. The analysis of the data involving stem structure and the distribution of ramin in both these areas was also completed. This information will be used to compute the sustainable level of harvest of *G. bancanus*. In addition, the preparation of the technical report on the computation of the sustainable harvest quota is expected to be completed in December 2009.

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

A total of 59 sample plots containing *Gonystylus* species, 1 plot of *Aquilaria* and 7 plots of *Intsia* had been identified for re-sampling, and a private company, Timberland Enterprise Sdn. Bhd., was appointed to undertake the field work and prepare the required reports. A total of 50 sample plots had been enumerated as of 30 November 2009, with the rest expected to be completed in December 2009. The Forestry Department Peninsular Malaysia had also purchased the required field equipment for undertaking the forest inventory. The identification of suitable Permanent Sample Plots to monitor the growth, mortality and recruitment of *Gonystylus* species had also been completed.

"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"

An assessment of the ramin spectral signature was conducted in October 2009 and the processing of the captured data has since been initiated. The study area in Compartment 77 of the Pekan Forest Reserve in Pahang had been surveyed and the development of the ramin tree database GIS is now completed. A four-day training course was held in October 2009 to provide hands-on training on the use of GPS for tree mapping which was attended by 40 participants from FRIM, the State Forestry Departments of Pahang and Kelantan, as well as staff of the Terengganu Timber Complex. Furthermore, the collection of primary data from ecological plots and the secondary data for assessing the stocking and population dynamics of ramin had been completed. However, the collection of data for the study of seedling dynamics is still being carried out.

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

The demarcation of the boundary of the study area had been completed while only 15 percent of the electronic marking and tagging of trees had been achieved. The acquisition of computer peripherals, RFID tags, handheld data logger with RFID scanner, and the rental of satellite (VSAT) communication system had been completed. In this context, a private company, Leadcom (M) Sdn. Bhd., was appointed to assist the Forestry Department Peninsular Malaysia, among others, to implement and optimize the software platform, including the configuration of databases and software modules and interface, as well as to provide training to the field staff and users of the timber monitoring system using RFID technology.

"Developing DNA database for *Gonystylus bancanus* in Sarawak"

DNA from all the leaf samples of ramin collected from trees in the Sedilu Forest Reserve, the Kayangeran Forest Reserve, and the Loagan Bunut and Maludam National Parks had been extracted, while 80 percent of the samples collected had undergone microsatellite analysis using the Genetic Analyser System at the Forest Research Institute Malaysia (FRIM). The statistical analysis of the data is currently being undertaken using the GeneMapper version 4.0 software. Notwithstanding this, an estimated 25 percent of genotype profile of the collected samples had been generated.



ITTO monitoring visit to the Pekan Forest Reserve, Pahang, Malaysia.

Photo by: Thang Hooi Chiew.

Indonesia

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

The report of the Workshop on the "Review of the Existing Methods and Designs for Ramin Inventory in Peat Swamp Forests" that was held on 12 May 2009, Bogor, Indonesia had been finalized, including the Executive Summary in English. In addition, with the acquisition and interpretation, as well as re-interpretation of the satellite imageries, the chosen cost-effective method was tested in selected natural habitats of peat swamp forests in Sumatra and Kalimantan which was completed in August 2009. In this regard, a Technical Report on "Re-interpretation of the Method" was prepared for the re-interpretation of satellite imageries. The finalized inventory method or design had also been formulated using a combination of remote sensing technology and ground survey. The draft Technical Report on "Ground Check of Selected Sites" was also completed in August 2009 and is now being finalized. Currently, the inventory method is being used to estimate the standing stock of ramin in Indonesia which is expected to be completed in December 2009.

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

The revised draft silvicultural system for peat swamp forest, including the Executive Summary in English, had been completed. Presently, 60 percent of the work involving 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, as well as the re-vitalization of the plots to become long-term ecological study sites had been implemented.

"Exploratory assessment on the population distribution and potential uses of non-*Gonystylus bancanus* species in Indonesia"

A Technical Report on "Literature Review on *Gonystylus* spp. other than *Gonystylus bancanus*: Botany, Ecology and Potency" had been prepared. The state-of-the-art review, including the potential uses of the non-*Gonystylus* species, had been enriched with the results of the field assessment of pre-selected sites and pre-identified *Gonystylus* species which was completed in October 2009. The report of the Technical Workshop on literature review of *Gonystylus* species other than *G. bancanus* is currently being reviewed and finalized. Field survey of the targeted non- *G. bancanus* species at several chosen sites has also been initiated.

Latin America

Brazil

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

The first phase of the 2009 field season in southeast Pará was completed on 11 September. The second phase of the 2009 field season which began on 19 October was completed on 20 November.

Project activities during the month of November 2009 were split between field activities and data management, analysis, and synthesis for publication. Fieldwork was completed ahead of schedule by one week, allowing the field crew time for additional infrastructural maintenance at the project's principal research site, Marajoara, in preparation for next year's return. This involved cleaning forest roads and trails used to access the population of mahogany trees.

With Middlebury College colleague R. Matthew Landis, who visited Marajoara for one week in October, lead activity implementer J. Grogan is writing two manuscripts that use a population modeling framework based on 1995-2008 demographic data collected at the Marajoara, Corral Redondo, and Acre-Sena Madureira sites to address basic and applied questions about mahogany population dynamics. The first of these manuscripts will be submitted to the journal *Nature* by the end of December 2009. The second manuscript should be completed in January 2010 and submitted to *Ecological Applications*.

Grogan and Schulze continued work in November on a manuscript reporting results on long-term survival, growth, and fruit production by mahogany trees at the Agua Azul site in southeast Pará. This manuscript, titled 'Forest canopy structure influences survival, growth and reproduction by big-leaf mahogany (*Swietenia macrophylla*) in Brazil' and co-authored with J. Galvão, should be completed by the end of 2009 and will be submitted to the scientific journal *New Forests*.

Grogan and Schulze continued work in November on a manuscript reporting results from experimental work with mahogany seedlings outplanted into logging gaps in Acre. This manuscript, titled 'Enrichment planting of big-leaf mahogany (*Swietenia macrophylla*) in logging gaps in Acre, Brazil' and co-authored with F. Pantoja, E. Vidal, M. Schulze, and M. Lentini, should be completed in January 2010 and will be submitted to the scientific journal *Forest Ecology and Management*. All of these papers credit the ITTO-CITES programme for supporting the underlying work.

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

Currently, the project technical team is conducting fieldwork. The objective of this second expedition (14 days) is the continuation of field surveys carrying out forest inventory, 100% (IF 100% - census), all trees with DBH \geq 50 cm, including individuals of mahogany species, utilizing and measuring permanent parcels (PP) with ¼ ha sub-units and measuring evaluation parcels of natural regeneration (PRN), especially mahogany before logging. The mapping activities have been carried out, showing the PP and PRN, all mahogany individuals that occur in the forest management area, and trees kept aside as seed trees, including their corresponding geographical coordinates. The data processing of collected data in the field and further analysis is being carried out.

"Management of *Hypsipyla grandella* in *Swietenia macrophylla* King plantations in Pará and São Paulo States, Brazil"

The specific goal of this project is to establish a management system for the mahogany shoot borer (*Hypsipyla grandella*), through field experiments and in the greenhouse experiment. In the two field experiments more significant results have been observed compared to the greenhouse. The field experiment in Igarapé-Açu has shown promising results in controlling the mahogany drill. Before the experiments, the area was 100% infected by *H. Grandella*. All tree branches were properly pruned to remove the damaged branches detected in the beginning of the research. After topical application of the treatment, shoot borer attack on mahogany was drastically reduced. The four Colacid (pesticide) formulations had a significant effect on mahogany shoot borer control. The results show a control efficiency ranging from 58% to 100 % during 7 months of control period.

In the São José do Rio Preto field experiment area, no mahogany shoot borer attack during the experiment period was recorded; there was a record of only two (2) trees attacked in the forest area. Thus, it is assumed that a systematic control (colacid application) carried out in the forest plantation in São José do Rio Preto (10,000 mahogany trees) influenced the outcome of the experiment, since the witness parcel has not been attacked by mahogany shoot borer during 3 months of control period. A positive result is that 2 years old mahogany trees present an outstanding growth of 6.48 meters in height, which it is not possible if the trees had been pruned. This result is due to the acquisition of a platform lift that allows the treatment to be applied to trees up to 7 meters-high; this technique consists of applying two drops of Colacid on top of mahogany trees to protect from the attack of *H. grandella*.



Colacid application on mahogany sprout in S. J. do Rio Preto, Brazil.
Photo by: Orlando Ohashi.

Peru

"Evaluation of commercial stocks and strategy for the sustainable management of mahogany/Cedar in Peru"

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.



Cedar tree regeneration in the Madre de Dios region, Peru.
Photo by: Ignácio Lombardi's Team.

RECENT EVENTS

XIII World Forestry Congress

ITTO and CITES jointly hosted a side event to introduce this program to participants at the World Forestry Congress held in Buenos Aires, Argentina (18-23 October 2009). The title of the event was “Ensuring international trade in CITES-listed timber species is consistent with their sustainable management and conservation”, held on 19 October 2009. The event was chaired by Dr. Manoel Sobral Filho, former ITTO Executive Director. An overview of the ITTO-CITES Programme was given by Steve Johnson. In addition, there were presentations on the development of activities in Africa by Regional Coordinator Jean Lagarde Betti (presented on his behalf by S. Johnson), in LA and Asia by Sofia Hirakuri (the latter on behalf of RC Thang), and specific case studies on peat swamp forest silviculture system in Indonesia by Hesti L. Tata of Forest and Nature Conservation R & D Center Indonesia and on mahogany/cedar in Peru by Ignacio Lombardi of the Agrarian University of La Molina (UNALM).

ITTC Session in Yokohama

The 45th International Tropical Timber Council session was held on 9-14 November 2009, in Yokohama, Japan. Mr. Steve Johnson reported on the ITTO-CITES Program implementation during the Council Session under Council agenda item 10 (‘CITES Listings Proposals’). A brief report on program financing was also presented and additional donor support was sought, with Switzerland pledging \$100,000. Several countries expressed their support for the program from both donor and beneficiary perspectives.

UPCOMING EVENTS

CITES Conference of the Parties (CoP 15)/3rd Advisory Committee Meeting

The 15th meeting of the CITES CoP will be held in Doha, Qatar, from 13 to 25 March, 2010. Among the timber related matters, the results of the International expert workshop on non-detriment findings will be reported and non-detriment findings for timber, medicinal plants and agarwood will be discussed. No major tropical timber species are proposed for listing at the COP, although Brazil and Argentina have proposed listing domestic species (Pau Brasil and Lignum vitae, respectively) that are not significant in international trade.

The third ITTO-CITES Program Advisory Committee (AC) meeting will be held in Doha, Qatar, on 11th March 2010 in conjunction with the CoP 15. A side-event on the ITTO-CITES programme is planned on 16 March 2010 in conjunction with the CITES COP 15.

National Workshop in Cameroon

ANAFOR is planning to organize a national workshop for disseminating results of the project. This workshop originally planned for July-August 2009 has been postponed to January-February 2010.

National Technical Committee Meeting in Republic of Congo

Congo authorities plan to organize the second meeting of the National Technical Committee in February 2010 to examine results obtained from programme-funded studies.

Dissemination Workshop in DRC

DRC authorities plan to organize the first CITES information dissemination workshop in January 2010, after ITTO validates the expenditures of the previous training workshop and proposed budget.

PROGRAM MONITORING

ITTO Project Review and Mid-Term Evaluation

In addition to independent European Commission monitoring in September 2009, ITTO carried out a mid-term review of the program in the last quarter of 2009. The monitoring review was undertaken by Mr. Jorge Malleux as follows: (I) Asia from 9-17 November 2009; (ii) Africa from 21 November- 1 December 2009; and (iii) Latin America for 07-11 December 2009. Mr. Malleux visited all 8 range States covered by the programme.

Mission to Asia

In Indonesia, Mr. Malleux was briefed on the progress, constraints and impediments encountered in implementing the three project activities currently being undertaken, thematic programs for the 2009/2010 Work Program of the ITTO-CITES Program, and the two additional activities proposed for funding under Program for the period 2009-2010. Mr. Malleux had discussions with the three project team leaders, national experts working in these projects, senior staff of the CITES Management Authority in Indonesia, and representative from the Indonesian Forest Industry Revitalization Board (BRIK).

In Malaysia, Mr. Malleux, accompanied by the Regional Project Coordinator for Asia, Mr. Thang, visited the natural ramin forest in Pekan Forest Reserve in Pahang, where the activities on the generation of spatial distribution maps of *Gonystylus bancanus* (Ramin) are undertaken. In addition, progress, constraints and impediments faced by Malaysia in implementing the current five

ARTICLE

projects activities under the ITTO-CITES Program were presented; five additional activities proposed for funding under the ITTO-CITES Program for the period 2009-2010 were also presented. Furthermore, the issues faced by Malaysia on trade in ramin at the international market were discussed. The Forest Research Institute Malaysia (FRIM) arranged a demonstration on the use of GER 1500 Spectroradiometer to determine ramin leaves spectral signature, and the sequencing of DNA for the development of DNA database for ramin. He also visited a small plot of ramin that was planted in 1993.



ITTO monitoring visit to Malaysia.
Photo by: Thang Hooi Chiew.

Mission to Africa

Mr. Jorge Malleux, showed concerns on the document of CITES texts dissemination workshop prepared by the DRC Authorities. He recommended that the RC should assist the DRC Authorities in developing Assamela inventory in DRC including gathering updated data on Assamela stock, useful for drafting a non-detriment findings report. He encouraged the RC to assist the Brazzaville Authorities in conducting forest inventories as well. Mr. Malleux also proposed the RC to organize a second regional workshop in April 2010 to check results obtained from the action plan developed during the first regional workshop held in April 2008.

Mission to Latin America

In Brazil, the Deputy Regional Coordinator for LA, Sofia R. Hirakuri, accompanied Mr. Malleux in the monitoring visits to Brasília, Belém and Igarapé-Açú on 07-09 December 2009. The agenda included a field visit and discussions with the CITES Scientific and Management Authorities (IBAMA), the Brazilian Forest Service, the Universidade Federal Rural da Amazonia (UFRA) and the Tropical Forest Institute (IFT) on the implementation of project activities in Brazil. Mr. Malleux had discussions with the project coordinators of the three projects on the achievements, challenges and constraints in implementing the projects. The project "Bigleaf mahogany in the Brazilian Amazon" coordinated by Dr. J. Grogan has presented outstanding results in terms of publications; this project is expected to end in January 2010. The project coordinator emphasized the importance of continued funding for the continuation of this project. The project on the "Ecology and silviculture of mahogany" has been implemented according to the initial work plan, but it is facing some delays in some field activities due to government bureaucracy. In addition, a field visit was conducted to Igarapé-Açú to visit the fieldwork to see the management of *Hypsipyla grandella* in mahogany plantations.

Growth history and crown vine coverage are principal factors influencing growth and mortality rates of big-leaf mahogany *Swietenia macrophylla* in Brazil

by James Grogan* and R. Matthew Landis

Abstract

1. Current efforts to model population dynamics of high-value tropical timber species largely assume that individual growth history is unimportant to population dynamics, yet growth autocorrelation is known to adversely affect model predictions. In this study, we analyze a decade of annual census data from a natural population of big-leaf mahogany *Swietenia macrophylla* King to quantify the strength and duration of growth autocorrelation, and experimentally investigate the role of crown vine coverage, a major predictor of performance.

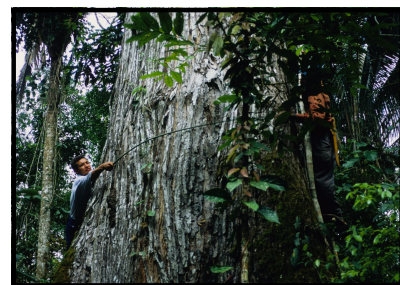
2. The sample population consisted of 358 trees >10 cm diameter. The relative contributions of predictor variables including diameter, crown vine coverage and growth history to models of growth and mortality were evaluated using Akaike's Information Criterion. Autocorrelation among trees was incorporated into growth models using generalized least squares. We experimentally removed vines from heavy-laden trees to test the strength and persistence of their impact on stem diameter growth.

3. Previous growth explained the highest amount of variation in annual diameter growth; the best fitting model of autocorrelation was an AR (7) autoregressive model, indicating that autocorrelation persisted throughout the study period. Other factors explaining variation in growth were, in decreasing order of importance: year of measurement, crown vine coverage, diameter, crown illumination and fruit production. The best logistic regression model for mortality retained diameter growth plus crown vine coverage as predictors of risk.

4. The vine release experiment strongly supported these results. Released trees grew faster than control trees but required ± 5 years to approach growth rates of trees with minimal vine coverage. Trees with heavy vine coverage also experienced higher mortality rates.

5. Synthesis and applications. These results indicate that growth autocorrelation is strong, persistent, and an important predictor of future performance; demographic models for tree growth and yield projections can be improved by accounting for growth history. Our results also indicate that targeted silvicultural practices such as vine cutting can increase long-term growth and timber yield. These findings further current understanding of tropical tree growth and survival, and offer improved management tools for sustainable harvest practices for mahogany and similar species.

*Grogan's paper was published in *Journal of Applied Ecology* 46 (6): 1283 – 1291, acknowledging the ITTO-CITES funding.



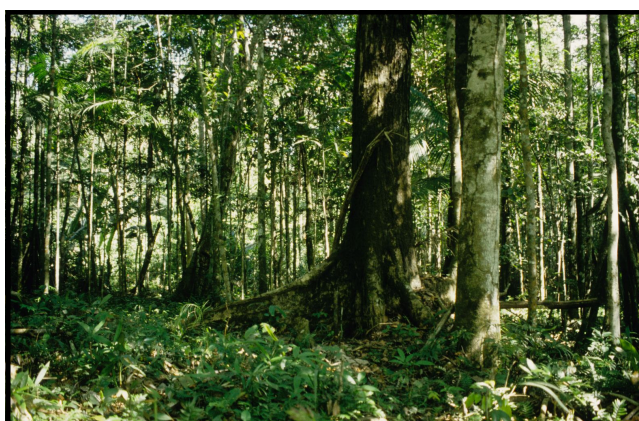
Measuring stem diameter of mahogany tree at Marajoara, Brazil.
Photo by: Jimmy Grogan.

VISIBILITY STRATEGY

A program website has been created to disseminate countries' activities, outputs and findings, and to serve as a means of ensuring program visibility. The website is online available at www.itto.int. Program outputs are available on the website. As part of the visibility strategy, this newsletter is being produced on a quarterly basis to keep stakeholders updated.

EXTRANET

The Regional Coordinator for Latin America has established a proprietary extranet system (Information Management System) to improve the communication among the regional coordinators. Both the African and Asian regional coordinators are now consulting regularly with the Latin American coordinator to ensure both the program website and information available on the extranet is up-to-date. The extranet allows access to all program documentation (full activity proposals, correspondence, EC grant agreement and visibility guidelines, etc.) to the regional coordinators, ITTO and CITES.



Mahogany tree (with buttresses) retained during logging at Marajoara, Brazil.
Photo by: Jimmy Grogan.



Readers can download this *Newsletter* from www.itto.int (ITTO at Work>CITES) or <http://www.stcp.com.br/ITTO-CITES2010>. Do write and tell us what you think of our newsletter. Do you have any suggestions on how we can improve? Please write to us using the contact details provided on this page.

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