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REPORT ON COMPLETED PROJECTS AND PRE-PROJECTS

IN THE FIELD OF REFORESTATION AND FOREST MANAGEMENT

REPORT ON COMPLETED PROJECTS* AND PRE-PROJECTS IN THE FIELD OF REFORESTATION AND FOREST MANAGEMENT

- **COMPLETED PROJECTS**

(1) PD 32/99 Rev.2 (F) Productive Forest Management for the Rural Reserve Area of Guaviare (Colombia)

Budget and Funding Sources:

Total Budget:			US$	1,682,383
ITTO Budget:			US$	618,969
Government of Japan:	US$	588,969		
Government of the U.S.A.:	US$	30,000		
Government of Colombia, initially:			US$	373,800
Government of Colombia, (during suspension, from 2004 to 2008)			US$	689,614

Implementing Agency:	Corporation for the Sustainable Development of the Northern and Eastern Amazon (Corporación para el Desarrollo Sostenible del Norte y Oriente Amazónico (CDA)
Session of Approval:	ITTC Session XXVII, November 1999, Yokohama, Japan
Starting Date and Proposed Duration:	September 2001 / 36 months
Approved Revised Date of Project Completion:	September 2010 (CRF XLII)

The project remained under suspension by ITTO from 2006 to 2010, being implemented by the EA with resources from the Environmental Compensation Fund of the Ministry of Environment, Housing and Territory Land Ordering.

I. Introduction

The Colombian Department of Guaviare has a total area of 5,485 km^2, from which 51.3% corresponds to the National Forest Reserve created in 1959, 19.2% to native Indian reserves, 22.2% in areas of the national park-forest reserves systems, and 7.3% constitute areas subtracted from the forest Reserve dedicated to settlement processes with agricultural purposes.

In the project area, the vocation of land use has been identified as forest type, however, various state policies encoured the establishment of settlers in unoccupied areas, indicating through legislation that the access to titles property was subject to removal at least of 75% of the forest area requested.

Under these technological and institutional conditions, it has been spread over the region extensive livestock production systems that have missed the enviable conditions of climate, forestry and biology, which have caused enormous damage to vital resources, and have been offering products with many quality problems and with very low markets value, whereas technological timber production could generate more and better benefits, providing greater value to forest land and therefore, counteracting the process of changing forest to grasslands for livestock.

II. Project Objective

The main reason for the project has an economic background that can in turn generate significant positive impacts on social and environmental terms. Basically, it aims to find different and complementary productive activities in each family farm unit (UAF). It tries to increase and diversify rural production through different forest systems in each UAF. It also seeks that services becomes a source of income for rural families and an incentive for better performance in relation to the management of soil, water, biodiversity and

***** Including financial audit

atmosphere. It looks for gradual introduction of new productive elements without causing an abrupt brake in current systems and household incomes. Thus, the general objective of the project is to achieve the protection and rehabilitation of forest lands in the Amazon.

III. Project Achievements and Outputs

The project was fruitful in its outputs. In the final SCM, in August, 2011, it was presented a table with 6 pages, describing all the 22 different project products, relating them to the outputs and activities expected from the project, including technical documents, maps, booklets, courses handouts, posters, training materials in general and agro forestry arrays for each farm of the 31 participants, selected from almost 200 trained families.

IV. Outcomes and Impacts

The economic situation of the Guaviare Department after the pressure from the Colombian State against the illicit crops and the low returns generated by extensive cattle ranching have made rural people to seek different production alternatives that assure their survival.

It is worth mentioning the remarkable results achieved in the eight best plots of beneficiaries, from the group of 31, where the work plans conducted to the establishment and maintenance of rubber cultivation, as oriented by the project and supported with resources from the Corporation CDA.

The products of the project can be listed as follows:

1. Training: The theoretical and practical knowledge of various forms of forest production have an impact not only on the project direct beneficiaries, but also other producers, who see that they can diversify production without exhausting the supply of resources available on their farms, while generating significant margins on profitability. Driven training as this can be seen as the starting point to consolidate the recovery of degraded lands in the Amazon Agriculture Reserve Zone of Guaviare (ZRCG).

2. Productive projects: The development of individual productive forest projects taking into account the possibilities offered and the potential shown in each farm. Producers have visualized the productive options based on the forest management or complementary to forest production as elements for value generation and working capital in their productive units.

3. Agroforestry practices: The species selection for agroforestry and forestry systems was done through unified criteria based on the experience of the EA, CDA, and the systematic evaluations carried out with the project participants. The economic and ecological results achieved by pilot tests leave an open way to continue of building of viable alternatives based on agro forestry.

4. Forest inventory and management plan for forest harvesting: The areas likely to come into legal logging activities correspond to residues of natural ecosystems and timber supply is low to very low. The practice itself is not financially sustainable conducting to the conclusion that this type of operation must be optimized and/or replaced by the use of non-wood production and even the valuation of environmental services.

5. Forest management and implementation plans: 27 plans were made, 6 of them, of rubber cultivation, are in operation and the remaining 21 have complete projects, expecting to continue with the steps necessary to secure funding.

6. Regional mapping: the project cartography contributions are being useful complementing the role of municipalities in the regulation of land occupation and use, as well as the data is being used in the work of the Environmental Authority. Unpublished and so far non-existing data were provided for the region.

7. Land use regulation: as a side result, it became evident that regulation at regional level is still very generic, in cross-cutting processes under the responsibility of territory authorities. Even though, the project resulted in the identification of viable options of land use, as a direct application results of pilot trials, meaning a contribution for local and regional land management.

8. Involvement of beneficiaries: Through the training events, it took place a closer relationship between project staff and beneficiaries, what in a large extent facilitated the work in other programs in the farms, which required high work commitment.

V. Lessons learnt and sustainability

a) Project identification and design

To achieve a proper and efficient identification of productive options, the beneficiary should previously receive support that addresses the basics of technical, economic and environmental determinants. He should also be encouraged in the way of social acceptance and in the sense of an active beneficiary to strength the process and increasing the success of the planned activities.

The project generated important experiences, such as the forest production individual projects; the species selection for agroforestry and forestry systems; the results achieved from the pilot tests; and these results are taken as experiences to become the starting point for strengthening the recovery of degraded lands in the Amazon Agriculture Reserve Zone of Guaviare (ZRCG).

Although in the Department of Guaviare, the application of advanced technologies for installation and management of forest plantations is low, the project routes taken and the knowledge received in other places visited as part of the project, become an important element to make it clear that the yields are directly related with well-done silvicultural practices and work. It should be noted the need to increase the area established, as one or two hectares not generate a profit that allows securing the family livelihood.

b) Operational issues

Successful was to delegate the direct implementation of programs of this nature to agencies that that have the institutional role and technical competence, as indeed is the case of the Corporation C.D.A., given its environmental authority duties which include to show productive options.

Some aspects helped in the ascertainment of the operational issues, conducting to the results obtained in the project: specific experience in developing projects in the area; liability underwriting contracts with the project participant; and the resource management under safe mechanism.

When projects are implemented and resources are available in international currency, as it is the case, the contracts are to be scheduled to be paid according to the real exchange rate at the time of the exchanging operations. Furthermore, there should be set aside resources for administrative operations and activities, as is the case of the financial auditing.

VI. Concluding Remarks

Design

The project provided basic tools to a group of farmers to see the forest resources as a viable production alternative to the farms in the ZRCG. This has generated a sense of identity of the target population with the forests. This could lead to the adequate conditions for the people themselves to propose their own conceptions of sustainable development.

Execution

The chances of forest utilization are linked to the increased levels of efficiency, which involves the proposition of production systems other than the traditional timber harvesting.

The development of forest management skills made evident the empirical knowledge of the beneficiaries, for whom the forest production options were not totally unknown.

The activities of the project generated significant positive impacts, both socially and environmentally, expressed at the level of interest of the beneficiaries. Progress was made in the social acceptability of the land use planning as a valid tool for the self-management that supports the project of life of rural families.

Project Organization and Administration

In the activities there was an involvement of users that can be described as very good, especially when related to training, being conducted largely under systems of practical application. There was a greater

interest in addressing and support the implementation of the work on their farms as happened for the works of zoning, inventory and management of plantations.
The receptivity, support and participation of the stakeholder producing group were made possible for the fulfillment of the commitments by the EA, so that this aspect should be kept in the forefront in developing future activities. Although it can be said that there are changes in the attitude of the beneficiaries in the implementation of activities as proposed by the project, the capacity building and effective change in the participants is not possible to evaluate for the too short period of project implementation but the result is likely to be positive in the long run.

(2) PD 165/02 Rev.3 (F) Conservation of Biological Diversity through Sustainable Forest Management Practices (Malaysia)

Budget and Funding Sources:

Total Budget:			US$	1,231,612
ITTO Budget:			US$	526,401
Government of Japan (MoFA):	US$	466,401		
Government of U.S.A.:	US$	50,000		
Government of Norway:	US$	10,000		
Government of Malaysia:			US$	568,891
NGO:			US$	136,320

Implementing Agency: Forest Research Institute Malaysia (FRIM)

Session of Approval: ITTC Session XXXV, November 2003, Yokohama, Japan

Starting Date and Duration: June 2007 / Planned; 36 months, Actual; 50 months

I. Introduction

The Project was approved by the Council at its Thirty-fifth Session in November 2003 and full financing was pledged at the same Session. The agreement regulating the implementation of the project was signed on 22 September 2004 and the first disbursement of funds was made on 17 May 2006. However, the Project started in June 2007 with UNDP-GEF project (MAL/04/G31) to integrate ecological and economic data into a forest planning optimization model along with the GEF funding. A 24-month extension of the project duration was granted by ITTO to fully achieve the objectives of the project.

II. Project Objective

The project aimed to conserve biodiversity through the formulation of improved tool for integrating biodiversity considerations into forest management decisions. Its specific objectives were: 1) to develop improved methods for assessing biodiversity and better understanding of the impacts of forest management practices on it; 2) to develop improved stand-level models for predicting the impacts of forest management systems on biodiversity; and 3) to enhance the capacity of targeted stakeholders in tropical regions and disseminate tools and techniques developed by the project.

III. Project Achievements and Outputs

Output 1.1: Determining the value of local refugia on biodiversity recovery.

Biodiversity recovery in logged over forests adjacent to six Virgin Jungle Reserves of various sizes was assessed. Specimen sorting and identification was ensued by several technical discussions and group analyses together with international collaborators. The results of these analyses were presented at an in-house seminar in September 2011.

Output 1.2: Assessment methods for forest biodiversity.

Assessment plots for biodiversity in logged and unlogged forests were established in Perak Integrated Timber Complex (PITC) logged over forest and Upper Belum permanent forest reserve for long term monitoring. In addition to measuring the diversity and abundance of the eight selected taxa, habitat damage assessments in the study plots and on transects were also conducted. The cause of damage was categorized as tree harvesting, soil erosion, skid trail, logging and log yard construction.

Biodiversity assessment tools have been reviewed by an International Advisory Panel. The Manual was tested and reviewed by Malaysian forestry rangers and officers

Output 2.1: Statistical models relating to biodiversity and community types to forest characteristics

Statistical models that relate biodiversity and forest community type to forest characteristics were developed and tested with no verification. A Stand Level Biodiversity Predictive Model was completed only at the tail-end of the Project.

Output 3.1: Personnel trained in using biodiversity assessment tools and forest management models developed by the project.

A rapid biodiversity assessment manual was prepared to provide users with a step-by-step guide on how to measure selected groups of biodiversity; ants, aquatic macro-invertebrate, bats, birds, dung beetle, stingless bees, moths, and trees and plants in tropical forests. Hands-on training for counterparts and formal training for targeted stakeholders implemented

Output 3.2: Website on project-related materials (e.g., reports, datasets, model software and manuals) that can be accessed by all interested parties

A website on the project status and outputs that can be assessed by all interested parties has been developed and received a good response from interested parties.

Out of the 3 objectives of the project only 2 have been delivered to a better standard as capacity building was not entirely emphasized till the end of the project due to numerous delays in field work as well as analysis. The project has made limited progress towards achieving the capacity building outcomes. However it is worth noting that the project has published various technical reports for the improvement of biodiversity assessment in production forests. These include:

- Rapid Biodiversity Assessment (RBA) Tool
- Virgin Jungle Reserve (VJR) study
- Forest Regenerative Capacity Model
- Model for predicting biodiversity using different sampling techniques
- Economic Valuation studies
- Hydrology /watershed study
- Water treatment cost for potable water
- Recreational study (passive use, new parks, travel cost study)
- Non-Timber Forest Products (NTFP) study
- Forest Harvesting Protocol – tree selection
- Forest Harvest Planning Tool
- Web-based database

The Project has also published a book —Of ants, water and man, 6-7 newsletters and the RBA Manual. In addition, the project has published four papers in peer-reviewed journals and has submitted several more papers for publication. There has been extensive peer review through presentations at stakeholder workshops, Technical Working Group and IAP (forums which included highly respected local and international researchers. The various stakeholders discussed, refined and generally accepted and approved the methodologies and results presented in these forums.

IV. Outcomes and Impacts

The project has carried out a number of studies from which several products have been produced in the form of manuals, methods, results and models. All the studies were found to be relevant and being potentially

beneficial to improved management of biodiversity in production forests. The project produced several products that collectively have been branded —"The Perak Tool Set" which was launched at a regional workshop in June 2012 with the attendance of Minister of Natural Resources and Environment of Malaysia and Chief Prime Minister of Perak state.

Throughout the course of the project, the Forest Research Institute Malaysia (FRIM) has direct interest in the project as it is fully in line with its mission to plan and implement research for the development of the forestry sector and conservation of forest resources. Similarly, the international collaborators have direct interests in providing their technical services towards the joint-development of the new tools and methods. Several hands on capacity building had been conducted especially in the areas of Rapid Biodiversity Assessment.

The Malaysian Timber Certification Council (MTCC) expressed a positive remark on the usage of the RBA for forest certification. The MTCC has the potential to adopt new tools and methods in its Malaysian Timber Certification Scheme subject to the approval of its stakeholders and the MTCC Board. Peninsula Forestry Department also expressed willingness to adopt a selected number of taxa to be used as indicators once it has been approved by their High Council (MAJURUS). The project has been implemented in compliance with ITTO policy guidelines in relation to ITTO Criteria and Indicators for sustainable forest management. It has also contributed to enhance the ITTO-IUCN guideline especially in relation to biodiversity assessment for forest certification.

V. Lessons Learnt and sustainability

The project was widely recognized in Peninsula Malaysia and has achieved considerable outputs. A number of lessons have emerged from the project's implementation. These include:

- It is now generally accepted that effective biodiversity conservation strategies must include not only a system of protected areas but also the integration of biodiversity considerations into the management of timber production forests—especially production forests that are adjacent to protected areas.
- Projects engaging scientists or researchers commissioned on open-ended research projects need contracts which specify explicit deliverables to be completed by specified deadlines and agreed up-front. Alternatively, targeted research projects should be designed with a more open ended timeline and payments being on an output basis.
- A project of this size and complexity needs an experienced full-time Project Manager to keep the objectives in focus and to pull together the individual project components.
- Research projects with a capacity building component that are undertaken by a scientific institution should consider establishing a specific capacity building centre to ensure that capacity building is adequately addressed. Such a capacity building centre should be established from the onset of the project so that capacity building can be a continual process to complement research throughout the duration of the project.

Being first of its kind in the tropics this targeted research project meet uncountable number of obstacles that had vastly impacted on the delivery time of the project as well as the capacity building that the project managed to complete. However, it did serve as a large leaning platform for the entire team as well implementers such as the forestry department on the complexity of such a project that demands more time and greater funding for full and better implementation.

The various models and manuals produced have not yet been made operational. Since substantial information and knowledge have been produced by the project, additional efforts should be made to scale up the knowledge and lessons by concerned stake holders to enhance the sustainability.

VI. Concluding Remarks

Although there was a delay in completing the project activities, dedicated researchers of FRIM have carried out a great number of studies that in the long run can be used to help the forestry sector to incorporate biodiversity concerns into their planning.

Since the ITTO Secretariat has received the Project Completion Report, several Technical Reports, and Financial Audit Report, the Committee may wish to consider this project as completed.

(3) PD 276/04 Rev.2 (F) Revised World Atlas of Mangrove for Conservation and Restoration of Mangrove Ecosystems (Global-Japan)

Budget and Funding Sources:

Total Budget:			US$	733,950
ITTO Budget:			US$	430,920
Government of Japan:			US$	430,920
ISME:	US$	93,530		
Others (FAO, UNU, UNESCO, UNEP-WCMC, and others), incl. in-kind:	US$	209,500		
Additional Funding:				
ITTO Work Programme (PP-A/35-139A)			US$	43,252
Government of USA			US$	50,000

Implementing Agency: International Society for Mangrove Ecosystems (ISME)

Session of Approval: ITTC Session XXXVII, December 2004, Yokohama, Japan

Starting Date and Duration: August 2005 / 24 months (actual 168 months)

Approved Revised Date of Project Completion: December 2011 (CRFXLIV)

I. Introduction

This project was designed to produce a Mangrove Atlas illustrating the extent of mangrove resources worldwide and assessing changes in mangrove areas since publication of an earlier Atlas in 1997. It was implemented by ISME with support from a group of partners (ITTO, FAO, UNU-INWEH, UNESCO, UNEP-WCMC, TNC). As explained in detail in progress reports to previous sessions of the Committee, completion of this project was delayed and the project granted several ITTO budget-neutral extensions, largely due to problems with a partner agency completing maps as agreed. However all such problems were overcome and the English version of the Atlas was published in mid-2010 with the French and Spanish versions following in mid- and late-2011 respectively.

II. Project Objective

The revised Mangrove Atlas goes beyond the scope of an original Atlas published under an ITTO project in 1997 in terms of coverage, accuracy and detail. The maps, and the statistics generated from these maps, are based on the latest available information, largely derived from recent satellite data and brought together and analyzed using GIS (Geographical Information System) technologies. The Atlas contains double the number of maps that were presented in the first volume, with greatly increased level of detail. It also provides a more detailed representation of managed mangrove areas, including protected areas for conservation. The format is more accessible, aimed not only at mangrove specialists, but also towards the needs of decision makers, natural resource managers, conservationists, international agencies, non-governmental organisations, academics and students. The outputs of the project have been linked into the GLOMIS online database to improve access and so that information can be amended or updated by expert users.

Development Objective of this project was to ensure that mangrove forests are managed effectively for sustainable production of timber and non-timber resources without compromising their environmental, ecological and other socio-economic values.

Specific Objective of this project was to produce a revised, updated and comprehensive Mangrove Atlas, which can also be used as a tool for decision-makers in order to better ensure the delivery of conservation and development schemes.

III. Project Achievements and Outputs

The specific objectives were 100% achieved. The World Atlas of Mangroves was published in English, French and Spanish (Output 1). Promotional materials (press release and flyer) were produced to widely publicize the Atlas. Summary of the Atlas as a policy brief was produced as a special issue of ITTO's Tropical Forest Update (Output 3) and GLOMIS was updated with the results obtained from the Atlas project (Output 4).

- Output 1:

The following is the table of contents of the World Atlas of Mangroves:

Contents

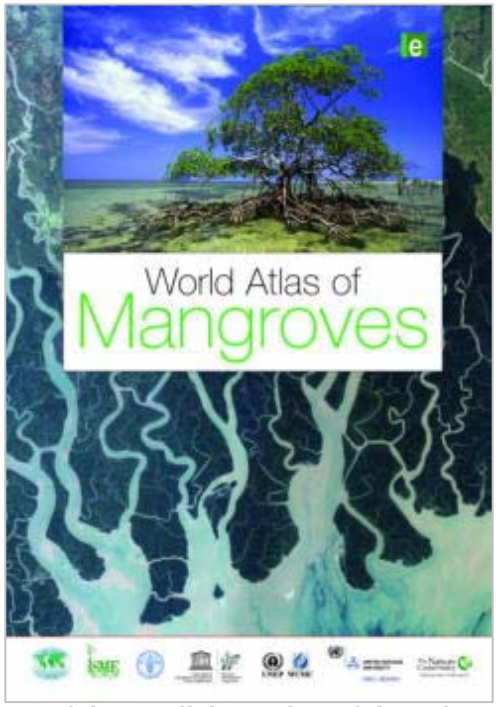
320 pages, 8-1/2 x 11" (A4), over 200 photographs, 50 line illustrations, 129 maps (65 full-pages), hardcover

ISME sub-contracted Dr. Mark Spalding from The Nature Conservancy (co-author of the 1997 Atlas) as the lead author who wrote the majority of the text together with his assistant, Ms. Lorna Collins. Initial chapters provide a global view, with information on distribution, biogeography, productivity and wider ecology, as well as on human uses, economic values, threats and approaches for management of mangroves. These themes are revisited throughout the regional chapters, where the maps provide a spatial context or starting point for further exploration. The book also presents a wealth of statistics on biodiversity, habitats, area loss and economic value which provide a unique record of mangroves against which future threats and changes can be evaluated. Case studies, written by regional experts, provide insights into regional mangrove issues, including ecology, primary and potential productivity, biodiversity, sustainable management, and information on present and traditional uses and values.

ISME also sub-contracted GTOS of FAO to produce new mangrove distribution maps from mainly Landsat images. The project created new mangrove distribution maps for approximately 59% of the world together with maps produced by UNEP-WCMC in a project pre-activity. The project also gathered and combined data from other new sources, allowing recent and reliable coverage for 98.6% of the world mangroves. All the text and maps were circulated to the project partners and also reviewed by more than 100 top international mangrove experts who contributed their knowledge and experiences to the project. The Atlas cited

approximately 1400 literature references. Information in the Atlas will serve as a baseline on mangrove status and distribution for any future assessment.

The English version (*World Atlas of Mangroves*) was published by Earthscan of London, UK in July 2010. A total of 1500 copies was printed. FAO, UNEP-WCMC, UNESCO-MAB and TNC received 150 free copies each, and UNU 50 free copies from the project, and the rest were divided between ITTO and ISME. Copies were distributed to various stakeholders worldwide by the partner organizations. ISME also distributed complimentary copies to more than 100 contributors at ISME's own cost. In addition, Earthscan had sold at least 500 copies of the Atlas as of mid-2012.



Front cover of the English version of the Atlas

The French version (*Atlas Mondial des Mangroves*) was published in September 2011. 700 copies were printed and distributed through the network of ITTO, ISME, FAO and UNESCO-MAB to relevant French-speaking stakeholders. The US State Department provided additional funding for the production of the French version.

The Spanish version (*Atlas Mundial de los Manglares*) was produced with support from the Spanish Government through UNESCO-MAB. 1,000 copies were printed in January 2012 and distributed through the network of ITTO, ISME, FAO, UNESCO-MAB, UNEP-WCMC, UNU-INWEH and the Government of Spain to the relevant Spanish-speaking stakeholders, with many copies distributed by ISME's focal points in Latin American countries at ISME's own cost.

- Output 2:

At the project evaluation meeting held in 2011 with representative of ITTO, EA and PC, it was decided that CD-ROM Atlas will not be produced due to the lack of available funds, the availability of selected Atlas information on GLOMIS and the commercial considerations of Earthscan (publisher of the English version of the Atlas).

- Output 3:

Promotional materials (poster, flyer and press release) were disseminated through various conferences, websites of project partners, publisher's website and book conferences.

A press release was distributed in July 2010 on publication of the English Atlas and more than 25 newspapers posted articles based on it including information on world mangrove status. Launching ceremonies were held at the occasion of meetings at International Union of Forest Research Organization (IUFRO) and CBD/COP10 in 2010.

The Atlas Summary and its main findings were published as a special issue of the ITTO Tropical Forest Update (TFU) Volume 21, Number 2, 2012. It was produced in electronic form (PDF) and widely

disseminated through the ITTO and partner websites free of charge. 1000 copies of the special issue of TFU were printed with contribution of ISME and YL Invest Co., Ltd., Fukuoka, Japan.

Front cover of the Atlas Summary, *Tropical Forest Update* 21(2), 2012.

- Output 4:

Global Mangrove Database and Information System (GLOMIS) is an on-line mangrove searchable database constructed under two previous ITTO/ISME projects [PD 14/97 Rev. 1 (F) and PD 194/03 Rev. 1 (M)]. Although the GLOMIS project was completed in 2003, ISME continues to maintain the database and update mangrove information using its own funds. As proposed, GLOMIS has been strengthened by inclusion of new information obtained through the Atlas project.

IV. Outcomes and Impacts

Despite some difficulties associated with working with a large group of partner organizations, the contents of the Atlas covered a broad perspective of mangrove ecosystems: their uses, threats, management and conservation, with detailed maps, photos, figures, tables and line drawings that make it one of its kind in the world. The contents, including new maps, have been reviewed by more than 100 mangrove experts. Obtaining the most accurate information possible was an anticipated risk described in the project document, but through the kind support of many mangrove experts (most free of charge), the Atlas is a scientifically reliable and respected publication. It has already become well accepted by various readers and is widely cited. As of mid-2012, at least 40 international scholarly journals have cited contents of the Atlas.

With 3200 copies produced in English, French and Spanish, the Atlas will be read by mangrove and non-mangrove related people around the world. Invariably, the Atlas will have positive impacts towards the conservation and sustainable utilization of mangrove ecosystems.

In addition, the special issue of TFU which covers the Atlas Summary and its main findings and mangrove management implications is freely available from the ITTO website and has been accessed and/or downloaded many times. It serves as another source of information for readers who cannot obtain or purchase copies of the Atlas to ensure the main message on the importance of conservation and sustainable utilization of mangrove ecosystems is widely disseminated.

V. Lessons Learnt

The rationale of the project was to update the original World Mangrove Atlas published in 1997. It was proposed by ISME as the executing agency of the original Atlas. Later, other organizations such as FAO, UNESCO-MAB, UNEP-WCMC and UNU-INWEH joined in the formulation process as they also shared the view of the need to update the World Mangrove Atlas. The project was well formulated.

However, the major drawback was that partner organizations as members of the PSC became too ambitious by setting too many outputs, considering the proposed project duration and budget, as cautioned by ISME. Working with the partner organizations was not easy, and disappointing and even frustrating at times. Throughout the project, the PC had to bear the brunt of the conflicts when they arose.

At the pre-activity phase of the project, UNEP-WCMC was contracted by ITTO to produce updated maps but failed to complete the work. This caused a substantial delay of the project. UNEP-WCMC requested an additional US$200,000 to complete the work after the project had started. The map production was eventually taken over by GTOS of FAO (sub-contracted by ISME) which took two additional years.

Another unexpected outcome was that there was no additional financial support by the partner organizations except for the funds from Spanish Government (US$53,950) through UNESCO-MAB to produce the Spanish version of the Atlas. When the project was formulated, ISME expected cash contributions to the project by the partners. However, any inputs provided were in-kind contributions and it was not possible to complete all the outputs based on the original budget. The original budget was not even sufficient for publishing the English version due to incomplete pre-activities. ISME requested additional funding from ITTO twice (totaling US$93,252). In addition, ISME had to spend more than US$250,000 of its own money to complete the project.

The translation of the Atlas into French and Spanish was made possible thanks to financial support by the US Government through ITTO and Spanish Government through UNESCO-MAB. The project owed much to Prof. François Blasco who had kindly reviewed all the work of the French version and also co-translated the Spanish version.

In the original project document, two years to produce the Atlas in three international languages, including policy brief, CD-ROM and strengthening GLOMIS were unrealistic time wise and budget wise. As a result, Output 2 (production of CD-ROM) was omitted due to the lack of funding. However, the summary of the Atlas (as a special issue of TFU) and some of the Atlas contents have been uploaded on the ITTO, ISME and the publisher websites. The use of CD-ROM to distribute information was more popular 6.5 years ago when the project was proposed. However, thanks to high-speed internet worldwide, the same information can now be downloaded easily from websites.

VI. Sustainability

The Atlas in its English, French and Spanish versions will be used and cited long into the future. For example, the original Atlas published in 1997 has been cited more than 380 times up to now in peer-reviewed journals. The new Atlas will be used for many years as a text book, guide book, or a reference document for decision-making.

Reviews of the Mangrove Atlas

The World Atlas of Mangroves, an update to Spalding et al. (1997), is a must-have publication for everyone loving and working with, in, or near to mangroves. It celebrates the wonderful world of these beautiful forests with astonishing figures and photographs. The informative maps and tables provide captivating facts about the ecological and economic values of mangroves and the consequences of their loss. In summary, if you are working in the field of mangrove conservation or related issues in the context of tropical coastal zones, or if your work is targeted towards practitioners, stakeholders or users of at-risk mangrove ecosystem services, the World Atlas of Mangroves is your book; it will support your daily work with easy-to-understand information and strong facts about the ecological and economic values of this forest. If you are a mangrove ecologist, this book should also be on your shelf because it provides you with a quick overview of mangrove distribution and current status on Earth. If you are searching for an up-to-date text about the present scientific understanding and recent findings in mangrove research, I recommend supplementing the Atlas with textbooks, recent reviews or more detailed publications on mangrove ecosystems and people's dependency on their health and functioning. Uta Berger in *Frontiers of Biogeography* 2011; 3(3): 91-92.

The importance of mangroves is well-known, but never has there been such a comprehensive review of these critical ecosystems. This book should change the way we view, and manage, mangroves fore the benefit of coastal people and biodiversity worldwide. Achim Steiner, Executive Director, UNEP

I am pleased that ITTO, ISME and other members of this excellent partnership have produced such a magnificent reference book. The World Atlas of Mangroves details an incredible variety of useful information that will be of considerable value to forest researchers, practitioners and students to learn more about mangrove ecosystems. Professor Don K. Lee, President, IUFRO

An invaluable sourcebook for any national or international institution concerned or charged with the sustained use and protection of mangroves. Professor Eberhard F. Bruenig in *International Forestry Review* 12(3): 295-308

"… a classic masterpiece … a must-have publication for every mangrove ecologist, conservation biologist or policy-maker working within or adjacent to mangrove ecosystems." Dr. Farid Dahdouh-Guebas in *Human Ecology* 39(1): 107-109

In addition, the mangrove distribution map dataset produced by this project will serve as a baseline for future mangrove gain and loss assessment. As proposed in the project document, the world mangrove distribution map is available in GIS format which enables researchers to add many different layers in the future, including mangrove distribution layers in different years. The dataset has been shared among the project partners and is also available to third-parties for non-commercial use. Under a data sharing agreement, an updated version of the database will be sent to ISME and ITTO whenever changes are made by partners or third party users.

VI. Concluding Remarks

Despite significant delays beyond the control of the Executing Agency, the project achieved its objectives and the resulting Atlas is a valuable resource for anyone interested in or working with mangroves worldwide. It will continue to be used into the future and serve as a continuing symbol of ITTO's important work to support the conservation and sustainable management of mangrove ecosystems.

The full completion report submitted by the Executing Agency is available from the ITTO Secretariat (English only). Limited copies of the Atlas (English, French and Spanish) are available from the Secretariat, as are copies of the special TFU issue summary of the Atlas (English only). The audit report accounting for project funds provided by ITTO was submitted in May 2012 and was accepted by the Secretariat. The Committee may declare this project complete.

(4) PD 284/04 Rev.2 (F) Fire-Management and Post-Fire Restoration with Local Community Collaboration in Ghana

Budget and Funding Sources:

Total Budget:			US$	731,925
ITTO Budget:			US$	585,894
Government of Japan:	US$	560,894		
Government of U.S.A.:	US$	15,000		
Government of Norway:	US$	10,000		
Government of Ghana:			US$	63,977
IUCN :			US$	82,054

Implementing Agency: IUCN - The World Conservation union in collaboration with FORIG-Ghana and RMSC-Ghana

Session of Approval: ITTC Session XXXVII, December 2004, Yokohama, Japan

Starting Date and Duration: 9 November 2005 / 36 months

Approved Revised Date of Project Completion: First extension: November 2009 (NOLF.09-0051)
Second extension: December 2010 (NOLF.10-0228)

I. Introduction

The project was approved by the Council at its Thirty-seventh Session in December 2004 in Yokohama, Japan, and fully funded at the same Session. The Agreement regulating the implementation of the project was signed on 27 July 2005. The first installment of the ITTO funds was released in November 2005. A first 12-month project extension was granted until November 2009, without additional ITTO funds, by the ITTO Secretariat, based on an official request including proper justification with appropriate detailed work plan and budget. A second project extension of 13 months was grated until December 2010. As an acceptable version of the project completion report was received in March 2012, the duration of the project implementation had lasted 76 months instead of 36 initially designed by the implementing agency (IUCN).

II. Project Objective

The project aimed at promoting the contribution of efficient community-based fire management to forest restoration and sustainable management in Ghanaian fire prone areas. More specifically, it intended to reduce the uncontrolled forest fires in the target communities' forests and thus increase their productive capacity. The project specific objective was focused on working with local communities to stop the progress of forest loss due to uncontrolled fires. It was recognized that not all fires are bad but emphasizes the importance of integrated fire management to tackle the problem of uncontrolled forest fire, especially at local level, which is considered as one of the main causes of forest land degradation.

III. Project Achievements and Outputs

The project implementation contributed to attain the specific objective through the reports and other tangible products presented under each output here after:

Output 1: Relationship between utilization of resources by rural communities and effective fire management determined

- Report by Damnyag, L. (2007) on Socioeconomic and Environmental Baseline data for Community-based Fire Management in Ghana.
- Report by Hawthorne, W. D., Owusu-Afriyie, K., Gyakari, N. (2007) on Data-Base of Fire Restoration Species.
- Report by Hawthorne, W. D., Owusu-Afriyie, K., Gyakari, N. (2007) on Survey of Key Resources in the project areas.

Output 2: Roles and responsibilities of key stakeholders in fire management determined

- Report by Ameyaw, J. & Amissah, L. (2007) on the Roles and Responsibility of Stakeholders in Fire Management in Begoro, Winneba and Dorma'a Districts of Ghana.
- Report by Amissah, L. (2008) on Training of Fire Volunteers held in Abonsrakrom, Twumkrom and Asunso n° 1.

Output 3: Mechanisms for effective community based fire management developed and implemented

- Project Report on Stakeholder Workshop held at Dorma'a in 2007.
- Project Report on Stakeholder Workshop held at Begoro in 2007.
- Illustrated bulletins on wildfire management distributed to communities.
- Panel-boards on fire management produced in 2007 and 2008 and placed in project areas.
- Guidelines and Manual for Community-based Fire Management (CBFiM) produced.

Output 4: Fire degraded areas rehabilitated by using valuable species as determined by the local communities

- Report by Hawthorne, W. D., Owusu-Afriyie, K., Gyakari, N. (2008) on Species Restoration and Trials recommended in the project areas.
- Authorization n° G190.V.15/230 of 08.05.09, obtained from F/Commission for Taungya Scheme.
- A map of 350 ha of Taungya sites for post-fire restoration in Pamu-Berekum produced in 2009.
- Protective clothing + boots + cutlasses provided to 193 men and 217 female project beneficiaries.
- Eighty thousands (80,000) tree seedlings provided by the project and planted by 410 project beneficiaries.
- 20,500 plantain suckers supplied by the project and planted by project beneficiaries.

Output 5: Gaps in existing legislation on community based fire management identified and disseminated

- Report by Marfo, E. (2010) on the Review of Existing Legislation on Community Based Fire Management.

IV. Outcomes and Impacts

The main project outcomes and impacts are summarized here after:

Prior to the Project	*Impact of the Project*
1. The Control and Prevention of Bushfires Act of 1990 (P.N.D.C.L. 229) was the foremost legislation to promote participation in the management of wildfires in Ghana. While Article 7 of the Act advocates creation of fire volunteer squads, the Act however did not empower traditional authorities to play a major role in the enforcement of its specifications.	Action 1 of Strategy 2.2.1.2 of the Fire Guidelines and Manual document produced by this project : PD 284/04 Rev. (F) and endorsed by the Government of Ghana, proposes Traditional Authorities and District Assemblies to develop and approve local bye-laws for wildfire management in the country.
2. Ineffective legal framework for the development of adapted wildfire plans, (as captured in the project document) and inappropriately coordinated action for authorisation of implementation.	Strategy 2.5.1.1 of the Fire Guidelines and Manual document produced by PD 284/04 Rev. (F) and endorsed by the Government of Ghana, advocates the periodic review and amendment of laws and regulations on wildfire to meet changing situations. Moreover the project led and applied several wildfire plans even as its stakeholder's workshops proposed that fire bye-laws should be gazetted within 90 days after their submission, and District Assemblies

	mandated to follow-up the execution of this provision.
3. Insufficiency of mechanisms and guidance in the use of fire including advice and support in post-fire restoration (as captured in the project document).	The project proposed the banning of open burning from 15th December to 15th April, with meteorological services (MSD) assuming the responsibility to advice as appropriate. The project supported project beneficiaries with equipment, tree seedlings, plantain suckers, which were all planted, thereby making post-fire forest restoration a reality.
4. Inadequately documented programme for training local stakeholders and others i.e. scholars in wildfire management.	The Fire Guidelines and Manual document produced by PD 284/04 Rev. (F) and endorsed by the Government of Ghana, proposed an illustrated section for training in wildfire prevention, pre-suppression, and suppression.
5. Fire degraded lands around communities (not Forest Reserves) were not receiving adequate attention and consequently not restored.	The project supported reforestation through the establishment of fire-belts and mixed planting using approximately 25,000 seedlings of fire resilient tree species around community and individual farm-holds
6. Fire degraded lands in Forest Reserves around target project communities were receiving very little attention and consequently not adequately restored.	The project supported the mapping, clearing, pegging, holing and reforestation through a Taungya Scheme of 87.2 hectares of land over 350 hectares of mapped and prepared Forest Reserve land under progressive reforestation.

The project's specific objective sought to reduce uncontrolled forest fires in the forests of target communities thereby increasing the productive capacity of such forests.

V. Lessons Learnt and sustainability

5.1 Lessons from project identification, design and implementation

The involvement of stakeholders right from the conception phase of the project followed by the immediate identification of their roles and responsibilities in fire management was very crucial for the success of the project, although it is a time consuming process. That's why the duration of the project implementation lasted 76 months instead of 36 months initially planned the implementation agency. However, the roles in project implementation given to FORIG and the RMSC seemed not to have taken into account the official mandates of these organisations, an aspect which could have derailed several interventions of the project. More specifically, FORIG is a research organisation with interest in experimentation, demonstrations and trials, while the RMSC is a rural policy development and implementation organisation and consequently interested in engaging the direct implementation of wildfire interventions with communities along with related policy implementation. RMSC is responsible for leading the development and implementation of Community Resource Management Area (CREMA) schemes in Ghana, which includes this project's post-fire restoration Taungya scheme. There is need to clearly understand the official mandates of partnering organisations in relationship to the proposed project outputs before contracting.

Pertaining to matters and lessons learned related to the project sustainability, it should be mentioned that after producing a map of sites authorised for community involvement in post-fire restoration at the Pamu-Berekum Forest Reserve, the project initiated discussions for a "benefit sharing agreement". The benefit sharing agreement expected to be signed by the Traditional Authorities of the target communities and the Forestry Commission, was not achieved at project completion. The awaited agreement is a legal document that spells the roles, responsibilities, rights and benefits of communities to the trees that they planted in the government forest reserve. One reason why this agreement was not accomplished in time was because the process was not foreseen and planned during the project conception. This is also part of a land tenure and tree tenure issue that lies within the competence of the RMSC. This agreement should be supported for

resolution by a second phase of the project; otherwise the efforts of communities (tree ownership) will not be adequately rewarded.

5.2 Lessons from other operational matters

The project encountered early problems in the transmission of funds delayed on two occasions because of non-compliance by the Executive Agency with annual audits using external auditors. While the Executing Agency justified the non-compliance as due to its own globalised audit system for its projects, this was unsatisfactory for the funding agency. While the annual audits were eventually undertaken with regularity by the Executive Agency, the initial non-compliance for approximately two years was responsible for some delay in the execution of the project activities. The lesson here is that there should be agreement on all aspects contained in the project contract (i.e. the contract should be discussed with main project implementers) during the commencement of the project.

Pertaining to technical lessons:

- The project revealed that inadequate practices in wildfire management were significantly related to inappropriate human behaviour. This was found to be second only to insufficient capacity by stakeholders to effectively plan, and engage control measures in wildfire management. As a result, it was proposed that any training in the prevention and management of wildfires should not only target fire volunteer squads but should equally engage representatives of the different social classes of communities, and be as broad and inclusive as possible. It is only through such an inclusive approach that inadequate cultural and social practices that promote wild-fires will effectively be checked.

- The project also revealed that while the Ghana National Fire Service and the Forestry Services Division of the Forestry Commission were at the apex of importance and influence of fire management in Ghana, different stakeholders were important for different aspects of fire management i.e. education, law enforcement, community mobilization etc. Neither district level organizational stakeholders nor local level stakeholders could ensure effective fire management in isolation, hence the need for collaboration and institutional / stakeholder networking in fire management. Also, the effectiveness of stakeholders in executing their roles and responsibilities in fire management seemed to vary from one district to another depending on a variety of factors including past experience, capacity and motivation.

5.3 Project sustainability

The project has achieved significant success at the national and regional (West Africa) levels. This is manifested by its demonstrated capacity to attract new researchers and promoters such as the STEWARD Initiative of the USAID. The project outcomes and outputs are now linked to the Global Partnership on Forest Landscape Restoration (GPFLR) currently providing international visibility to the project impacts and effects.

More specifically, the project fulfilled the responsibility of sustainability as follows:

a) Institutional sustainability

Institutional sustainability was pursued through (a) the engagement of community wildfire focal points belonging to already existing and organized local structures, (b) the involvement of existing governmental and non-governmental fire stakeholders and their networks / decongested government units, in all project interventions, and (c) the preparation and adoption of regulatory guidelines by government, in the form of the "*Guidelines and Manual on Community-based wildfire Management*" in Ghana. These processes and instruments have constituted an assurance that the project outputs and outcomes will continue to be useful to wildfire stakeholders.

b) Economic / financial sustainability

The post-fire restoration interventions by project beneficiaries involved the planting of perennial economic species such as plantains in addition to tree species. Interventions also included the planting of annual crops i.e. maize, within the framework of the Taungya scheme in the Pamu-Berekum Forest Reserve. The products of these species i.e. plantains and maize, have an existing local market in the communities as well as in the large markets at the headquarters of the concerned District Assemblies.

c) Resource / ecological sustainability

During the project implementation, there were no consequential wildfires, leading to positive increases and higher yields of timber and non timber forest products in areas where the project was operational. Another consequence was that project equally contributed towards increased productivity of biodiversity. Moreover, the community Taungya scheme initiated by the project included the planting of wildlife friendly species such as Figs that attract avifauna including bats, snails, earthworms currently contributing towards increased biological diversity and consequently, enhanced resource sustainability.

d) Social sustainability

The project improved and multiplied social encounters between fire volunteer squads and other stakeholders. On several occasions networks were initiated or stimulated between wildfire volunteer squads and unusual actors such as lecturers at the Sunyani forestry school and university professors in the presence of the more habitual actors i.e. the FSD, the NFS and the District Assemblies. These networks improved the motivation of fire volunteer squads thereby contributing towards the social sustainability of the project. Moreover the preceding processes helped to build the confidence of fire squads who are now likely to provide practical training to other national and trans-border communities.

VI. Concluding Remarks

As the ITTO Secretariat has received the Project Completion Report, Final Technical Report and Guidelines and Manual for Community-based Fire Management and Post-fire Restoration in Ghana, as well a satisfactory Final Financial Audit Report, the Committee may wish to declare the Project PD 284/04 Rev.2 (F) as completed. Soft copies of abovementioned reports and documents are available upon request from the Secretariat.

(5) PD 288/04 Rev.2 (F) Development of Lanjak Entimau Wildlife Sanctuary as a Totally Protected Area, Phase IV (Final Phase) (Malaysia)

Budget and Funding Sources:

Total Budget:			US$	973,932
ITTO Budget:			US$	568,728
Government of Japan (MoFA):	US$	262,028		
Government of Switzerland:	US$	256,700		
Government of U.S.A.:	US$	50,000		
Government of Malaysia:			US$	405,204

Implementing Agency: Forest Department of Sarawak

Session of Approval: ITTC Session XXXVIII, June 2005, Brazzaville, Republic of Congo

Starting Date and Duration: April 2007 / Planned; 24 months, Actual; 53 months

I. Introduction

The project was approved by the Council during its Thirty-eighth Session in June 2005 and full financing for its implementation was pledged during the same Session. The agreement regulating the implementation of the project had been sent to the Government of Malaysia for signature in July 2005 and it was dully signed by all parties only on 14 July 2006. The first disbursement of funds was made on 9 April 2007. During the course of the implementation, the project's duration had been extended to publish a high quality book to document main findings and lessons learned from the ITTO Lanjak Entimau Wildlife Sanctuary Project with an additional fund (US$56,700). The project activities had been completed in August 2011 and the EA submitted Financial Audit Report in August 2012.

II. Project Objective

The project aimed to develop the Lanjak Entimau Wildlife Sanctuary (LEWS) and Batang Ai National Park (BANP) collectively into a model for biodiversity conservation and sustainable management of genetic resources for forestry, socio-economic advancement and research. Its specific objectives were: i) to strengthen sustainable management capacity of the totally protected areas (TPAs) at the government and local community levels; and ii) to enhance conservation and research potentials of the TPAs including trans-boundary initiatives with Indonesia.

III. Project Achievements and Outputs

(a) Specific Objective 1: To strengthen sustainable management capacity of the totally protected areas (TPAs) at the government and local community levels

Output 1.1 – Capacity for sustainable management strengthened. The project's contributions were in the areas of training in research and resource management for the Forest Department of Sarawak and the Sarawak Forestry Corporation (SFC), and resource management training and awareness education for local communities. On-ground management was strengthened with more SFC staff being posted to a number of field stations. Local communities in the Ulu Mujok area had taken the initiative to prevent outsiders from entering the TPA to hunt and fish. There was less need for local participants of fish culture and fruit tree planting activities to visit the forest to hunt and fish as they had often done so in the past.

Output 1.2 – Participatory process of the local communities strengthened. On community development, 27 longhouses and three schools participated, and an estimated 3,500 people and 240 school children and teachers had benefited in various ways. In addition, three longhouses in the Ulu Engkari were involved in the *tagang* system to restore fish population in the river.

Output 1.3 – Environmental education (EE) unit established and implemented. The EE programme was implemented in 64 longhouses and 14 schools in the periphery. The programme was developed with the help of the Department of Education and the SFC. The programme's contents were intended to acquaint the participants on matters relating to forestry, forest management and conservation in Sarawak. For the majority of the participants this was the first learning experience on the subjects. Feed-back from the participants indicated that the programme had made them more aware of the importance of environmental conservation. One technical report was published.

Output 1.4 – Eco-tourism activities in BANP organized. The project conducted a study on eco-tourism potential of the Batang Ai National Park (BANP) during Phase III, and published a report with many recommendations and suggestions on eco-tourism development. To organize and monitor visitor activities in BANP, the SFC had stationed a park warden, and a research cum education officer at the Park Headquarters at Nanga Delok. A number of local assistants were engaged.

(b) Specific Objective 2: To enhance conservation and research potentials of the TPAs including trans-boundary initiatives with Indonesia.

Output 2.1 – Ecological and baseline studies on flora in BANP carried out. The BANP is eco-physically connected to LEWS through sharing of a common boundary to its north, and both TPAs are important habitats for the orangutan and numerous other animals. Baseline information on BANP was thus important.

Output 2.2 – Collaborative activities with BKNP pursued under the TBCA initiative. The activities involved task force meetings, cross-border visits by BKNP staff and local community chiefs to LEWS, and a workshop in Kuching to share experiences in management. Technical reports were exchanged.

Output 2.3 – Memorandum of understanding (MoU) for collaborative management adopted. There was no adoption of MoU due to constraints in resolving issues relating to administration, management and implementation by the two parties. The general agreement was for each side to implement activities of its own, but noting and informing each other on matters of common interest. On the positive side, both sides had committed to safeguarding its own protected areas by strengthening management capacity on the ground. This was one of the issues discussed at the workshop meeting. The joint orangutan strategic plan for the TBCA, prepared under the LEWS project, will serve as an important reference and tool to foster cross-border collaboration in the future.

Output 2.4 – Management plan developed and approved. A joint management plan for LEWS and BANP was prepared and approved for implementation. The SFC is responsible for implementing the plan.

The project has produced several important technical reports. These include the following:

- Environmental Conservation Education Programme in Lanjak Entimau Wild Life Sanctuary
- Importance of community-use zone in the periphery of the Lanjak-Entimau Wild Life Sanctuary as a Wild Life Corridor for Mammals and Birds
- Traditional use of Non-Timber Forest Products among the Iban Communities in the Periphery of Batang Ai National Park
- A Study on the Ecotourism Potentials of the Batang Ai National Park

The EA has made greater effort to promote the work in Lanjak Entimau by preparing publicity materials like flyers and posters. The outcome of the project was presented at the International Conference on Biodiversity Conservation of Tranboundaary Tropical Forests held on 21-24 July 2010 in Quito, Ecuador. During the extension period, the EA has produced a documentary book for LEWS compiling main achievements and lessons learned from implementing from Phase I to Phase IV of the LEWS project.

IV. Outcomes and Impacts

The Project had benefitted many people. It was a great learning experience for young researchers engaged by the Project, as well as those from FDS and SFC. Lessons included establishment of ecological plots and data collecting, floral and faunal surveys, NTFP, conducting educational programmes, participation in management training, and implementing community-based activities. Their technical report writing skill was also enhanced. Owing to the Project, several of the researchers had developed an interest in natural sciences and were contemplating pursuing further degrees in forest ecology and biodiversity.

The Project had benefitted some 30 longhouse communities (including *tagang*) and three schools that were involved in community development. Fish and fruit farming had not only helped to solve their food supply problems but had also brought additional cash income to participating families and longhouses. To quote Anthony Bau, the headman of one longhouse: '*Thank you for helping to improve our livelihood. It is now easier for us to earn a living. There is no need for us to go to the rivers to fish during Gawai (harvest) festivals*'. Another quote from Gerasi Kapi, headman of another longhouse: '*Our family is learning to become more enterprising, and we have been earning additional income from the fruits we planted*'. A third quote from Mengiring Masil of another longhouse headman: '*Since we started fish farming, we have done less hunting. As a result, wild boars and macaques have come to our farms and damaged out crops*'.

The residents of three longhouses in the Ulu Engkari had learnt the technique of restoring fish resources in the river through the *tagang* system that was introduced to them in 2009. The fish had returned some 18 months after the launch in February 2010, and was seen to jump out of the water during feeding time. The people had already developed a close bond with the friendly fish and told our visiting officers recently that they would feel reluctant to catch and eat them. This community activity marks an important milestone of the project in restoring depleted fish stocks in natural rivers. The EA helped to construct a 30-metre long suspension bridge in Ulu Engkari, thus enabling school children to cross the river in safety.

The TBCA initiative had enabled both sides to learn from each other through workshops and cross visits. The Lanjak Entimau Project made significant contributions in advancing the work of the Heart of Borneo, particularly in the areas of community development and social forestry.

V. Lessons Learnt and sustainability

a) Development Lessons: For further development of LEWS it is necessary to consider the following:

- Encourage and promote greater interest in conservation and research, and TBCA cooperation;
- Sarawak Forestry Corporation (SFC) must continue to strengthen management and enforcement through capacity building and training, and creating more employment opportunities for the local people;
- Continue to encourage and guide local communities to be more proactive in conservation and community development;

- Implement the Management Plan for LEWS and BANP to meet present and future needs and to attain the desired conservation goals;
- Continue to work with Betung Kerihun N.P. on issues that will bring mutual benefits to the people and conservation of biodiversity.

(b) Operational Lessons: To ensure smooth operation it is recommended that:

- On-ground management must be made more effective to demonstrate to the local people that FDS and SFC are serious about protecting the Sanctuary and its resources from illegal activities especially logging;
- To ensure smooth field operation, FDS and SFC may need to be more receptive to the needs and expectations of their field staff as well as the expectations of local communities;
- Having a core team of permanent staff under the CSI Unit to continue the work of the ITTO with adequate administrative and financial support would be ideal;
- Participatory approach can be enhanced through promoting better understanding and cooperation among key stakeholders.

Sustainability has been ensured with the creation of the new Community Service Initiative Unit (CSIU) by the EA (Forest Department Sarawak) in January 2011, currently headed by a capable senior officer who had gained much experience from the present and Pulong Tau National Park (PTNP) projects. This unit is entrusted with the responsibility of continuing and expanding the work of ITTO in LEWS and later in the PTNP.

Safeguarding the protected area must be central to the EA's effort to promote biodiversity conservation in LEWS, as incidents of illegal logging in some areas (e.g. Ulu Poi) had been detected. This calls for strengthening of management capacity and frequent patrolling in areas adjacent to logging licenses. Annual allocations for travels and acquisition of land vehicles, longboats and outboard engines and fuel must be adequate.

VI. Concluding Remarks

The objectives of LEWS Phase IV have been successfully achieved with the cooperation and inputs from all stakeholders and other interest groups. Commitments by the Government and its relevant agencies, both during and after the project had ended, were most crucial. Increasing interest of the local communities was also most encouraging. The Project received good support and cooperation from consultants, counterpart staff, research officers and local participants throughout. Effective local leadership was a significant factor in ensuring success and sustainability of community-based activities

Since the ITTO Secretariat has received the Project Completion Report, several Technical Reports, and Financial Audit Report, the Committee may wish to consider this project as completed.

(6) PD 396/06 Rev.2 (F) Strategy for Developing Plantations Forest: A Conflict Resolution Approach in Indonesia (Indonesia)

Budget and Funding Sources:

Total Budget:			US$	645,694
ITTO Budget:			US$	508,234
Government of Japan (MoFA):	US$	493,234		
Government of Norway:	US$	15,000		
Government of Indonesia (in-kind):			US$	137,460

Implementing Agency:	Directorate of Plantation Forest Management, Ministry of Forestry in collaboration with Provincial Forest Service of Jambi & Provincial Forest Services of South Kalimantan
Session of Approval:	ITTC Session XLI, November 2006, Yokohama, Japan
Starting Date and Duration:	December 2007 / Planned; 36 months, Actual; 55 months

I. Introduction

The project was approved and fully funded at the 41st Session of the Council. The agreement regulating the implementation of the project was forwarded to the Government of Indonesia on 18 July 2006 for signature and duly signed by all parties on 7 December 2006. The first disbursement of funds was made on 21 November 2007. Duration of the project was initially planned for 36 months but a 19 month-extension without additional funds was granted by ITTO to fully achieve its intended objectives.

II. Project Objective

The project aimed to increase production from plantation forests to meet domestic and export demand for raw materials thereby reducing reliance on natural forest extraction based on the findings of completed pre-project PPD 56/02 Rev.1 (F) "Strengthening Central and Sub-national Institutions to Enhance Plantation Forest Development in Jambi and South Kalimantan". Its specific objectives were to: i) make available a collaborative plantation forest management approach; and ii) create favorable conditions for the adoption of such a collaborative plantation forest management approach by relevant stakeholders.

III. Project Achievements and Outputs

The project identified six output to achieve the two specific objectives to address the the key problem of plantation forest development relating to conflicts among stakeholders especially between communities living in and around forest areas with plantation forest concessionaires. The following summarizes achievements in producing the six outputs:

Output 1.1: The strategy, legal framework and institution of the collaborative plantation forest management in Jambi and South Kalimantan Provinces are accepted by all concerned stakeholders

- Two workshops on strategy for collaborative plantation forest management were held in Jambi and in South Kalimantan in 2009 to receive feedbacks on a first draft strategy
- More discussions and consultations to improve the draft strategy were conducted with universities, NGOs, National Forestry Council and others. A strategy and mechanism for collaborative plantation forest management was endorsed by a National Workshop held in March 2012 with a positive response to the project outcome.

Output 1.2: Demonstration areas for the collaborative plantation forest management in Jambi and South Kalimantan Provinces are selected, prepared and agreed by all concerned stakeholders.

- Potential areas facing conflicts between communities and plantation forest concessionaires were surveyed with identification of their willingness to work with the project
- Demonstration areas were established for 50 hectares in South Kalimantan Province and 54.9 hectares in Jambi Province.

Output 2.1: The local community and industrial commercial plantation forest companies in Jambi and South Kalimantan Provinces are able to adopt the strategy, legal framework and institution of the collaborative plantation forest management

- A participatory rural appraisal involving all stakeholders in the demonstration areas for the collaborative plantation forest was carried out to establish their legal framework, organization and institution for collaborative plantation forest management development.
- Two farmer groups were recognized and established: in Jambi, Harapan Mulia Lestari with 23 farmers; and in Bina Hutan Lestari with 20 farmers.

Output 2.2: 10 farmers are well trained in establishing a small nursery and producing mass production of vegetative propagation of selected species

- A training course on establishing a small nursery and mass vegetative propagation techniques of selected species and cash crops was organized with the production of a training manual. The training course motivated 10 farmers in the establishment and operation of a small nursery.

Output 2.3: 50 farmers surrounding the project location are well-trained in planting and maintaining selected species

- A training was accomplished and trainees showed a positive respond from their capacity improvements in managing plantations. All trainees were farmer groups in Jambi and South Kalimantan

Output 2.4: 100 ha of demonstration areas of collaborative plantation forest of selected species are established each in Jambi and South Kalimantan

- Technical planning for demo plot management was finalized in the two sites in Jambi and South Kalimantan Provinces; and seedlings of selected species at each demonstration area, using improved seeds provided by plantation companies were produced
- Planted seedlings/trees intensively using available labor in surrounding areas with fertilizers are growing.

Output 2.5: 10 selected persons from communities are trained in financial arrangement and management

- A manual for training on financial arrangement and management of small-scale plantations was prepared and published with the conduct of training courses on financial arrangement and management

Output 2.6 Contractual arrangement for the involvement of local stakeholders as project partners adapted

- A public meeting to identify and formulate stakeholders' needs was organized
- Two MOUs of collaborative plantation forest establishment in South Kalimantan and Jambi were agreed and signed by collaborative parties.

Implementation of the outputs had been facilitated with background studies and relevant stakeholders' consultations. The strategy for collaborative plantation forest management covered the topics of landscape spatial allocation for plantation forest development; institutional organization of a local/site management unit level; capacity enhancement for community and forest farmers empowerment; equity distribution in benefit sharing; building relationships that enhance social-political synergy; and retaining contextual stability of collaboration.

IV. Outcomes and Impacts

The first specific objective of the project has been achieved through finalizing three policy documents for collaborative plantation forest development and establishing demonstration sites of collaborative plantation forest management in Jambi and South Kalimantan Provinces. Many studies resulted in better understanding of analyzing conflicts in plantation forest development, conflict resolution approaches, and development of collaborative plantation forests. Three documents include:

- Rancangan dan Rencana Teknis Pembangunan Hutan Tanaman Kolaborasi (Lokasi Demplot di Provinsi Jambi dan Kalimantan Selatan) (in Bahasa). It describes a technical design and activity planning framework to achieve collaborative plantation forest management.
- Manual Pelatihan : (i) Teknik Persemaian dan Silvikultur; (ii) Penanaman dan Pemeliharaan Tanaman; (iii) Pengelolaan dan Manajemen Keuangan (in Bahasa). It is a training module for (i) nursery and silvicultural techniques to produce mass seedling production through propagation techniques; (ii) maintaining of planted trees; and (iii) financial arrangement and management.
- Strategy for Developing Collaborative Plantation Forest : A Conflict Resolution Approach in Indonesia (in English and Bahasa)
- Practical Mechanism of Conflict Resolution on Plantation Forest Development in Indonesia (in English and Bahasa)

The achievement of the second specific objective has been materialized through: identification of conflicts areas involving community and plantation forest concessionaries as well as an initial benefit sharing agreement between communities and plantation forest concessionaires; improved capacity of farmer groups in communications and plantation establishment through various trainings; demonstration site activities facilitating the effective designing and implementation of plantation activities; and two MOUs of Collaborative Plantation Forest Management agreed between farmer groups and plantation forest concessionaire.

The project's effort to promote collaborative plantation forest management by addressing conflicts between communities and plantation forest concessionaries as well as capacity building will certainly contribute to improving the plantation forest development in Indonesia as stated in the development objective of the project.

V. Lessons Learnt and sustainability

Several lessons have been learned from the project's implementation. These include:

- Many forest plantations throughout Indonesia are often in conflicts with indigenous peoples and local communities as well as migrant communities. Main causes of the conflicts of various problems include: ineffective mechanisms in building trust among concerned stakeholders; unclear boundary and weak law enforcement; unclear local rights to forest-land ownership: inequity in benefit sharing; slow process of resolving conflicts at local level.
- Strategic solutions to conflicts of plantation forest management could be facilitated by strengthening governance with communication platforms and participation forums, securing a clear framework of local rights, and speeding up the settlement process.
- Consideration could be give to the formulation of an acceptable mediation system which empowers local communities associated with plantations participate in the development of a small scale business enterprise (for example in allocating 5% of effective IUPHHK-HT area) and/or through CSR.

Forestry Services in Jambi and South Kalimantan Provinces have been encouraged to promote a collaborative plantation forest management framework as an alternative system to resolve conflicts of plantation forest development. However, the mid-term and long-term sustainability of the project will depend on the design and implementation of supportive policies and legal framework to apply and/or further improve the project's outcomes including the strategy for collaborative plantation forest developed as well as the continued maintenance of the demonstration sites.

The implementation of the two MOUs of collaborative plantation forest signed between the farmer groups and plantation forest concessionaire would be an indicator to measure the project's sustainability in terms of the management of the demonstration sites. Since the farmer groups have been officially acknowledged by the two MOUs, the sustainability of the farmer groups could be maintained through community capacity building activities under the government program to enhance their technical capacity especially in optimizing utilization of demonstration sites.

VI. Concluding Remarks

The project has been successful in achieving most of its planned outputs and its specific objectives and in contributing to its development objective. The project has tried to address a real problem of conflicts between local communities and plantation forest concessionaire in plantation forest management. The project has received good support and cooperation from experienced consultants in the country.

Since the ITTO Secretariat has received the Project Completion Report, several Technical Reports, and Financial Audit Report, the Committee may wish to consider this project as completed.

(7) PD 405/06 Rev.3 (F) Extending the Area under Sustainable Forest Management in the Forest Lands of the Emberá-Wounaan Comarca, Darien, Panama

Budget and Funding Sources:

Total Budget:			US$	967,992
ITTO Budget:			US$	520,992
Government of Japan:	US$	520,992		
Communities:			US$	108,400
WWF-CA:			US$	195,800
ANAM:			US$	142,800

Implementing Agency:	World Wide Fund for Nature (WWF Inc.)
Session of Approval:	ITTC Session XLII, May 2007, Port Moresby, PNG
Starting Date and Duration:	October 2008 / 24 months
Approved Revised Date of Project Completion:	Extension until October 2011 (NOLF.11-0113)

I. Introduction

The Council approved the project during its Forty-second Session in May 2007 and full financing for its implementation was pledged during the Forty-third Session in November 2007. The final agreement regulating the implementation of the project was duly signed in September 2008. Upon submission of an appropriate multilateral agreement between the Emberá-Wounaan General Congress, WWF and ANAM, the first Yearly Plan of Operations, a request for the no-objection of the project's key personnel and a notification that implementation is about to begin, the first installment of funds was disbursed in October 2008.

II. Project Objective

This project was developed in response to the recommendations of the ITTO Technical Mission to Panama in August 2004 which, among others, emphasized the importance of replicating in other Emberá-Wounaan Territory communities the Responsible Forest Management and Trade Model developed by WWF in the Tupiza river communities. Overall, the project sought to increase the national timber volume for processing and marketing of forest products derived from sustainably managed forests in the Emberá-Wounaan Indigenous Territory. At the same time, it also aimed to increase the competitiveness of the forest sector in Panama by ensuring the supply of forest timber raw materials from well-managed forests, with the involvement of community enterprises and businesses.

The project's strategy was to strengthen the capacity and knowledge of indigenous communities in Darien to manage forest lands within their territory with a view towards reversing the ever decreasing trend in the supply of raw material from natural tropical forests and the practices that lead to illegal logging and degradation of forest ecosystems in the Darién region of Panama. More specifically, the project aimed to increase the area and production volume of tropical timber species through the development of two sustainable forest management plans for the Embera-Wounaan territories in the province of Darien.

III. Project Achievements and Outputs

The Project's field activities were completed in October 2011 and the overall project was reported as completed in July 2012. In accordance with the project document, the vast majority of the planned activities were carried out during the project's lifespan and its achievements can be summarized by major outputs and products envisaged by the project, as follows:

Output 1: Definition and demarcation of two forest polygons

All activities under this output have been completed and the output has been successfully achieved, as follows:

- Two consultation workshops were organized with the community groups and the boundaries of three community blocks (FMUs) for which forest management plans were to be developed were defined for the Tuqueza and Chucunaque river watersheds. Two communities benefited in the Tuqueza watershed, these being Bajo Chiquito and Nueva Vigia, and another two in the Chucunaque watershed, these being El Salto and Yavara Puru (Mongotes);
- The boundaries of the abovementioned FMUs were physically delimited and further mapped; and
- 162 community members from the aforementioned FMUs were been trained in community production, of which 32% were women.

Output 2: Training on forest management and community organization

This output has been successfully achieved, and even exceeded, as follows:

- 10 training workshops on community organization for business development were organized to the benefit of 82 community members. The project originally contemplated training only 40 people;
- Three community forestry enterprises, rather than the two originally contemplated, have been legally constituted and are currently operational – Empresa Forestal Balsamo S.A., Empresa Forestal de Bajo Chiquito S.A., and the Empresa Forestal El Salto-Chabara Puru. In addition, a fourth one was created at the Wounan-Embera Council level, and denominated Ne Drua, to act as a forestry regent for the other 3 enterprises; and

- Three craftswomen associations benefiting a total of 98 women have been created and organized, and are currently operational. In addition, they further participated in the National Handicraft Fair at Panama City. The Panamanian government also recognized the Rio Chucunaque Craftswomen Association as a legal entity.

Output 3: Forest management and planning

All activities under this output have been completed and the output has been successfully achieved, as follows:

- Training activities, forest inventories, environmental impact assessments (EIA), commercial censuses, forest management plans and annual harvesting plans were completed for 4 FMUs totalling 48,121 ha (originally 45,000 ha);
- The Rio Tuqueza/Marraganti 16,785 ha FMU is already fully operational, ANAM having approved its overall forest management plan and its first annual harvesting program;
- The Rio Tuqueza/Bajo Chiquito 18,173 ha FMU is already fully operational, ANAM having approved its overall forest management plan and its first annual harvesting program;
- The Rio Chucunaque/El Salto-mongote 7,103 ha FMU is already fully operational, ANAM having approved its overall forest management plan and its first annual harvesting program;
- The Rio Tuqueza/Nuevo Vigia 6,060 ha FMU forest management has been finalized and has been forwarded to ANAM together with the EIA for approval; and
- Permanent forest research plots have been established jointly with CATIE in the abovementioned FMUs.

Output 4: Forest harvesting in sustainably managed forests

Almost all of the activities were carried out and the overall output achieved, as follows:

- Workshops in reduced impact logging (RIL) practices were organized to the benefit of the communities managing the abovementioned FMUs and a total of 10 people were trained in RIL;
- The first annual harvest area of 500 ha was logged for Chibuga (*Cariniana pyriforme)* at an low-intensity level Marraganti FMU and another first annual harvest area of 735 ha was logged in the Tupiza MFU. However, several other harvests had to be put on hold due to the tardy approvals of the operational plans by ANAM. The project originally contemplate harvesting 1,800 ha;
- 71 craftsmen and women have been organized in the production of products based on sustainable utilisation of the chunga (*Astrocaryum standleranuma*), nahuala and guágara palm trees; and
- 20 community members were trained in timber scaling and recording of logged and dispatched timber.

Output 5: Marketing of forest products

Most of the activities were carried out and the overall output achieved, although it could not market the originally planned 25,000 cubic meters of timber from its FMUs, due mainly to the bureaucratic delays by the relevant authority ANAM in the approval of the plans, as follows:

- Two community forestry enterprises have entered into a 10-year commercial alliance with a French-Panamanian consortium named Green Life Investment Corp. S.A. A contract has been signed to market 3,700 m3 from the first annual harvesting area, with an option to increase the annual volume of production guaranteed over the next years; and
- Three business plans were developed and are being implemented for the Tuqueza, and Chucunaque and Nueva Vigia FMUs.

Output 6: Institutional strengthening

All activities under this output have been completed and the output has been successfully achieved, as follows:

- The project has developed a strategy to minimize the adverse effects of illegal logging in the province of Darien and has handed it over to the National Environmental Authority (ANAM) for its adoption;

- The project further submitted a project proposal on forest governance in the Darien Region to ITTO and it is currently pending finance; and
- A communications program was established to the benefit of the community associations.

Output 7: Evaluation of progress towards SFM

All activities under this output have been completed and the output has been successfully achieved, as follows:

- Based on ITTO's C&I reporting format, 3 project progress evaluations were carried out – one at the beginning (baseline), one mid-term and one at the end of the project in the forest management units, and a final overall appraisal produced.

IV. Outcomes and Impacts

The achievement of specific objective, which contributed to the achievement of the overall development objective, can be attributed to the commitment of all stakeholders involved in the project, and which led to the following main results and impacts:

- The project established three new forest management units (FMU). Two were established along the river Tuqueza, one being in the community of Lower Chiquito and the other in Nuevo Vigia. The third FMU was established along the river Chucunaque between the communities of El Salto and Yavara Puru (Mongotes).

- With the establishment of these three FMUs, the original goal of expanding sustainable forest management over 45,000 hectares within the lands of the Embera-Wouaan was surpassed by 3,121 hectares, as the project helped to expand forest management over a total of 48,121 hectares.

- Forest inventories, integrated forest management plans and environmental impact studies were carried out for each of the FMUs, In addition, 100% commercial tree censuses and operational plans were developed for the first annual harvesting unit in each of the FMUs.

- The first permanent research plots were established at the Marragantí FMU. Moreover, the project promoted a cooperation agreement between the General Congress of the Embera-Wounaan, the Tropical Agricultural Research and Higher Education Center (CATIE) and the University of Panama (UP), whereby the equiipment and personnel of the later institutions will support the periodic monitoring and analysis of the plots.

- Three community forest enterprises (CFEs) were established with the support of the project. The communities of Lower Chiquito and Marragantí, each have their own CFE , while the communities of El Salto and Yavara Puru, constituted a joint CFE. All three CFE are legally constituted in Panama and count with their business licenses, issued by the competent authorities.

- While several business plans were developed by the project, WWF, upon seeing that the completion of the ITTO project was close, began to seek support elsewhere for these CFEs and obtained additional financial resources for the CFEs from the Indigenous Business Development Program (PRODEI), funded by the Government of Panama and the Inter Development Bank (IDB).

- The project developed an assessment on the situation of illegality in the forest sector in the Darien Region, Panama, and as a contribution to the institutional strengthening of the environmental authority ANAM, developed a strategy for the prevention and control of illegality. This exercise also resulted in a proposal being formulated to strengthen forest governance in Panama and further submitted to ITTO, which has currently approved but still awaiting donor funding.

In short, the project contributed to bring under sustainable forest management 65% of the natural forest land that had been put under a sustainable forest management regime in the Embera-Wounaan indigenous territories. With respect to the goals set by ANAM, this project has contributed towards a 21%

improvement towards having at least 350,000 hectares of natural forests placed under a regime of sustainable forest management in the Darien Region.

V. Lessons Learnt and sustainability

The results of the project, confirm the thesis of the need for technical support in the longer term to consolidate the processes of strengthening community forest enterprises, to ensure that these are capable of self-management. And in this case, be able to assume all the business processes that its productive activities require, particularly those related to the ANAM authorizations for annual harvests.

The Executing agency's experience in the development of realistic business plans, based on more than one business unit, enabled it to leverage additional financial resources to strengthen community forest enterprises. Moreover, these resources will go directly to the CFEs, thus ensuring the continuity of the activities initiated by the project.

A key element that came to assist in the sustainability of these activities has been the creation of the Embera-Wounaan Territories Economic Development Enterprise, aptly called Ne-Drua, which has assumed the role of forest regent for the community forest enterprises, and counts with technical staff specialized in forest management aspects. As such, it will oversee and contribute to the strengthening of CFEs, and the implementation of their forest management plans.

One aspect to note is that the current project proposal PD 602/11 Rev.3 (F) "Tropical Forest Governance in the Region of Darien, Panama" approved by ITTO but pending finance, which would also be implemented by WWF, is not only a key element in the strategy for prevention and control of the illegal the forestry sector, but should also be seen as part of a strategy to ensure long-term sustainability of the activities promoted by this project, so as to strengthen governance, and among other actions work to promote the improvement and streamlining of legal/official processes needed to obtain the required authorizations from ANAM for forest management and harvesting, which would directly benefit the community forest enterprises of the Embera-Wounaan.

VI. Concluding Remarks

Overall, the project has significantly contributed towards the sustainable management of the forest lands belonging to the Embera-Wounaan indigenous communities in Panama.

As the ITTO Secretariat has received the Project Completion Report, several technical reports and the Final Financial Audit, this project can be reported as completed. Copies of the Completion Report and some other technical documents are available either upon written request from the Secretariat or can be downloaded for free in digital format from ITTO's website at: http://www.itto.int/project_reports/

(8) PD 426/06 Rev.1 (F) The Prevention of Further Loss and the Promotion of Rehabilitation and Plantation of *Gonvstylus spp*. (ramin) in Sumatera and Kalimantan (Indonesia)

Budget and Funding Sources:

Total Budget:			US$	682,542
ITTO Budget:			US$	507,903
Government of Japan (MoFA):	US$	425,963		
Government of U.S.A.:	US$	46,940		
Government of Republic of Korea:	US$	30,000		
Government of Australia:	US$	5,000		
Government of Indonesia (in-kind):			US$	174,639

Implementing Agency: Forestry Research and Development Agency (FORDA) in collaboration with Regional Forestry Research Centers in Sumatra and Kalimantan

Session of Approval: ITTC Session XLI, November 2006, Yokohama, Japan

Starting Date and Duration: February 2007 / Planned; 36 months, Actual; 56 months

I. Introduction

The project was approved and fully funded at the 41st Session of the Council. The agreement regulating the implementation of the project was fully signed on 7 December 2006 and the first disbursement of funds was made on 25 January 2007. A 20-month extension was granted by ITTO to fully achieve the expected outputs without additional funds.

II. Project Objective

This project aimed to contribute to the sustainable management of *Gonystylus bancanus (ramin)* forest in Indonesia as a follow up to the findings of completed pre-project PPD 87/03 Rev.2 (F) "Identification of *Gonystylus spp (ramin*), Potency, Distribution, Conservation and Plantation Barrier". Its specific objectives were to: i) improve silvicultural techniques for ramin conservation and plantation development; and ii) enhance institutional capacity to implement CITES rules and procedures.

III. Project Achievements and Outputs

Output 1.1 Propagation of high quality planting materials

Ramin seed sources in Sumatra and Kalimantan were identified and ramin genetic variations using molecular markers were also identified. Propagation technique using stem cutting has been developed. To collect and plant naturally regenerated seedlings (wildling) into a coppice garden (Hedge Orchard), cooperation was carried out with RRC-Banjarbaru, South Kalimantan. Technical manuals/guidelines have been printed and disseminated through a series of training courses. A research of tissue culture (in-vitro propagation) has also been explored in cooperation with Center for Biotechnology and Tree Improvement (CBTI)-Yogyakarta since in April 2008 but the results showed that it was very slow progress with a callus stage at the completion of the project.

Output 1.2 The development of field plantation technique

Research was carried out to identify appropriate seedling treatments and site requirement for growing. A review paper on site requirements for ramin growth was written by Prof Abdurrani Muin from the University of Tanjungpura, Pontianak, West Kalimantan. Research was also carried out to identify appropriate plantation techniques and apply site manipulations using fertilizers and micro-organism. Some of the research was executed by Regional Research Center (RRC) of South Sumatra and RRC-South Kalimantan, Banjarbaru. Due to difficulty of securing ramin seeds, research was expanded to the provision of planting materials from vegetative propagation using a fogging nursery system as part of exit strategy. Cooperation to induce flowering and seedling production was made with the Faculty of Forestry, Lambungmangkurat University, South Kalimantan. In Sumatra, the establishment of stock plants has been processed for the source of naturally regenerated seedlings (wildlings). The potential sources are mostly from PT Diamond Raya Timber area, RAPP of Riau and PT Putra Duta Indah Wood. Plantation trials in Sumatra and Kalimantan have been extended for the use of vegetatively propagated planting materials. Nearly 1000 seedlings from stem (shoot) cuttings were planted in Kayu Agung, South Sumatra.

In addition, the project facilitated discussions with relevant stakeholders on the use and implementation of the previously developed ramin harvest protocol. Small-scale workshops were organized to enhance the sustainability of the project and it was recommended having DG decree for the wider use of manuals and guidelines, and policy briefs produced by the project.

Output 2.1 Institutional and human resources capacity building on CITES implementation

A workshop was held to evaluate CITES implementation and to identify training needs for CITES implementation on ramin. A series of training on ramin wood identification were held. Several manuals/guidelines were developed: (1) Manual for ramin wood identification technique (Pedoman Identifikasi Kayu Ramin dan Kayu Mirip Ramin); (2) Technical guidelines for ramin harvest (harvest protocol for ramin); (3) Technical guidelines for making NDF (Non-Detrimental Finding); and (4) Technical guidelines for vegetative propagation technique using stem cutting. The last two technical guidelines were developed and published with financial support of a complementary ITTO-CITES project.

Output 2.2 Improved existing rules and regulation for ramin conservation and plantation including harvest protocols

Existing rules and regulations on ramin conservation and plantation were analyzed to formulate supportive policies on ramin conservation and regulation. These two activities were continued until the end of the project period by preparing two academic papers to review ramin logging moratorium and the Government Regualtion No. 11 regarding diameter cutting limit. The final draft of the harvest protocol on ramin was presented in many discussion meetings including a stakeholder consultation in Pekanbaru, Riau (9 June 2009), FORDA meeting (17 June 2009) and stakeholder consultations in Bogor (22 July 2009) and 8 December 2009 in Jakarta. This harvest protocol was finalized and printed as a key technical report.

IV. Outcomes and Impacts

The first specific objective has been achieved through developed propagation technology, which is useful in producing planting materials. The other indicators are the initiation of plantation activities and various supports on the rehabilitation-plantation of ramin from many relevant stakeholders. The provision of planting materials could be expanded and intensified in the future by the availability of alternative sources of planting materials. A comprehensive information on seed sources in Sumatra and Kalimantan, the readily available vegetative propagation technology and the establishment of stock plants for the source of cuttings will enable the scaling up plantation activities. This will also be encouraged by the availability of skill technicians on vegetative propagation and the presence of demonstration plots. RRC South Sumatra, District Forest Service of OKI and FORDA are committed to maintain these activities.

The achievements of the second specific objective have been materialized through reviewing relevant policies, rules and regulations, awareness raising of the issue on ramin and capacity building through training workshops on CITES implementation. Important policies which have been reviewed are the logging moratorium which has been imposed since 2001 and silviculture system applying in PSF including ramin. A recent regulation on ramin was the reduction of diameter cutting limit from 40 cm to 30 cm. From the review of the project's research, it is recommended that the diameter cutting limit should be above 40 cm. The improved harvest protocol would also contribute to the better management of ramin forest, especially during logging operation. In addition, various publication, awareness raising-training events, workshops and discussion forums have provided better understanding on ramin issues.

One of the impacts of the project is better knowledge of conservation and management of ramin, especially those related to the logging activity, CITES implementation and rehabilitation-plantation activities. The plantation activities could be further promoted by various relevant institutions by the wide provision of planting materials and plantation technology. Improved awareness and capacity of institutions and human resources on ramin will also contribute to enhancing sustainable management of ramin in Indonesia.

V. Lessons Learnt and sustainability

The project was widely recognized in Indonesia and has achieved considerable outputs. A number of lessons have emerged from the project's implementation. These include:

- *Gonystylus bancanus (Ramin*) is one of the most valuable timber species in Indonesia but the growing stock of this species has drastically been decreased in last several years. Natural and artificial enrichment planting in ex-logged over areas has been less successful causing the reduction of ramin timber stock in a subsequent cutting cycle. On the other hand, habitat rehabilitation and plantation are slow progressing due to lack of seed sources, high quality seedlings, propagation-plantation technology and an incentive scheme for ramin plantation.
- In preparing the project document, the scarcity of seeds was not fully anticipated as the previous experience showed that ramin produced flowers annually with the interval of a peak flowering season. The last peak flowering season in some places in Sumatra and Kalimantan was reported in 2004-2005 and no peak flowering season afterwards. Careful identification of planting materials is needed since the target species is very slow growing and requires specific site to grow.
- As a consequence of the scarcity of seeds and planting materials, plantation techniques have not been fully explored during the project period. A plantation trial has not been fully executed in a larger scale as planned.

- The involvement of research institutions under the coordination of Executing Agency such as Regional Research Center of South Sumatra and South Kalimantan was very valuable, especially for the continuation and sustainability of project after the project's completion.

To ensure the sustainability of the project, the EA has initiated several approaches in collaboration with the project's partners:

- Activities related to the plantation trial and productions of planting materials will be maintained by Regional Research Center of South Sumatra and Regional Research Center of South Kalimantan as part of their regular activities in the development of plantation trial for forest tree species.
- The allocation of 20 ha for ramin plantation site in Kedaton, Ogan Komering Ilir (OKI), will be maintained and further executed by Center for Conservation and Rehabilitation (CCR-FORDA), RRC of South Sumatra and District Forest Service of OKI. District Forest Service of OKI will allocate financial support for fire prevention while CR-FORDA and RRC South Sumatra will allocate budget for the provision of planting materials and other maintenance.
- The initial establishment of a hedge orchard and plantation trial in Tumbang Nusa Research Forest will be further maintained by RRC of South Kalimantan.
- The stock plants (hedge orchard) which has been established using naturally regenerated seedlings (wildlings) will be maintained by RRC of South Kalimantan. RRC of South Kalimantan will continue producing vegetative cuttings for plantation trials and provide an internal budget from 2013.
- The stimulation of flowering/fruiting for seed production in Tumbang Nusa Research Forest will be continuously conducted by Regional Research Center of South Kalimantan and University of Lambung Mangkurat to enhance seed production of ramin.
- The initiation of in-vitro propagation (tissue culture) of ramin by Center for Bio-technology and Tree Improvement (FORDA – Yogyakarta) will be continued as part of their research activities.

The project has produced several important technical reports on ramin and these publications could be used as references not only for decision makers but also for other communities such as research groups, and conservationists. The conservation of ramin and its rehabilitation-plantation could be consistently maintained and/or resumed by various stakeholders based on the findings of the project towards sustainable management and conservation of ramin in Indonesia.

VI. Concluding Remarks

With the clear identification of policy and technical challenges in sustainably managing ramin in Indonesia, the project has been successful in achieving most of its planned outputs and its specific objectives and in contributing to its development objective although the project duration was extended for 20 months.

Since the ITTO Secretariat has received the Project Completion Report, several Technical Reports, and Financial Audit Report, the Committee may wish to consider this project as completed.

(9) PD 451/07 Rev.1 (F) Transboundary Biodiversity Conservation Area: The Pulong Tau National Park, Sarawak State, Malaysia- Phase II (Malaysia)

Budget and Funding Sources:

Total Budget:			US$	1,708,325
ITTO Budget:			US$	1,092,960
Government of Switzerland:	US$	756,960		
Government of Japan(MoFA) :	US$	200,000		
Government of USA:	US$	100,000		
Government of Norway:	US$	26,000		
Government of Korea:	US$	10,000		
Government of Malaysia:			US$	615,365

Implementing Agency: Forest Department of Sarawak

Session of Approval: ITTC Session XLII, May 2007, Port Moresby, PNG

Starting Date and Duration: January 2008 / Planned; 36 months, Actual; 56 months

I. Introduction

The project was approved at the 42nd Session of the Council, partially funded at the same Session and was fully financed at the subsequent Session. The agreement regulating the implementation of the project was duly signed on 11 January 2008. The first disbursement of funds was made on 22 January 2008. A 20-month extension of the project's period was extended to enhance the implementation of community development activities.

II. Project Objective

The project aimed to contribute to the conservation of natural ecosystems in the Northern Highlands of Sarawak and to the sustainable development of the local communities, through the implementation of activities of biodiversity conservation and support to local socio-economic development initiatives. Its specific objectives were to: i) promote the ecosystem values of the Pulong Tau National Park (PTNP) through integrated conservation management; and ii) strengthen transboundary conservation management emphasizing cross-border participatory approach involving the local communities.

III. Project Achievements and Outputs

The main achievements and outputs produced by the project are summarized as follows:

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	STATUS OF EXPECTED OUTCOME
Output 1.1 **The conservation and management capacity for PTNP strengthened**	Extension of rangers station in Bario, planned rangers stations or field posts, infrastructures and equipment provided; maintenance of park boundaries and law enforcement continued	Two rangers posts constructed, park boundary marked & access (trails) improved	PTNP adequately safeguarded, significant contribution by Samling in building rangers posts
A 1.1.1- To create the Park's Field Management Unit, the PSC and SCC	PMU, PSC & SCC form a part of implementation process	Created and operational	Expected outcome achieved
A 1.1.2- To service the Park's Field Management Units basic equipment and staff	EA to help service the PMU	Equipment & staff provided	achived
A 1.1.3- To construct 3 field rangers post	Posts required for park management with local involvement	Two posts constructed at Lepo Bunga & Ba' Medamot	Post at Ba' Kelalan delayed pending land acquisition
Output 1.2 **The extensions of PTNP initiated**	Park extension helps to widen conservation base	First extension of 10,000 ha gazetted, timber licensee surrendered site in June 2011	Second extension delayed, greater effort needed to speed up constitution process
A 1.2.1- To develop accurate thematic maps of the PTNP based on better satellite images using systematic analysis and interpretation for	Accurate maps vital for management planning	Maps indicating extensions & study areas developed for management & reporting	Necessary to upgrade information with better satellite images

Park management			
A 1.2.2- To survey and mark extended boundaries and community use zones	Process to upgrade information on the national park	Boundaries marked, community use zone identified	Information used to improve park management and development of new project proposal
Output 1.3 **Baseline ecological and biodiversity surveys carried out and results published**	Surveys in Batu Lawi extension to upgrade biodiversity data base	Baseline data analyzed, technical reports prepared	Base for conservation extended, rare species recorded
A 1.3.1- To conduct post-logging ecological survey and establish ecological plots, floral inventory and resource use in the extended Park areas and mixed dipterocarp forest in the core area, monitor ecosystem changes	Linear sampling plots for different forest types	Plots established, status of logged-over forests described, data on natural regeneration compiled, rehabilitation of degraded sites carried out	Results indicate richness of biodiversity in logged-over forests, promising result from rehabilitation of degraded sites
A 1.3.2- To conduct faunal surveys in the core area and extended Park areas and monitor ecosystem changes	Surveys by camera trapping & sample plots in extended park area	Records of mammals & birds, rare species discovered	Enhanced database on fauna
A 1.3.3- To organize scientific workshop	To present results and exchange knowledge	Discussion groups organized to present and discuss results	Helped to improve scientific work and reporting
A 1.3.4- To publish results of ecological and biodiversity studies and workshop proceedings	Reports are proofs of scientific studies	Technical reports prepared	Expected outputs achieved
Output 1.4 **Survey on uses of natural resources carried out and community-based activities developed**	Continuing collection of information from local communities	NTFP survey for Penan completed, planting of selected species carried out	Encouraging response from Penan community groups, Penan with good local knowledge identified
A 1.4.1- To monitor resource use by Penan and Lun Bawang	Resources important for forest dependent communities	Supported use of NTFP by Penan and Lun Bawang participants via community development activities	Number of interested participants below expectation
A 1.4.2- To develop community-based activities	Create opportunities to improve local community livelihood	Benefits enjoyed by pro-active participants with improved livelihood	Participation by some communities below expectation
A 1.4.3- To conserve the fragile montane vegetation and flora of Mt. Murud and re-establish the natural vegetation	Vegetation affected by park visitors & tree felling requires protection	Visitor trails upgraded, damaged vegetation recovered	Constant maintenance of trails required, more effort to come from SFC
A 1.4.4- To support highland conservation and ecotourism	Ecotourism assets emphasize culture, nature & adventure	Trails improved, information materials prepared	Local travel agencies must engage outside help to improve the industry

Output 1.5 Conservation awareness programmes for local key stakeholders carried out	Importance of awareness education emphasized	Programmes focused on younger generations	Dialogues with communities led to better appreciation of importance of PTNP, Programmes for schools received good response from teachers and students
A 1.5.1- To conduct conservation awareness activities	Programmes focus on younger generations	Education programmes conducted in 4 schools, nature museum & filed study centre in Bario & Ba' Kelalan established	EA/SFC should continue to collaborate with communities & schools to promote nature conservation
Output 2.1 Bi-national cooperation in TBCA management is strengthened	JTF meetings, cross-border activities and joint scientific training	Joint scientific & handicraft training organized	Greater effort needed to strengthen TBCA cooperation
A 2.1.1- To organize and attend Joint Task Force meetings	Joint planning and Information exchange important	One meeting organized	Outcome below expectation
A 2.1.2- Joint scientific research in PTNP	Need to enhance cooperation & scientific knowledge	Joint training organized	More collaborative effort required
A 2.1.3- To characterize transboundary ecosystems and habitats and identify bi-national interests in biodiversity conservation and ecosystem protection	Sharing information for collaborative management	Reported completed	Outcome achieved
A 2.1.4- Joint patrol/enforcement	Safeguarding TBCA	Not carried out	Greater bi-national effort needed
Output 2.2 Awareness in transboundary conservation and sustainable utilization of natural resources is raised	Continue to encourage cross-border activities and dialogues	Joint handicraft training completed	Greater collaborative effort needed
A 2.2.1- To initiate cross-border socio-economic activities among the local communities	Emphasis on handicraft & ecotourism	Cross-border trade in handicrafts, rice & salt, etc.	More effort needed to promote cross-border ecotourism

IV. Outcomes and Impacts

The main outcomes and impacts of the project attaining its specific and development objectives are summarized in the following points:

- The local communities had become more aware of the importance of PTNP and conservation in general. For example, the people in Bario refrained from felling trees inside the park after learning that their mini-hydro and wet paddy farms depended PTNP's catchment for water supply;
- The communities of Ba' Kelalan stopped felling trees in the national park to repair the trails and huts at the Church Camp; and erected signs along the trails to remind visitors not to throw rubbish and to keep the park clean;
- The nature museum at the secondary school in Bario became a visitor attraction;
- The teachers and students of the Ba' Kelalan primary school benefitted from environmental education and had become very interested in nature conservation. Led by their teachers, the

students formed groups to study about plants and birds and make records of their presence and uses;

- For the Penan, provision of housing, water supply, suspension bridges for safe river crossing, improved trails, and farming tools and equipment, as well as on-farm training and training on sanitation and hygiene had enabled them to lead a better and healthier life. Fruits and vegetables had found it less necessary to visit the forest; and
- The project had enabled timber companies operating in the area to better demonstrate their corporate responsibility by actively participating in project implementation. Their contributions were in the form of free transport and accommodation, building materials and manpower for construction, and as collaborators in surveys and restoration of degraded sites. A private helicopter company helped airlift construction materials to remote locations at subsidized rates.

The above were planned outcomes described in the project document. Additional inputs and efforts by ITTO and the state government had produced the following impacts:

- Support from the EA and state government was most encouraging: (i) The EA formed the Community Service Initiative Unit (CSIU) in 2010 with the intention of continuing the project work and extending and applying it to other TPAs; (ii) The State Ministry of Resource, Planning and Environment (MRPE) allocated additional fund to enable more community development activities to be implemented for the people in 2011 and 2012;
- The project's community development work became a significant part of the social forestry programme of the EA whose image was also boosted;
- The project's achievements were frequently reported or quoted in local and overseas meetings, conferences and seminars, and were used to report on the progress of the Heart of Borneo initiative;
- The CSIU had been approached to share experience and assist in community development work by several government agencies;
- ITTO had become well known among many government agencies and the private sector.

Within the PTNP domain, the project succeeded in securing the first extension of PTNP covering some 10,000 ha of the Batu Lawi area, and initiated the process for a second extension at Long Repung along the Kalimantan border. In the Batu Lawi extension forest, an assessment of the ecosystems and biodiversity in logged-over forests was conducted. The study confirmed that the area was still very rich in plant and animal species including some that were rare and endemic. The forest forming the core of PTNP had remained intact.

There was a positive change in the policy of the EA and certain other government-related agencies in regards to the roles of local ethnic communities in social forestry. With support from the MRPE, the CSIU's task is to strengthen the government's social forestry programme. Related to this is the restoration of degraded sites in logged-over forests, the first such effort between the government and a timber company.

V. Lessons Learnt and sustainability

The project was widely recognized in the state of Sarawak and has achieved considerable outputs. A number of lessons have emerged from the project's implementation. These include:

- The Project correctly identified the problems facing PTNP, namely, potential risk/damage due to commercial logging and local land use, lack of baseline data required for effective management, and lack of management presence. The Project also recognized the need of the local communities to reduce their dependence on forests and the lack of their involvement in the management of PTNP.
- The Project had a good understanding of the socio-economic background of the three ethnic communities and their needs, and designed appropriate activities for best benefits. For example, the Kelabit and Lun Bawang communities would benefit from activities to enhance ecotourism and farming, while for the Penan a chance to live above poverty level was their greatest wish.
- The Project took appropriate actions to avoid variations between planned and actual implementation by taking into consideration factors such as rainy weather and rising cost with the help of timber contractors. The Project was fortunate to receive additional funding from the EA and was assisted by a team of hard working personnel that enabled not only planned but also additional/new activities to be successfully implemented.

- Political support and recognition of the Project's contributions was a definite advantage in boosting the image of the Project and that of the government in enhancing its community development efforts.
- To facilitate implementation, the EA appointed a senior officer as the coordinator of the ITTO Project to handle administrative matters, and another as the local Project counterpart dealing with Project implementation. The implementation team comprised the Project Leader and his research assistants, the local counterpart, and group of selected forest guards and officers from the Forest Department Sarawak.
- Documenting the results of research, studies and community activities was an essential component of the Project. A series of technical reports covered the subjects on NTFP and utilization, scientific research on mammals, birds and amphibians, survey and documentation of biodiversity in logged-over forests, and rehabilitation planting.
- In project monitoring and evaluation, the PSC played a critical role in independently assessing the Project's progress and making recommendations for improvement.
- One external factor that affected implementation but could not be foreseen was inadequate active involvement of some local communities that expected financial benefit or preferred the work to be done for them.

The sustainability depends on active involvement of project beneficiaries. After project completion, the EA will continue to provide various forms of assistance to those who continue to be involved in fishery and crop cultivation.

Activities already initiated by CSIU in recent months were visits to two Penan villages to undertake maintenance work, giving out more planting materials to interested farmers, and organizing handicraft training workshops in collaboration with the State Handicraft Department at Ba' Kelalan. Another planned activity in 2012 is to promote the *tagang* fish project at Long Lidong in Lawas as a tourist attraction, a collaborative work with the local people and Department of Agriculture (DOA). For 2013 and beyond, the CSIU has made arrangements with the local key stakeholders to (a) pursue extension to the PTNP; (b) to develop NTFP in Bario and Ba' Kelalan; (c) to improve visitors' trails linking Batu Lawi, Kelabit and Penan villages; (d) to maintain and expand tree planting on degraded sites, and (e) to contribute to progress of the HoB initiative for the conservation of biological diversity in the Heart of Borneo.

VI. Concluding Remarks

The project has successfully achieved the development objective of promoting the natural ecosystems of the highland for biodiversity conservation and contributing to the socio-economic development of the local people although transboundary cooperation could have been more fully achieved if both sides were equally proactive.

Since the ITTO Secretariat has received the Project Completion Report, several Technical Reports, and Financial Audit Report, the Committee may wish to consider this project as completed.

(10) PD 493/07 Rev.1 (F) Strengthening Capacity of Forest Law Enforcement and Governance in Cambodia (Cambodia)

Budget and Funding Sources:

Total Budget:			US$	684,362
ITTO Budget:			US$	561,195
Government of Japan (FA):	US$	391,195		
Government of the U.S.A.:	US$	125,000		
Government of Australia :	US$	35,000		
Government of Republic of Korea	US$	10,000		
Government of Cambodia:			US$	123,167

Implementing Agency: Forest Administration of Cambodia

Session of Approval: ITTC Ghana Meeting, June 2008, Accra, Ghana,

Starting Date and Duration: January 2009 / Planned; 36 months, Actual; 43 months

I. Introduction

The project was approved and financed in June 2007 in Accra, Ghana. The agreement regulating the implementation of the project was duly signed on 6 October 2008. The first disbursement of funds was made on 26 December 2008. A 7-month extension of the project's period was extended to enhance the quality of technical reports resulting from the implementation of the project.

II. Project Objective

The development objective of the project was to contribute to the implementation of the Government's policy platform in combating illegal logging, forest land clearing and land encroachment in order to manage and use forest resource in a sustainable manner. Its specific objectives were: i) to strengthen capacities for forest law enforcement and governance; and ii) to develop tools to enable effective suppression of illegal forest activities.

III. Project Achievements and Outputs

In order to address the key problem of weak law enforcement capacity of the Forestry Administration (FA)), the project has worked for the achievements of five outputs: i) appropriate facilities in place, ii) forest law enforcement training implemented, iii) effective monitoring and documentation of illegal forest practices, iv) effective judicial processing, and v) effective extension function.

Output 1: Appropriate facilities in place

The project has purchased various equipment and facilities to facilitate the suppression of illegal forest activities. These include 1 Vehicle, 4 motorcycles, 21 desktop computers, 2 notebooks, 14 printers, 1 photocopy, 32 GPS, 21 Radio communication, 1 video camera, 14 cameras, 1 voice recorder, 7 desks, 1 meeting table, 17 chairs, 4 cabinets, 1 LCD projector, 1 fax-phone machine, 1 wall screen projector, 1 cable printer, 1 connector network, 11 memories stick, 13 flash drives, 4 dry cell batteries, 19 scenes of satellite imagery, and installed 7 sets of solar panels at the four project sites.

Output 2: Forest law enforcement training implemented

Based on the findings of the training need assessment, the project developed a sound training program that comprised four modules:

1. Specialized training related to forestry issues (harvesting, wildlife identification, CITES and other cross-border issues)
2. Fundamental procedures in dealing with forest offenses (searches, intelligence, evidence gathering, and filling in documents for the court and Central FA)
3. Fundamental laws involved in law enforcement (forestry law, land law, code of criminal procedure, protected area law and other laws and regulations)
4. Specialized skills (communication, negotiation, conflict management and resolution, GPS and map reading and document management)

The trainings were conducted at the Forest and Wildlife Training Center in Phnom Penh, Cambodia to all levels of FA staff including Central FA and Local FA (Inspectorates, Cantonments, Divisions and Triages), not only concerning theory but also practical field work. 20 trainers on forest law enforcement had been trained under the project; they were selected from the senior staff of Central FA, FA Inspectorates and FA Cantonments. In total, FA staff at different levels that had been trained were: 256 staff on forest law enforcement aspects, 270 staff on crime codes and 19 staff on use of computerized forest crime data base systems (CTS).

The project had provided support to 15 Chiefs of FA Cantonments to attend the ASEM Conference on "forest product trade and forest governance" in Phnom Penh and Project Coordinator to attend the workshop on technology that promotes transparent timber trade in Asia and the Pacific Region held in Kuala Lumpur on 27-29 July 2011.

Output 3: Effective monitoring and documentation of illegal forest practices

Forest patrolling procedures have been developed through internal meetings and brainstorming of FA officials and staff. These include four main elements: i) patrolling operations, ii) equipments and facilities required for patrolling, iii) investigation, planning and suppression; and iv) case follow up.

A pocket field guide on monitoring and documentation of illegal forest practices have been developed by compiling main articles from forestry laws, land laws, criminal codes, criminal code procedures and government orders related to forestry sector for purpose of strengthening and improving capacity of FA staff to conduct effective documentation and monitoring of illegal forestry practices in the field.

A Case Tracking System (CTS) developed under the Project (UNTS/CMB/001/DFI) in year 2000 based on the US Forest Service's experience has been updated to provide the FA management with a means to identify and implement law enforcement activities by appropriately recording and analysing incidents involving violations on forestlands and protected areas. The system was installed on 15 computers, one each, in the four FA Cantonments and eleven FA Divisions in the four provinces (Kratie, Kampong Thom, Pursat and Preah Sihanouk) of the project sites. In the period from 2009 to 2011, a total of 4,148 cases of forest crime had been detected and entered to the date base systems at four offices of FA Cantonments and eleven Division Offices.

A forest cover study (2010) classified land use into 10 classes by using the land use class definition of FAO through the satellite images of the Landsat 7 ETM and 5 TM. Results of the 2010 study show 10,363,789 hectares or 57.07 percent of Cambodia land area were forest land. Comparing the figures of forest cover in 2002 and 2010 indicates that the loss of forest cover in 2002-2010 period was 740,502 hectares in total, representing 4.08 % of total land area. It implies that the annual rate of deforestation during the 2002-2010 period was 0.5 %.

Output 4: Effective judicial processing

In order to improve collaboration with provincial courts at the four provinces of project sites, four coordination meetings were conducted between FA Cantonments and Royal Prosecutors and Judges of Pursat, Kratie, Kampong Thom and Preah Sihanuk provinces with a total of 115 FA staff taking part in the meetings. These meetings provided better understanding of judicial processing of the forest crime cases that had been sent to the courts by FA Cantonments.

As a result of the meetings with provincial courts, a total of 539 forest crime cases have been completed and closed in four provinces (Kampong Thom-161 cases, Pursat-139 cases, Kratie-218 cases and Preah Sihanouk-21 cases). A series of training course on "Criminal Code" and "Criminal Procedure Code" were organized. There were 270 participants from FA at the central and local levels including the Inspectorates. The subjects covered by the trainings included: Cambodian judicial system; prosecution; investigating judge and investigation chamber; judicial police; judicial police officers; judicial police agents; and judgment and appeal of judgment

Output 5: Effective extension function

Twelve extension workshops on forest laws and regulations have been conducted in eight districts in four provinces with 1,227 participants in total representing Forestry Administration, Community Forestry, private sector and NGOs

Extension materials have been developed and distributed. These include 1,000 T-shirts with logos of ITTO, Forestry Administration and the International Year of Forest distributed to local people during the National Arbor Day on 9 July 2011; 20 sign boards of Kbal Bei Community Forestry exposed in Kampong Thom province; 1,500 copies (Size A1) and 9,000 copies (Size A4) of 4 posters of different titles distributed to increase public awareness; 8 forestry banners flagged at strategic points in 4 provinces; and 5,000 copies of a comic book entitled "Forest and Our Future". The project developed a website by linking to the website of TWG-F&E (Technical Working Group on Forestry and Environment) for information sharing. The project website is http://www.twgfe.org/itto.

IV. Outcomes and Impacts

The main outcomes and impacts of the project attaining its specific and development objectives are summarized in the following points:

- Availability of the equipment and facilities purchased by the project has enabled the FA Cantonments in four provinces to monitor illegal forest activities and document forest crimes in a more effective manner compared to the pre-project situation
- Implementation of the training program has improved the capacity of 245 FA staff at different levels to conduct forest patrolling and document forest crimes. Moreover, 16 FA staff have gained experience in FLEG problem solving through their attendance of relevant international workshops
- FA staff at different levels and stakeholders alike have gained technical knowledge and understanding on forest law enforcement through the different technical guidelines on FLEG including the technical manual on CTS operation published and disseminated by the project. In addition, status of forest cover in four provinces in 2006-2010 period has been studied and properly mapped through interpretation of updated satellite imageries.
- At project completion 1,001 cases of forest crime that were occurred in 2010-2011 had been reviewed by the FA with the assistance of legal consultants. Moreover, collaboration with Provincial Prosecutors and Judges in four provinces has been substantially strengthened through coordinative meetings conducted under the project and 270 staff of FA at different levels have improved their capacity in suppressing forest illegal activities through the training sessions on criminal codes
- At completion of the project, public awareness on the importance of FLEG initiatives has been improved significantly compared to pre-project situation. The improvement was attributable to the extension workshops held in four provinces and attended by 1,227 participants representing various stakeholder groups, publication and dissemination of attractive extension materials as well as production and distribution of appropriate banners, posters, brochures and other materials.

At project completion, a total of 4,148 cases of forest crime had been detected and documented in four provinces; around 24,615 hectares of forest land that hitherto was illegally occupied by land hungers had been put back as permanent forests ready for undergoing rehabilitation and reforestation. These project outcomes are consistent with the RGC's policy on SFM as well as with RGC's Orders No. 01 BB of 2004 and No. 01 BB of 2006. Strengthened operational capacity to combat effectively illegal forest harvesting and clearing will now enable the RGC to implement sustainable production of tropical timber, leading to improved forest utilization through efficient forest management from destructive and wasteful illegal operations.

V. Lessons Learnt and sustainability

The project has been widely recognized in Cambodia and has achieved considerable outputs. A number of lessons have emerged from the project's implementation. These include:

- The adequate involvement of stakeholders in the project development process had resulted in a sound project design and relevant project intervention that planned project activities could be smoothly implemented with the full support of the stakeholders.
- Implementation of a collaborative approach was vital for stakeholders involving not only forestry institutions but also other agencies affecting forest resource management, e.g. local government units, land management offices, judicial courts, NGOs, etc.
- Achievements of the project were, to a greater extent, very much dependent on the capacity of the project management team (PMT) to perform operational management of the project and capability of the Project Steering Committee (PSC) in providing the PMT with useful policy and technical advices.
- The report by the Chiefs of FA Cantonments in four provinces on the declining incidence of forest crimes towards the end of the project is a clear indication of the enhanced capacity of FA in forest law enforcement in those provinces and it was attributable to the project intervention; it is therefore reasonable to strongly suggest that similar project intervention be replicated to other provinces of the country and
- In replicating the intervention on forest law enforcement, priority should be given to those provinces with rich forest resources in order to first safeguard the remaining forest; in designing the intervention, due attention should be given to the lessons learned from the previous project that weaknesses are not carried over yet strengths are duly maintained.

The decreasing trend in the incidence of illegal forest activities reported recently by the FA Cantonments reflects the enhanced capacity of FA in enforcing forest laws and regulations and surely attributable to the intervention of the project. Therefore, continuation of the critical activities initiated under

the project is indispensable in order not to lose the already existing momentum for cracking down illegal forest activities.

VI. Concluding Remarks

With the strong commitment of the Forestry Administration of Cambodia to FLEG initiative which also includes in the National Forest Program, the project has been successful in achieving most of its planned outputs and its specific objectives and in contributing to its development objective. At the project completion, Forestry Administration is now better able to control illegal logging, prevent forest clearing, and land encroachment with improved capacity of effective reporting and appropriate facilities and equipment.

Since the ITTO Secretariat has received the Project Completion Report, several Technical Reports, and Financial Audit Report, the Committee may wish to consider this project as completed.

(11) PD 539/09 Rev.1 (F) Promoting Conservation of Selected Tree Species Currently Threatened by Habitat Disturbance and Population Depletion (Indonesia)

Budget and Funding Sources:

Total Budget:				US$	189,943
ITTO Budget:				US$	149,710
Government of Japan:	US$	149,710			
Government of Indonesia:				US$	40,233

Implementing Agency: Center for Forest and Nature Conservation Research and Development, Ministry of Forestry

Session of Approval: ITTC Session XLV, Nov.2009, Yokohama, Japan

Starting Date and Duration: March 2010 / Planned; 24 months, Actual; 30 months

I. Introduction

Indonesia has tropical rain forests that rich with timber tree species. However, some of the species are currently under serious threat to extinction caused by various disturbance and habitat encroachment in their natural range distribution. Among the tropical tree species that currently under serious threat, there were some tree species having a high value and a great demand, such as ulin/ironwood (Eusideroxylon zwageri Teijsm.& Binn.), ebony (Diospyros celebica Bakh.) and cempaka (Michelia champaca Linn.). Increasing demand for these tree species has caused a high price and accelerated logging activities including illegal logging. Therefore, their potency and population decreased significantly and are getting difficult to find in natural forest. Natural forest concessions, estate crops, settlements and transmigration as well as weak of bureaucracy are factors that cause to increase degradation and fragmentation rate of Indonesian natural forest.

II. Project Objective

The project development objective was to contribute to the conservation of threatened tree species through the promotion of up-dating ecological and biological data and the conservation efforts as part of Target 2010 of Global Biodiversity Challenge. Whereas, the specific objective was to up-date data and information on vulnerability status and to enhance protection and conservation activities of selected threatened forest tree species through the establishment of species genetic conservation gardens.

III. Project Achievements and Outputs

The project objectives were fully achieved and all project outputs had been delivered through full execution and completion of planned activities.

Output 1: Data and information on conservation and protection status of tree species up-dated and reviewed.

To review the current status of forest tree species currently threatened by habitat disturbance, study sites were established in South Sumatra and East Kalimantan Provinces for ulin, Central Sulawesi Province for ebony and South Sumatera and East Java Provinces for cempaka. The study concluded that some policies and regulations were made by both the central and local governments for the sustainability of ironwood and ebony. Due to over exploitation of ironwood and ebony trees in one side, and a lot of challenges in the regeneration processes of the species in the other hands, their potency in nature are continuously declining. Although natural population of cempaka is almost extinct in some areas, this species has been commonly cultivated in South Sumatra by local communities through Agroforestry systems.

Output 2: Information on the level of genetic diversity and vulnerability of the threatened species obtained

The level of genetic diversity and vulnerability of the selected threatened species had been observed to determine conservation strategy of the selected species. The results showed that ironwood and ebony still have high genetic diversities indicating that both species will be survived and exist, as long as the genetic diversity of both species are well maintained. Therefore, in-situ and ex-situ conservation programs are required. In case of cempaka, its genetic diversity is relatively low. Although many plantations have been established, the natural populations of cempaka are limited. Therefore, conducting a comprehensive inventory of their natural potency is essential to develop an in-situ conservation plan of cempaka.

Output 3: The establishment of plant genetic conservation gardens (gene pool) as to ensure the conservation of target species initiated and local stakeholders' capacity improved.

A genetic conservation plot of ironwood has been established in Kemampo Research Forest, South Sumatera. The seedlings come from five provenances and 29 mother trees. The plots size is 1.5 ha. The genetic conservation plot of ebony has been established in Bantimurung Bulusaraung National Park, South Sulawesi Province. The seedlings come from six provenances/ populations and 28 mother trees. Size of the plot is 2 ha. The establishment of genetic conservation plots of cempaka (Michelia champaca) has been conducted in Pasir Hantap Research Forest, Sukabumi District, West Java Province. The plots size is 1.5 ha and seedlings come from four populations and 21 mother trees.

A National Workshop was organized to discuss and to collect information on conservation status, level of genetic diversity as well as to formulate long term conservation strategies and action plans of the threatened tree species. The workshop was attended by more than 50 participants from related institutions such as research institutions, LIPI, Universities, Directorate Biodiversity Conservation, private sectors and Province/District Forestry Services. 12 technical papers were presented and facilitate group discussions. It has contributed to raising the awareness of stakeholders in conservation efforts of the species.

IV. Outcomes and Impacts

Long term impacts of this project includes the knowledge and awareness on the current status of the selected threatened forest tree species, which is very useful for the relevant authorities to set up immediate and long term plans for management and conservation of the threatened forest tree species. Immediate impacts of the project include its contribution to the achievement of the project's objectives, namely: (i) availability of updated data and information on conservation and protection status of the selected threatened forest tree species; (ii) availability of data on the level of genetic diversity and vulnerability of the selected threatened tree species to determine the conservation strategy of the tree species; (iii) establishment of three genetic conservation plots at three representative sites; (iv) improved awareness of relevant authorities and local stakeholders on the concern of biodiversity loss and the importance of conservation and protection of the threatened tree species.

The project has initiated and established genetic conservation plot of ironwood (in South Sumatera), genetic conservation plot of ebony in South Sulawesi and genetic conservation plot of cempaka in West Java Provinces. Those outputs of the project will contribute to provide genetic materials for breeding program and maintain broad genetic base of the species. In addition, a series growth data of each species from various provenances can be obtained. The project has delivered up-dated data on management status of in-situ and ex-situ conservations of the target species. Based on this data, the related authorities can develop policies and programs for long term management and conservation plan of the target species. Furthermore, the project has recommended the conservation strategy and action plan of the target species, including programs and activities.

V. Lessons Learnt and sustainability

Efficiency and effectiveness of project inputs have been done by re-arranged the time schedule of the activities. However, to obtain sufficient data on current potency and population size of ironwood, ebony and cempaka, it needs more sites and longer time for field assessment and so more budget is needed to do the work. Fortunately, data on current potency and population size of ironwood and ebony can be completed through the national workshop because some research centers presented the result at the event of the first national workshop. For cempaka, updated data through this project, both by means of desk study and field observations only covered potency and population size of cempaka plantations in Agroforestry Systems as well as cempaka seed sources planted by community in South Sumatera and East Java. Data on potency and population size of cempaka in natural population have not been available yet, due to inadequate budget to do the exploration in the natural population. Actually, collecting primary data on species potency and population size needs much more project inputs.

After project completion, the sustainability of the genetic conservation plots can be expected through commitment of the executing agency to follow-up the maintenance and observation of the plots in order to obtain optimal growth and good performance of the plants in the plots. In 2012, the executing agency has allocated some amount of budget to maintain and to observe the all three conservation plots of ironwood, ebony and cempaka. For the year 2013 and onwards, the maintenance and observation of the plot of ironwood will be carried out by the Palembang Forestry Research Institute, while those of the ebony plot will be continued by Makasar Forestry Research Institute and those of the cempaka plot will be conducted by the Executing Agency itself.

There are potential next activities/programs as a follow-up to the project. The size and site of the genetic conservation plots of ironwood and cempaka are recommended to be extended, since natural distributions and provenances of those species are very broad in order to fulfill the minimum size of the plots. Gunung Dahu Research Forest is one alternative site to extend the size and the site of cempaka genetic conservation plot. The other potential follow-up program is research on development of farm forestry program of cempaka. Since cempaka is a semi fast growing species and it has a multi uses (the wood and the flower), so it would become attractive to community to develop this species on their own land. Alternative site is some villages near the cempaka genetic conservation plot, Sukabumi District, West Java Province.

VI. Concluding Remarks

The project objectives were fully achieved and all project outputs had been delivered through full execution and completion of planned activities through the establishment of genetic conservation plots of ironwood, ebony and cempaka.

Since the ITTO Secretariat has received the Project Completion Report, several Technical Reports, and Financial Audit Report, the Committee may wish to consider this project as completed.

(12) PD 542/09 Rev.1 (F) Support To Convene The V Latin American Forestry Congress (Peru)

Budget and Funding Sources:

Total Budget:			US$	166,129
ITTO Budget:			US$	50,000
BPF-UE:	US$	50,000		
CNF and AIDER:			US$	116,129

Implementing Agency: National Forestry Chamber, in collaboration with UNALM, AIDER, COFAFOPE and with the auspices of the Peruvian Ministry of Agriculture

Session of Approval: ITTC Session XLV, November 2009, Yokohama, Japan

Starting Date and Duration: April 2011 / 9 months

I. Introduction

The Council approved the project at its Forty-fifth Session in November 2009 and partial financing for its implementation was pledged during its forty-sixth Session in December 2010. A Memorandum of Understanding for the organization and implementation of the CONFLAT V was duly signed in April 2011. The first installment of funds was also transferred in April 2011.

II. Project Objective

The aim of the V Latin American Forestry Congress was to help strengthen the forestry sector in Latin America by promoting a discussion forum to assess the current status of knowledge of forestry issues as well as achievements in sustainable forest management in the region as the only way to ensure the availability of resources for present and future generations, with the participation of researchers, managers, forest policy-makers, affected communities and other stakeholders involved in the forest and environmental sectors in Latin America.

To this end, the V Latin American Forestry Congress (CONFLAT) was to be organised with a view towards evaluating the situation in each of the Latin American countries, and the continent as a whole, as regards issues such as forests and climate change; degraded areas and reforestation; progress in sustainable forest management; international timber markets, value-added processing and environmental services; and forest governance; as well as identifying successes and failures and the future technological and human resource training requirements in the region. In other words, the congress involved a first-hand evaluation of the current status of forestry in Latin America and what is currently being done or can be done, so as to effectively contribute to sustainable development in the Latin American Region. This congress was also to follow-up on the outcomes of the previous CONFLATs (two of which were previously financed by ITTO). Last but not least, CONFLAT V was to conclude with an analysis of the sector in accordance with the various themes and discussion groups.

III. Project Achievements and Outputs

The Latin American Forestry Congress was held in the auditorium of the National Agrarian University (UNALM) at La Molina, Lima, Peru, from October 18th to 21st, 2011, and counted with the participation of 549 attendees from 24 countries in total, 14 of which were from Central and South America and the Caribbean, and the remainder from North America, Europe and Asia. Several international and regional organizations also participated, such as CIFOR, FAO, FINIDA, GIZ, Helvetas Intercooperation, IUCN, IUFRO, USAID, other government-related institutions, as well as several indigenous community-based ones such as COICA and AIDESEP.

The congress consisted of two keynote speeches, one on “Advances in forest policy and management in Latin America” presented by Ing. Ignacio Lombardi, President of the Peruvian National Chamber of Forestry, and another on “Sustainable Management and Conservation of Forest and Wildlife Resources” presented by the former first Minister of Environment in Peru, Dr. Antonio Brack Egg, followed by another eight main lectures focusing on the central topics of the congress, i.e.:

1. Forests, climate change and rights in Latin America;
2. Trends and characteristics of sustainable forest management by 2030;
3. Financial system and development of forestry;
4. Forest environmental services;
5. Research for sustainable forestry;
6. Forest legislation in Latin America;
7. Governance of forest resources in Latin America; and
8. Forestry education in the world.

In addition, 154 technical/scientific papers were presented in five roundtables, and a further five side-events were organized, including one by ITTO on its contribution towards the sustainable management of tropical forests which was highly attended. Other side-events were also organized by ECOBONA, USAID, IUFRO and FAO.

Peruvian congresswoman Martha Acosta provided the closing remarks to the congress.

IV. Outcomes and Impacts

The congress concluded with an overall statement that highlighted the following:

1. The role of forestry is to conserve forests sustainably and use trees for the benefit of humanity, generating goods and services that support the growth of our people;
2. Forests are one of the major players in the mitigation of climate change, so the forestry profession should play a major role in this;
3. To strengthen forest management in the region, the regulations should be simplified, but must be effective and not rhetoric;
4. The vision of the forest must be inspired by sustainable human development;
5. To get out of poverty requires that we provide people the means of development that will alleviate their situation, so we must retain and preserve our forests;
6. Forest policies must be developed for the long term rather than the duration of a government and be based on models of ecological and economic development and inspired by human values;
7. Environmental services should be considered as a supplement to the management of production forests;
8. The forestry sector should have funding mechanisms to allow for sufficient financial flows, enabling it to implement and sustain primary and secondary processing operations to give added value to forest products;
9. Governments, through its general policies, should ensure the legal stability of the sector; and
10. The recovery of degraded areas, afforestation and reforestation should be a priority for governments, to restore the ecological balance and provide economic benefits to the local populations.

V. Lessons Learnt and sustainability

Participants noted that to date 5 Latin American forestry congresses had been organized over the last 12 years and that, as these had been highly successful, there was a need to perpetuate the organization of these throughout time. In this light, the different organizers of the five congresses decided to create a CONFLAT Permanent Secretariat headquartered in Peru and under the responsibility of the Peruvian National Forestry Chamber (CNF) and the National Agrarian University of La Molina (UNALM). Moreover, the CONFLAT plenary unanimously adopted the aforementioned creation of the Permanent Secretariat and further decided that Mexico will host CONFLAT VI.

VI. Concluding Remarks

All of the individual presentations and the joint reports produced by the roundtables and the side-events were later compiled into the V Latin American Forestry Congress Proceedings, and published on both paper and digitally and widely disseminated throughout Latin America.

Overall, the project has contributed substantially to Latin America's efforts to exchange experiences at a regional level as regard sustainable forest development and management. Moreover, due to the great success of this congress and of the previous ones, a permanent secretariat was created in order to oversee these congresses continue being organized periodically in perpetuity.

Since the ITTO Secretariat has received the completion report, the V CONFLAT Proceedings as well as a satisfactory Financial Audit Report, the Committee may wish to declare this project as completed. The Completion Report and the proceedings are available upon request from the Secretariat or Executing Agency.

- **COMPLETED PRE-PROJECTS**

(1) PPD 136/07 Rev.1 (F) Study for the Conservation, Land Management and Sustainable Mountain Biodiversity Management in the Centre North Region of Togo

Budget and Funding Sources:

Total Budget:			US$	68,631
ITTO Budget:			US$	52,358
Government of Japan:	US$	52,358		
Government of Togo:			US$	16,273

Implementing Agency: *Direction des Eaux et Forêts* / MERF

Session of Approval: ITTC Session XLIII, November 2007, Yokohama, Japan

Starting Date and Duration: 8 March 2010 / 7 months

I. Introduction

The 7-month pre-project was approved by the Council during its Forty-third Session in Yokohama, Japan, in November 2007 and full financing was pledged at the ITTO High Level Meeting in Accra, Ghana, in June 2008. The Agreement regulating the implementation of the pre-project was signed on 29 October 2008, but the starting of the project implementation has been greatly delayed because of mainly the bureaucratic problems within the ministry in charge of forests in Togo combined with the long administrative process to get the authorization of the ministry of finance for the opening of a bank account for the pre-project in foreign currency. The first disbursement of ITTO funds was made on 8 March 2010. As an acceptable version of the pre-project completion report was received in June 2012, the duration of the pre-project implementation lasted 27 months instead of 7 initially designed by the implementing agency.

II. Pre-project Objective

This pre-project intended to contribute through a future project to the conservation, restoration and sustainable management of mountain biodiversity in the Center-North region of Togo in the aim to improve the living conditions and environment of local communities, and to secure for present and future generation sufficient natural resources in the perspective of the sustainable development of the country. Specifically, it intended to provide technical support for the development of a local community support project to conserve and sustainably manage mountain biodiversity in the Centre North Region of Togo.

III. Pre-project Achievements and Outputs

The pre-project implementation had contributed to complete most planned activities regarding studies and surveys carried out in the target zone of the future project, to get updated information and data required for the formulation of that project, and summarized as follows:

Output 1: Forest, flora, wildlife, socio-economic and environmental impacts data available for the project area

- Consultant Report by ALLIANCE s.a.r.l. Cabinet, in June 2010, on Socioeconomic and Institutional Study for the Conservation, Land Management and sustainable Mountain Biodiversity in the Centre-North of Togo.
- Consultant Report by CAREMA s.a.r.l. Cabinet, in June 2010, on Environmental Impact Assessment for the Conservation, Land Management and sustainable Mountain Biodiversity in the Centre-North of Togo.
- Report by AMEN NGO, in August 2010 on Forestry Study for the Conservation, Land Management and sustainable Mountain Biodiversity in the Centre-North of Togo.

Output 2: A project proposal to support local communities for the conservation and sustainable use of mountain biodiversity in the Center-North Region of Togo, formulated and submitted to ITTO

A draft project proposal was formulated with the updated information and data with the collaboration of main stakeholders. The draft project should be validated by key stakeholders prior to its submission to the ITTO regular project cycle.

IV. Outcomes and Impacts

The main pre-project outcomes and impacts are summarized as follows:

- Main stakeholders have been consulted during the pre-project implementation in order to take into account their interests and needs, in relation to the project's intended specific objective, regarding the conservation, land management and sustainable mountain biodiversity management in the Centre-North region of Togo. That's why local traditional authorities have been sensitized on the land tenure issues which could be considered as main constraint for the implementation of the future project; and
- Establishment of a consultation framework promoting the dialogue and cooperation among identified key stakeholders, during the implementation of a project formulated with updated information and data derived from the implementation of this pre-project.

V. Lessons Learnt and sustainability

In addition to the long administrative process to get the authorization of the ministry of finance to open a bank account in foreign currency, for the implementation of this pre-project, as well as the participatory approach used for involving main stakeholders in the preparation and formulation of the future project had been the main causes of delaying the pre-project implementation (pre-project fully signed in October 2008 and implementation starting in March 2010) and extending the duration of its implementation (27 months instead of 7 initially designed by the implementing agency). There is a need to adequately prepare good and realistic institutional arrangements for a smooth implementation of a project or a pre-project.

In relation to intended objective of the project derived from the pre-project implementation, the sustainability aspects could be addressed through the involvement of local communities and traditional authorities on the Centre-North Region of Togo, while ensuring the appropriate technical support from relevant governmental institutions and non-governmental organizations. The project operationalization in the target zone should be subject to appropriate partnering process involving key stakeholders.

VI. Concluding Remarks

Since the Implementing Agency has completed its activities in accordance with the ITTO guidelines and ITTO Secretariat has received the pre-project Completion Report, Consultant Reports, and satisfactory Financial Audit Report, the Committee may wish to consider this pre-project PPD 136/07 Rev.1 (F) as completed. Soft copies of abovementioned reports and documents are available, upon request, from the Secretariat.

(2) PPD 143/09 (F) Assessment of Mangrove Forest Affected by Cyclone Nargis to Facilitate the Development of an Integrated Mangrove Ecosystem Management in Ayeyarwady Delta, Myanmar

Budget and Funding Sources:

Total Budget:			US$	61,938
ITTO Budget:			US$	
Government of Japan:	US$	41,938		
Government of Republic of Korea	US$	20,000		
Government of Myanmar			Kyats	6,212,000

Implementing Agency: Forest Research Institute, Forest Department of Myanmar

Session of Approval: ITTC Session XLV, November 2008, Yokohama, Japan

Starting Date and Duration: October 2010 / Planned; 6 months, Actual; 18 months

I. Introduction

The pre-project was approved and funded at the Forty-fifth Session of the Council. The agreement regulating the implementation of the pre-project was signed on 24 May 2010. The pre-project activities were initiated in October 2010 and completed in May 2012.

II. Pre-Project Objective

The development objective of the pre-project was to enhance the rehabilitation process of mangrove forest and integrated management practices of mangrove ecosystem in Nargis Cyclone affected area, Delta. Specifically, the pre-project was to assess relevant sectoral policies, programmes, and activities on mangrove ecosystems in order to formulate a full project proposal to rehabilitate Nargis affected mangrove forests in Ayeyawady Delta through stakeholders' consultation workshops.

III. Pre-Project Achievements and Outputs

An Inception Workshop was organized by the Forest Department of the Ministry of Environmental Conservation and Forestry (MOECAF) from 12-13 October 2010 at the City Hall in Bogalay Township, Ayeyawady Division, Myanmar. This Inception Workshop developed an assessment framework for mangrove rehabilitation programs and activities by different institutions with collection of data and information concerning activities which have been implemented for mangrove rehabilitation among international non-governmental organizations, local non-governmental organizations, companies, private sectors and others.

Data collection was constructed in three townships, namely Bogalay, Laputta and Mawlammyaing Kyun townships. During the field trip, personnel of line ministries and local NGOs were interviewed and the interview was conducted to exchange their views and experiences of rehabilitation and sustainability of mangrove forests. Discussions and meetings were also held with the government officials and responsible persons from NGOs. Data and information about the rehabilitation programs were obtained from different sources mainly from the Forest Department, field survey, journals and research papers. The recommendations to improve the sustainability of mangrove ecosystems in the Delta region include:

- Better protection and management should be practiced through the identification of integrated coastal area management as a possible solution to competing land uses;
- Conversion of mangrove area for aquaculture and agriculture should be continuously monitored and controlled;
- Research activities more relevant to silvicultural and ecological aspects should be carried out for effective and successful plantation establishments;
- Policies and legislatives related to forestry, agriculture and fishery sectors should be reviewed to provide appropriate recommendations to the policy- and decision-makers to make reforms in policy and legislative aspects as necessary for protection and conservation of mangrove resources; and
- Institutional aspects should also be critically reviewed within the forestry sector to make necessary institutional improvements as necessary such as formation of a specialized agency or department with adequate professionals to protect and conserve the mangrove resources in the country effectively.

A second workshop was held at Forest Department in Nay Pyi Taw on 15 February 2011. The workshop had presentations on mangrove forest management in Myanmar and on the rehabilitation assessment of mangrove forests affected by cyclone Nargis. The workshop also reviewed the draft version of a full project proposal which was prepared by a national consultant based on the outcome of the pre-project as well as the recommendations of the first workshop held in October 2010.

The Implementing Agency submitted a full project proposal entitled "Developing Monitoring System of Mangrove Ecosystem Management with Livelihood Improvement in Ayeyawady Delta, Myanmar" under ITTO Thematic Programme on REDDES. The proposal was designed to focus on climate change mitigation aspects as well as strengthening income generation activities by avoiding the on-going mangrove initiative of JICA. The proposed project's focus includes sustainable livelihood improvements of local communities in the

Delta area, thereby contributing to the sustainable management of mangrove forests. However, this proposal received several recommendations to improve its quality from reviewers under the ITTO Thematic Programme on REDDES.

A study tour to mangroves in Bali, Indonesia was organized in Feb 2012 by using the remaining balance of the pre-project funds. This study tour was assisted by the Director-General of Watershed Management and Social Forestry Development Department, Ministry of the Forestry of Indonesia and ASEAN Social Forestry Network.

IV. Outcomes and Impacts

The specific objective was achieved through two national workshops involving stakeholders from relevant sectors and organizations, and communicative interviewing and discussions. Sectoral policies of different line ministries were collected and reviewed relating to mangrove ecosystem rehabilitation and restoration after rehabilitation and restoration activities had been done. Awareness about importance of ecosystem services was promoted and lessons learnt after the tropical cyclone Nargis.

As a result of several lessons learnt from the cyclone Nargis, long-term programmes of concerned sectors were updated and integrated into the national programmes such as a land use plan, a master plan for conservation of mangroves in the Delta in the forestry sector, rehabilitation of paddy land in the agriculture sector, livestock and fisheries sector demographic sector regarding immigration issue under the General Administration Department of the Ministry of Home Affairs.

The project staff, township and district forest officers of the Ayeyarwady Division, FD of MOECAF, acquired knowledge and methodologies from the outputs of the workshop and participated in assessment of rehabilitation of mangrove forest affected by the cyclone Nargis. Stakeholders from government organizations such as Ministry of Agriculture and Irrigation, Ministry of Livestock Breeding and NGOs had opportunities to share views and discuss development of a long-term programme. Insight knowledge shared and key issues discussed among Project Coordinating Committee, members of relevant institutions from respected sectors during the pre-project period will be useful and applicable in the future.

V. Lessons Learnt and sustainability

A number of lessons have emerged from the pre-project's implementation. These include:

- Pre-Project identification clearly emerged from the natural disaster of Nargis cyclone in Myanmar in 2008.
- The outline of project design and implementation strategy was cautiously set up to fulfill the requirement of all aspects such as social, environmental, economic in the Ayeyarwady division. However, more time and resources than expectation were spent as the pre-project implementing agency (Forest Research Institute) is located far from the pre-project site.
- During the consultative workshops, major stakeholders from line ministries played an essential role in sharing views reflected to their sectors due to the nature and objective of the pre-project. By the reason of inter-ministerial procedures, a time consuming communication barrier was observed among project staff at FRI, Project Coordination committee members from governmental organizations in the Ayeyarwady division, and ministries in Nay Pyi Taw.
- There is a need to improve the capacity of the implementing agency in formulating a full project proposal in accordance with the ITTO Manual for Project Formulation (2009).
- A study tour to mangroves in Bali, Indonesia provided a good opportunity to to acquire experiences in rehabilitation and management of mangroves in addition to observing community and social activities.

After the pre-project's completion, all information-package of mangrove rehabilitation programme from different sectors can be accessed by stakeholders and members of project coordinating committee (PCC) when developing further mangrove-related programmes. It will be essential for the Executing Agency to further improve the full project proposal by addressing reviewers' comments and recommendations for the sustainability of this proposal. The findings from the pre-project will be continuously synthesized by the Executing Agency as mainstreaming for long term restoration in the Delta area in Myanmar.

VI. Concluding Remarks

The pre-project has been successful in achieving its specific objectives of analyzing the social, environmental, and economic aspects in the Ayeyarwady division to facilitate the rehabilitation process of

the cyclone Nargis affected mangrove forests. The pre-project has contributed to the development of a full project proposal to establish a MRV system of mangrove forests with the enhancement of sustainable livelihood improvements in local communities in the Delta area.

Since the ITTO Secretariat has received the Pre-project Completion Report, and Financial Audit Report, the Committee may wish to consider this pre-project as completed.

(3) PPD 147/10 Rev.1 (F) Zoning and Sustainable Development of the Minkebe Protected Area Towards the Protection of Transboundary Conservation Corridors between Gabon, Cameroon and the Congo (Gabon)

Budget and Funding Sources:

Total Budget:			US$	139,279
ITTO Budget:			US$	99,279
Government of Japan:	US$	99,279		
Government of Gabon:			US$	10,000
IUCN:			US$	30,000

Implementing Agency: International Union for the Conservation of Nature (IUCN)

Session of Approval: Autumn 2010

Starting Date and Duration: 16 May 2011 / 6 months

I. Introduction

The 6-month pre-project was approved under Autumn 2010 Project Cycle through the electronic approval system put in place, and the financing was made at the same Project Cycle. The Agreement regulating the implementation of the pre-project was signed in April 2011. The first disbursement of ITTO funds was made on 16 May 2011. As an acceptable version of the pre-project completion report was received in July 2011, the duration of the pre-project implementation had lasted 14 months instead of 6 initially designed by the implementing agency (IUCN-Cameroon).

II. Pre-project Objective

This pre-project intended to contribute to the biodiversity conservation through a future project dealing with the protection of transboundary conservation corridors between Gabon, Cameroon and Congo-Brazzaville. It specifically intended to develop a full project proposal dealing with the sustainable development of the Minkebe protected area as part of a transboundary to be established in those three countries, within the sub-regional initiative called TRIDOM (**Tri**-national conservation area including **D**ja in Cameroon, **O**dzala in Congo-Brazzaville and **M**inkebe in Gabon).

III. Pre-project Achievements and Outputs

The main pre-project achievements and outputs are summarized in the following tables:

a) Achievement of outputs

Outputs	Level of achievement
1. Information on the problem regarding the management of natural resources in the Gabon's component of the TRIDOM area between Cameroon, Congo-Brazzaville and Gabon updated	Report providing updated and documented information on the management of natural resources in the Gabon's component of the TRIDOM area was prepared and validated by key stakeholders

2. Full project proposal formulated with the updated information and validated by main stakeholders available	A project proposal was formulated with the updated information and validated by main stakeholders, and submitted to the ITTO regular project cycle. It was registered as PD663/12 (F) by the ITTO Secretariat with the following title: "*Zoning and sustainable management of the buffer zone of Minkebe National Park to contribute to the transboundary conservation of the TRIDOM area*".

b) Achievements of objectives

Objectives	Level of achievement
Development Objective: to contribute to the biodiversity conservation through the protection of transboundary conservation corridors within the TRIDOM forest conservation space between Gabon, Cameroon and Congo-Brazzaville	Relevant elements (social, economic, environmental and political) required for the formulation of a full project proposal were gathered and analyzed during the pre-project implementation, through studies and surveys carried out in the target zone of the future project, with the collaboration of key stakeholders.
Specific Objective: to develop a full project proposal dealing with the sustainable development of the Minkebe protected area as part of a transboundary conservation area to be established in those three countries, while taking into account the achievements of other initiatives and programmes operating in the Congo Basin	A project proposal was developed while taking in to account the achievements/results of other initiatives and programmes dealing with the biodiversity conservation and sustainable management of forest resources, in relation to transboundary and security aspects, mining activities, and industrial development requirements Gabon, Cameroon and Congo-Brazzaville

IV. Outcomes and Impacts

The main pre-project outcomes and impacts are summarized as follows:

- Main stakeholders have been sensitized on the security challenges of the project's target zone and the need to take those challenges into account in the process of managing sustainably natural resources;
- Sensitization campaign launched on the challenges issues regarding the sustainable management of the Lokoundjé – Nyong Forest, as a buffer zone for the Minkebe Protected Area;
- Establishment of a consultation framework for dialogue among identified key stakeholders, which will be of high importance during the implementation of a full project formulated with updated information and data derived from the implementation of this pre-project; and
- Weaknesses and interventions priorities regarding the sustainable management of natural resources in the Minkebe's component of the TRIDOM conservation space between Cameroon, Congo-Brazzaville and Gabon have been analyzed during the implementation of this pre-project.

V. Lessons Learnt and sustainability

4.1 Lessons learnt

For the project derived for the implementation of this pre-project, it is important to give priority to the establishment of a consultation framework aiming to ensure the synergy of interventions from different initiatives and programmes operating in the project's target zone. This will contribute to avoid duplication of efforts and means, thanks to the dialogue among key stakeholders and with those initiatives and programmes at different levels (local, national and transnational in Congo Basin), while taking into account the needs of stakeholders.

4.2 Sustainability

For the project derived from the pre-project implementation, the following aspects dealing with sustainability should be taken into account: involvement of local communities and settlers, through a participatory process to be considered as a key element of the project implementation strategy, in the management of natural resources in the project's target zone. The involvement of key stakeholders, including local communities and settlers, in the management of natural resources, should contribute to the sustainability if their interests and needs are taken into account. Those local communities and settlers should be part of the system of surveillance and patrolling in the project's target zone. As part of contribution to the sustainability, governmental institutions and non-governmental organizations should be collaborating with those local communities and settlers, for technical support, in relation to the project's objective.

VI. Concluding Remarks

Since the Implementing Agency has completed its activities in accordance with the ITTO guidelines and ITTO Secretariat has received the pre-project Completion Report, Final Technical Report, satisfactory Financial Audit Report, and the project proposal PD 663/12 (F) derived form the pre-project implementation (for the ITTO regular cycle), the Committee may wish to consider the pre-project PPD 147/10 Rev.1 (F) as completed. Soft copies of abovementioned reports and documents are available, upon request, from the Secretariat.

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