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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

(1) PD 27/99 Rev.2 (F) Pilot Project for the Sustained Management of the So'o Lala Forest – Phase II (Cameroon)

Budget and Funding Sources:

Total Budget:		US\$	618,304
ITTO Budget:		US\$	246,304
Government of Japan:	US\$ 246,304		
Government of Cameroon:		US\$	372,000

Implementing Agency: Agence Nationale d'Appui au Développement Forestier (ANAFOR)
[former Office National de Développement des Forêts (ONADEF)]

Session of Approval: ITTC XXVI, May-June 1999, Chiang Mai, Thailand

Starting Date and Duration: 08 October 1999 / Thirty months

Approved Revised Date of Project Completion: First project extension granted from March 2005 to September 2006 (NOLF.05-0284)
Second project extension until March 2007 (NOLF.06-0287)
Third project extension until December 2007 (NOLF.07-0215)
Fourth project extension until July 2008 (NOLF.08-0036)
Fifth project extension until July 2009 (CRF-42)
Sixth project extension until December 2009 (NOLF.09-0201)

I. Introduction

The project was approved by the Council at its Twenty-sixth Session in May-June 1999 and the full financing of the project was secured at the same Council session. The Agreement regulating the implementation of the project was signed on 6 October 1999 and the first disbursement of funds was released on 12 October 1999. The project was suspended in November 2003. The project suspension was lifted on 02 March 2005, as the Executing Agency has addressed the conditions for further ITTO support, as stated by the ITTO special monitoring missions conducted in October 2003 and in July-August 2004 and as confirmed by the Thirty-fifth Session of the Committee on Reforestation and Forest Management. Furthermore, six project extensions were granted from March 2005 to December 2009, without additional ITTO funds, by the ITTO Secretariat, based on official requests including a proper justification with an appropriate detailed work plan and related budget. A mid-term evaluation was carried out in March 2005 in order to provide appropriate guidance for the improvement of the project implementation. As an acceptable completion report was received on 1 October 2010, the project implementation had formally lasted 131 months instead of 30, as initially designed by ANAFOR (former ONADEF).

II. Project Objective

The objective of Phase II of the project was to complete the management actions undertaken in Phase-I, to make the outputs available and to improve the harvesting system under a management plan readjusted, in line with the "National Guidelines for the Sustainable Management of Cameroon Natural Forests".

III. Project Achievements and Outputs

The main achievements and outputs can be summarized as follows:

* Including financial audit

ACTIVITIES	REALIZED PERFORMANCE	REMARKS
Output 1.1: Management activities left in the 9764-ha Forest Management Unit (FMU) completed		
Activity 1.1.0 : Infrastructure acquisition Activity 1.1.1 : Operational inventory 2 E Activity 1.1.2 : Marking 2 E, 2D, 2C Activity 1.1.3 : Lianas clearing 2D, 2 E Activity 1.1.4 : Monitoring of harvesting operations 2A, 2B Activity 1.1.5 : Cross-checking inventories 2A ,2B Activity 1.1.6 : Enriching and line planting Activity 1.1.7 : Establishment and monitoring of experimental plots Activity 1.1.8 : Plantation maintenance Activity 1.1.9 : Demarcation of reserve boundaries Activity 1.1.10 : Various studies (commercial rate of recovery, cost-efficiency of harvesting operations, environmental impact) Activité 1.1.11 : Abattage et empoisonnement 2A , 2B	On-going completed not started not started completed not started on-going not started not started not started completed not started	
Output 1.2: An agroforestry strip demarcated around the reserve for agroforestry activities		
Activity 1.2.1 : Finalizing the demarcation of the agroforestry strip Activity 1.2.2 : Implementation of the agroforestry strip	On-going Not started	
Output 1.3: Management plans are readjusted		
Activity 1.3.1 : Review of relevant literature Activity 1.3.2 : Field inspection Activity 1.3.3 : Compilation of data, mapping and preparation of final document	completed completed completed	Technical studies, required for the development on the revised management plan of the So'o Lala Forest Reserve, were completed
Output 2.1: Farmers organizations established		
Activity 2.1.1 : Formal incorporation and establishment of GIC centres Activity 2.1.2 : Establishment of a federation of GIC centres	On-going Not started	
Output 2.2: Trained farming community leaders become established		

Activity 2.2.1 :Monitoring of farmers installation in the agroforestry strip	Not started	
Activity 2.2.2 : Testing extensions	Not started	
Output 2.3: Project results are made available to beneficiaries		
Activity 2.3.1 : Seminar convened for the validation of project reports	On-going	A seminar was held to validate the results of studies and surveys undertaken for the preparation of the revised management plan
Activity 2.3.2 : Final documents made available to target persons (awareness to sustainable management : medias, seminars, discussions, exhibitions)	Not started	

As mentioned in this table of performance, many activities are either still on-going or have not started when the completion report was finalized for submission to the ITTO Secretariat. The main reason is the insufficient or non-disbursement of the counterpart funds, during a fiscal year, for the implementation of those project activities.

IV. Outcomes and Impacts

This project was considered as a pilot one aimed at providing information on how to smoothly implement the forest management and agroforestry activities within a multi-partnership system (Government, timber private company and local communities). Most of the outputs, which are supposed to contribute to get outcomes and impact from this project, were not achieved due to the regular lack of national counterpart funds.

V. Lessons Learnt and sustainability

For a project like this relying mainly on the national counterpart funds, it is important to put in place appropriate mechanism ensuring the regular disbursement of funds required for the project implementation. That mechanism should also contribute to ensure the sustainability of key findings and achievement of the project. This was not the case for this project, and that's why most of the outputs were not achieved.

VI. Concluding Remarks

As the ITTO Secretariat has received the Project Completion Report, several Technical Reports, as well as the Final Financial Audit Report, the Project PD 27/99 Rev.2 (F) can be reported as completed.

(2) PD 105/01 Rev.3 (F) Towards Sustainable Timber Production in Ghana: Stage I. Improving Shoot Borer Resistance and Developing Silvicultural Systems to Maximize Mahogany Plantation Success

Budget and Funding Sources:

Total Budget:		US\$	590,581
ITTO Budget:		US\$	337,027
Government of Japan:	US\$	337,027	
Government of Ghana:		US\$	160,282
Michigan Tech. University:		US\$	93,272

Implementing Agency: Forestry Research Institute of Ghana (FORIG)

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

Starting Date and Duration: 02 March 2005 / 48 months

I. Introduction

The 4-year project was approved by the Council at its Thirty-fifth Session in November 2003 in Yokohama, Japan, and fully financed at the Thirty-sixth Session in July 2004 in Interlaken, Switzerland. The Agreement regulating the implementation of the project was signed on 18 December 2004. The first installment of the ITTO funds was released in March 2005. As the project completion report was received on 30 July 2010, the duration of the project implementation had lasted 65 months instead of 48 initially designed by FORIG.

II. Project Objective

The development objective of the project was to improve the sustainability of mahogany timber supply in Ghana by developing an integrated pest management system to minimize the adverse effects of mahogany shoot borer on young mahogany plantations.

The specific objective of the project was to develop an integrated plantation management system that incorporates multiple components to reduce shoot borer attack to sub-economic levels through: (i) Identifying, propagating and utilizing shoot borer resistant trees; (ii) Identifying, propagating and utilizing of shoot borer tolerant trees; (iii) Developing and utilizing silvicultural strategies to reduce shoot borer attack; and (iv) Developing and utilizing semi-chemical technologies to reduce shoot borer attack.

III. Project Achievements and Outputs

All project activities were carried out through a smooth implementation to be attributed to the cooperation of project key stakeholders (Ghana Forestry Commission, FORIG, private sector, leaders of NGOs and associations representing local communities operating in different project sites) and contributed to the following achievements and outputs:

Output 1: Variation in susceptibility to *Hypsipyla* among mahogany species and provenances examined and resistant or tolerant individuals identified

- Seeds were collected from over 90 mahogany trees across the range of distribution of mahoganies in Ghana;
- Nurseries established for the project; FORIG main nursery, SAMARTEX, ABTS, and Kranka Community;
- Provenance studies were conducted in the 3 forest ecological regions of Ghana's high forest (Dry semideciduous, moist semideciduous, and moist evergreen forest types);
- Three species of *Khaya* and 4 species of *Entandrophragma* were used in the mahogany species studies in the project; and
- Spacing studies were conducted at the Mesewam research centre using *Khaya anthotheca* and *Khaya ivorensis*.

Output 2: Methods for cloning/mass production of resistant genotypes developed

- *Khaya* and *Entandrophragma* species leafy cuttings were successfully rooted;
- Protocol for in vitro culture of *Khaya anthotheca* and *Khaya ivorensis* which were selected for this studies were developed. This study will continue in the second phase.

Output 3: Genetic basis for resistance/tolerance and interaction with shoot borer behaviour modifying chemicals studied

- Insect colony of *Hypsipyla* was established in the FORIG Entomology laboratory to provide specimen for other studies in the project;
- *Hypsipyla* larvae survival rate on artificial media mixed with *Khaya* leaf extracts were compared to *Entandrophragma* and *Cedrela* leaf extracts;
- Insect traps using the synthesized female hormones of the *Hypsipyla* was used in trapping male *Hypsipyla*; and
- Feeding responses of extracts of plant material from field trees demonstrating resistance ad susceptibility were studied. These studies initiated in the project and will continue in the second phase.

Output 4: Impacts of companion plantings and natural enemies on *Hypsipyla* attack determined

- Studies for the evaluation of the effect of 3 density levels of *Khaya anthotheca* in a mixture with other timber species conducted through the establishment of 3 *Khaya ivorensis* plots in a ten year old neem stand and realized that the neem were protecting the *Khaya* trees from *Hypsipyla* attack;

- Studies revealed that mixed stands do not prevent *Hypsipyla* attack but they appear to improve the ability of mahogany trees to tolerate *Hypsipyla* attack;
- Leguminous trees, like *Albizia*, seem to be growing faster and casting shade on the *Khaya* species reducing available light resource for the mahogany trees to make use of any possible improvement in the soil nutrients by *Albizia*; and
- Mixed plantations were established as a demonstration on farm with Kranka community, ABTS and SAMARTEX community farmers.

Output 5: Genetic engineering of mahogany species with Lepidopteran Bt-genes and proteinase inhibitor genes done

- Nodal segments with buds and leave midrib were tissues stimulated to develop callus for these studies;
- Most of the callus died few weeks after the inoculation with the *Bt-gene*. New trials will be conducted in the second phase.

Output 6: Integrated pest management plantation and forest restoration feasibility demonstrated

- Three demonstration plots of provenance studies and mixed plantations with selected collaborating farmers were established; and
- The socio-economic analysis shows that the smallholder integrated mahogany plantation with Kranka farmers is profitable at 10% discount rate and stable to downward changes in cost and yield factors up to 50%. The sensitivity analyses also show that even at the worst case scenario, i.e. 50% decrease in timber yield and 50% increase in total costs, these plantations are profitable. The socio-economic survey will continue in the second phase.

Output 7: Conservation of native Ghana mahogany genotypes done

- The provenance plots established have been designated as biodiversity conservation plot as they have mahogany families from the populations from the range of distribution of Meliaceae in Ghana;
- Over 50 seed trees have been marked in Bobiri, Ayum, Tano Numire and Tano Awia Forest Reserves;
- The *in vitro* studies revealed the potential for conservation of elite plant materials through the protocol developed;
- Comparative anatomical study of the wood of *Khaya ivorensis* from natural forests and 43 years old plantation (infested by *Hypsipyla* at Bobiri) was carried out to establish differences in their wood strength properties. The study showed that wood from trees in natural forest stands produced better wood strength properties than plantation trees. However, the differences in strength properties of the wood of *Khaya ivorensis* from natural forest and that from the plantation, was relatively small to be considered as significant to have any effect on its utilisation purposes. It was recommended that further investigations be carried out to establish the correlation between anatomical characters and strength properties for natural and plantation trees of *Khaya ivorensis* as well as the other mahogany species, with similar diameter class to confirm or reject the current observation, during the second phase.

Output 8: Training and technology transfer occurred.

- PhD in Forest Science successfully completed at Michigan Technological University;
- Project results have been presented at a number of fora (IUFRO 2010 World Congress, IUFRO 2005 World Congress) and workshops to stakeholders; and
- Journal publications, Posters and abstracts have been published from the results of these studies (The International Forestry Review, Forest ecology and Management, New Forests, etc.).

The above-mentioned main achievements and outputs had been detailed in the final technical report which is available from the Secretariat upon written request.

IV. Outcomes and Impacts

The achievement of the project specific objective contributing to the realization of the development objective set by the project design could be attributed to the commitment from all the stakeholders involved in the project implementation, which led to the following main outcomes and impacts:

- The Institutions invited to participate in the project were carefully selected by the execution agency to involve all stakeholders that could contribute to maximizing the impact of the project on the forestry sector in Ghana as a whole;

- The Director in charge of plantations at the Ghana Forestry Commission was made the chair of the project steering committee. This has helped to influence the policy decisions to include the mahoganies in the National Plantation Programme launched this year (2010) by His Excellency the President of the Republic of Ghana;
- SAMARTEX and ABTS companies are lead investors in timber plantations and major players in the timber industry in Ghana and their role on the project were very appropriate to influence investor confidence in mahogany plantations;
- The community tree growers played their role excellently which has helped in the extension of the project ideas to other communities which were not involved in the project implementation; and
- The co-operation on the project between scientists of Michigan Technological University and FORIG in sharing responsibility appropriately led to the smooth implementation of the project.

Overall, the project has contributed to sensitize key forest-related stakeholders (Ghana Forestry Commission, timber private sector, local communities) on the importance to use *Khaya spp*, *Entandrophragma spp* and other indigenous species for the establishment of mixed species forest plantations. This could be considered as the most influential impact which would contribute to the success of future reforestation and afforestation activities in Ghana.

V. Lessons Learnt and sustainability

The project's main goal was to restore mahogany in the forest estate of Ghana by developing mechanisms that will reduce pest impacts in mahogany plantations. Among the lessons learned to achieve that goal, it is relevant to highlight the following:

- The need for an integrated approach to manage *Hypsipyla* has been repeatedly identified by stakeholders as the most promising solution to overcoming the problem associated with growing mahogany in plantations;
- Sustaining funding for plantation activities were found to be a major issue even for the timber industries which are big businesses in Ghana, as the return on investment is for long term;
- The poor community farmers are enthusiastic about continuing to expand their farm forestry, through agroforestry system using indigenous species, provided they could continue get access to seeds and additional lands;
- The possibilities of using the plantations, established or to be established, to explore opportunities in carbon trading were encouraged and should be part of the activities to be carried in the second phase of the project;
- The project strategy of involving, through a participatory approach, the stakeholders and targeted beneficiaries throughout the implementation of the project was key to the achievement of the project's objective; and
- Stakeholder participation had to be encouraged at the formulation of the project idea and subsequent development of the project.

As regards sustainability, the Executing Agency worked out to ensure the continuity of key project findings and achievements through the following :

- Community farmers' fields and the industrial investors in the plantation were made to donate land for the field studies. The trees were planted with their workers involvement and monitoring was conducted with their participation, thus there were direct transfer of the techniques applied in the studies to the field staff and the farmers;
- The project implementation was structured such that after the implementation of the project, there will be maintenance and continuity of operations with reference to the project findings. The project implementation team signed MOUs with the investors, industries and the communities which donated land for field studies to allow the project scientists to continue monitoring the trees planted under the project annually till the trees are matured for harvest. The Investors will maintain the trees based on the recommendation by the project scientists and they will provide the financial resources for the annual monitoring to be conducted by the project scientists;
- The decision to include the mahoganies in the National Plantation Programme launched this year (2010) by His Excellency the President of the Republic of Ghana, and the benefit sharing law regarding the revenue derived from products of forest plantations should be considered as the key element contributing to the sustainability of key project findings and achievements in Ghana.

VI. Concluding Remarks

In view of the need to further strengthen and sustain the main findings and achievements of the project, the Executing Agency formulated and submitted a follow-up project entitled of PD 528/07 Rev.1 (F): *“Towards Sustainable Indigenous Mahogany timber Production in Ghana: Phase II, Refining the Silvicultural “Tool Kit” and Practical Training for Industrial-Foresters and Community Farmers”*. This new project, for the second phase, was fully funded at the Forty-fifth Session of the Council in November 2009.

The ITTO Secretariat has received the Project Completion Report, Final Technical Report, and Final Financial Audit Report, in accordance with the project agreement signed with ITTO. The Committee may wish to declare the Project PD 105/01 Rev.3 (F) as completed.

(3) **PD 156/02 Rev.3 (F) Conservation and Reforestation of Threatened Mangrove Forest Areas along the Pacific Coast of Panama – Phases I & II**

Budget and Funding Sources:

Phase I

Total Budget:		US\$	701,547
ITTO Budget:		US\$	491,257
Government of Japan:	US\$	400,000	
Government of U.S.A.:	US\$	86,257	
Government of Norway:	US\$	5,000	
Government of Panama:		US\$	210,290

Phase II

Total Budget:		US\$	485,177
ITTO Budget:		US\$	316,887
Government of Japan:	US\$	302,887	
Government of Norway:	US\$	14,000	
Government of Panama:		US\$	168,290

Implementing Agency:	National Environmental Authority (ANAM)
Session of Approval:	ITTC Session XXXIV, May 2003, Panama City, Panama
Phase I: Starting Date and Duration:	September 2004 / 24 months
Phase I Approved Revised Date of Project Completion:	August 2007 (CRF XXXIX)
Phase II: Starting Date and Duration:	December 2007 / 24 months
Phase II Approved Revised Date of Project Completion:	March 2010 (CRF XXXIX)

I. Introduction

The Council approved and fully financed the first phase of the project at its Thirty-fourth Session in May 2003, and the Agreement regulating the implementation of this first phase was signed in August 2003. The Secretariat received the first Yearly Plan of Operations and a notification from the Executing Agency that the project was ready to start in August 2004 and further disbursed the first installment of funds at the end of August 2004. The project's second phase was fully financed at the Forty-second Council Session in May 2007. The agreement regulating the second phase of this project was finalized in October 2007 and the first disbursement of funds was executed in December 2007.

II. Project Objective

Mangrove forests in Panama account for approximately 5.6 % of the natural forest cover, i.e. some 170,000 hectares, the majority of which are located along the Pacific Coast. This project builds on the results of the project PD 128/91 Rev.2 (F) "Management, Conservation and Development of the Mangrove Forests in Panama" and aims to ensure the collective conservation and sustainable management of 4,000 hectares of mangrove forests along the Panamanian Pacific Coast and to implement rehabilitation activities on 1,250 hectares of degraded lands to maintain the contribution of this ecosystem to the welfare of the Panamanian society, particularly the communities that directly depend on these natural resources. Major components include mangrove management, rehabilitation and extension and reforestation of other alternative timber species.

III. Project Achievements and Outputs

The Project was completed in March 2010. In accordance with the project document, planned activities for both phases, plus others not originally contemplated, were carried out during the project's lifespan and its outcomes and impacts can be summarized by each phase as follows:

Phase I:

- Background literature and cartographic information from previous mangrove projects and studies in Panama was collected and reviewed;
- Several project briefing meetings were held with staff stationed in the regional offices of ANAM with jurisdiction over mangrove forests (Panama Oeste, Herrera and Los Santos);
- Various mangrove forest reconnaissance visits were carried out jointly with the local communities and other governmental institutions such as MIDA, SALUD, IPAT, AMP and local authorities; Many informative meetings were held with mangrove-dependent communities in the Chame, Herrera and Los Santos regions;
- Several workshops were held with mangrove-dependant communities in the Chame region in order to prioritize the areas with a potential for participatory mangrove forest management and/or rehabilitation, and preliminary mangrove inventories were further carried out at three sites;
- Technical consultative committees were later established with mangrove stakeholders in the West Panama and Azuero regions, and these met periodically to discuss the interim results of the project, and further participate in the development of the proposed mangrove multiple-use management plan and be trained in the implementation aspects of the management plan;
- A detailed mangrove forest inventory was carried out in Chame Bay with the participation of the local communities;
- Several workshops were also carried out to train local communities on mangrove forest enrichment and reforestation;
- Nine mangrove nurseries were established close to the areas to be rehabilitated at Chame Bay;
- 540 hectares of degraded mangrove forests were rehabilitated in a participatory manner with the local communities of Monte Oscuro, Sajalice, Espave, El Libano, Anton, Herrera, Paris de Parita and Isla Caña de los Santos;
- A number of meetings were organized with ranchers in order to establish agroforestry and silvopastoral systems in ranches adjacent to mangroves forests;
- 155,710 seedlings of native species were produced in 19 temporary tree nurseries and were planted in the 2007 rainy season with ranchers in order to establish agroforestry and silvopastoral systems in their properties located upstream of the mangrove forests;
- The Chame Bay Mangrove Multiple Use Management Plan was finalized with the participation of the communities and submitted to the relevant authorities (ANAM) for its approval prior to implementation; and
- A visit was paid by project staff and mangrove community leaders to the ITTO mangrove project sites in Colombia to interchange experiences.

Phase II:

- A visit was paid by project staff and mangrove community leaders to the ITTO mangrove project sites in Colombia to interchange experiences. The Chame Bay Mangrove Multiple Use Management Plan covering 5,980 ha of mangrove forests developed by the project was officially approved and adopted by the Panamanian government on July 19, 2009 (Resolution AG-0425-2009);

- Several meetings were organized to promote, disseminate and implement the officially-approved Chame Bay Mangrove Forest Management Plan among local authorities and mangrove-dependent communities;
- Local mangrove charcoal producers were trained in forest management techniques and in the execution of the mangrove management plan via several workshops;
- The mangrove charcoal producers implementing the management plans were assisted to form an association and legal commercial entity denominated the “United Defenders of the Sajalices de Chame Mangroves which later entered into a direct contract with the Riba Smith Supermarket Chain to sell their environmentally-friendly BBQ charcoal to the public, for a price several times higher that offered by intermediates for illegally-obtained charcoal;
- Several other such associations were also assisted in producing sustainable timber, non-timber and aquamarine products from the mangroves forests and in obtaining their legal entities for commercial operations, such as the “Friends of The Mangroves Rural Women’s Association”, the “Juvenile Cooperative of Puerto Escondido de Pedregal” and others;
- Zoning and other thematic maps of Chame Bay were developed and finalized;
- The boundaries of the protected areas established by the management plan were demarcated in the field;
- Seven additional mangrove nurseries were established close to the areas to be rehabilitated at Chame Bay;
- Three mangrove demonstration nurseries were established in the local community schools of Monte Oscuro, Sajalices and El Espave at Chame Bay;
- 352 additional ha of degraded mangrove forests were rehabilitated in a participatory manner with the local communities;
- The agroforestry and silvopastoral plantations established in the first phase continued to be monitored; and
- Project staff and community leaders visited Mexico and interchanged experiences with staff and communities involved in ITTO project PD 349/05 Rev.2 (F) “Criteria for the Management of Mangrove and Flood Forests in the Central coastal Plains of Veracruz, Mexico: A Community Management Tool”.

By and large, the project amply exceeded most of its original output targets, as it established the first Mangrove Multiple Use Management Plan in Panama over an area of 5,980 ha of mangrove forests, rather than the initially intended 4,000 ha, and further rehabilitated a total of 892 ha of degraded mangroves forests versus the 600 ha originally planned, and planted 457 ha as buffer zones with multiple-use timber species in agroforestry and silvopastoral systems along areas adjacent to the mangrove forests.

IV. Outcomes and Impacts

Overall, the project has significantly contributed to the knowledge base on the ecology and silviculture of mangroves and towards the sustainable integrated management of mangrove resources. In addition, it has created an awareness of the potential benefits of implementing sustainable mangrove management, reforestation and integrated production activities among the rural communities living in and around the mangrove forests in Panama. In quite a few cases, the implemented activities have also already substantially improved the livelihoods of some of the local communities in the region, particularly those dedicated to sustainable charcoal production.

Awareness as regards the need for permanent involvement in the application of the mangrove management plans within ANAM and other governmental institutions such as MIDA, SALUD, IPAT, AMP and other local authorities also became evident, as the regional offices of ANAM with jurisdiction over mangrove forests (Panama Oeste, Herrera and Los Santos) and other national, regional and local government institutions have begun to incorporate mangrove-related activities into their yearly plans, programmes and budgets.

Furthermore, the project’s overall results appear to have gained such acceptance throughout Panama that it is expected these will replicate on their own. Additional community-based mangrove conservation and development projects have been formulated and central government and GEF financing is currently being procured in order for these to be jointly implemented by the local governments and the mangrove-dwelling communities as part of the follow-up activities designed to provide continuity after project completion.

V. Lessons Learnt and sustainability

Among the many lessons learnt, it is relevant to highlight the following:

- Land tenure issues should be resolved prior to project implementation. As these issues are usually politically and socially sensitive it is best a project avoid being trapped into assuming the role of intermediary between the different parties, even though one or more parties demand it as a condition to allow the smooth implementation of project activities. Serious delays and other complications in project implementation, not to mention the mounting tensions and anxieties amongst communities, could occur if land tenure issues are overlooked upon project inception;
- Any similar project should consider redoubling its extension efforts as regards creating environmental awareness among mangrove-dependent communities. Extension should be institutionalized by the regional governments in order to continue after project completion;
- Training in the technical aspects of mangrove management and products processing for the communities was well planned and focused. However, the project did not properly envisage the training needs of the community members, mostly illiterate with minimal knowledge beyond their community boundaries, as regards the operational, managerial and marketing aspects required to run such enterprises. In such cases where this training is needed, technical assistance and close supervision is required for at least 3 years before the community can be left on its own to successfully manage a communal enterprise; and
- A constant analysis of the project's logical framework matrix, particularly of its indicators and means of verification, greatly facilitated evaluating the project's activities on an ongoing basis and successful achievement of the project's objectives and outputs.

As part of the project's sustainability strategy, and in order to consolidate the achievements of the project, many of its activities have been transferred to ANAM's Regional Offices together with the regional governments, municipalities and mangrove-dependent communities in the project's areas of influence. Moreover, ANAM and other institutions are expected to further expand these activities to other mangrove areas in Panama, particularly as regards the development and implementation of mangrove land use plans.

VI. Concluding Remarks

As the ITTO Secretariat has received the Project Completion Report, several Technical Reports and other products, as well as the Final Financial Audit Report, the project can be reported as completed. The Completion Report, some technical documents and other products are available from the Executing Agency and Secretariat upon written request.

(4) PD 217/03 Rev.2 (F) **Establishing a Cooperative Framework between ODEF and the Communities Living in the Eto-Lilicope Forest Complex for the Sustainable Participatory Management of this Complex (Togo)**

Budget and Funding Sources:

Total Budget:		US\$	182,948
ITTO Budget:		US\$	139,898
Government of Japan:	US\$	139,898	
Government of Togo:		US\$	43,050

Implementing Agency: Forest Development Authority of Togo (Office de Développement et d'Exploitation des Forêts - ODEF)

Session of Approval: ITTC Session XXXVI, July 2004, Interlaken, Switzerland

Starting Date and Duration: 3 February 2006 / 18 months

Approved Revised Date of Project Completion: February 2008 (NOL F.07-0255)

I. Introduction

The project was approved by the Council at its Thirty-sixth Session in July 2004 in Interlaken, Switzerland, and fully funded at the Thirty-seventh Session, in December 2004, in Yokohama (Japan). The Agreement regulating the implementation of the project was signed on 11 May 2005. The first installment of the ITTO funds was released in February 2006. A 6-month project extension was granted until February 2008 without additional ITTO funds, by the ITTO Secretariat, based on an official request including proper justification with appropriate detailed work plan and budget. As an acceptable version of the project completion report was received on 19 January 2010, the duration of the project implementation had lasted 47 months instead of 18 initially designed by ODEF.

II. Project Objective

The project aimed at contributing towards sustainable and participatory management of the Eto-Lilicope Gazetted Forests with a view towards sustainable timber production. Specifically, it intended to create a framework of cooperation for the consensual and sustainable management of both gazetted forests.

III. Project Achievements and Outputs

The main project achievements and outputs are presented in the following table:

ACTIVITIES	INDICATORS	REALIZED PERFORMANCE	SOURCE OF VERIFICATION
Output 1 : Knowledge on the landscape and local populations improved			
A1.1 : Sensitize local populations on the project objectives	At least 35 villages were sensitized	49 villages in the Department of Gblainvié, Gapé, Tsévié, Agbélovoué and de Bolou were sensitized	Sensitization report
A1.2: Participatory diagnostic survey for on socio-economic aspects.	At least 5 departments and de 3 big villages covered by the survey	Villages of Dévé, Lilicopé, Gblainvié, Bolou-Klokpoé and Dono, in addition to 5 departments have been covered by the survey	Participatory diagnostic report
A1.3 : Assess the current landscape utilization and propose a landscape management plan taking into account the needs of local populations and the requirements of the conservation of resource.	Landscape utilization known and a new landscape management plan proposed	Current landscape utilization was known at the end of the first year and the new landscape management plan was developed during the second year.	Technical reports and management plan
A1.4 : Develop a strategy taking into account the needs and interests of local populations in the management of the Eto-Lilicope Forest Complex	At least 80% of stakeholders were involved in the participatory management process of the forest complex	An international consultant has developed a strategy harmonizing the ODEF's objectives and the needs and interests of local populations.	Document on strategy and workshop reports
Output 2 : A cooperative framework between ODEF and local communities established			
A2.1 : Carry out a study on the current institutional aspects and on the current social organization of local communities	Draft institutional framework involving all stakeholders	A study on institutional aspects was carried out by a national consultant and 12-member steering committee was established	Consultant report and workshop reports

ACTIVITIES	INDICATORS	REALIZED PERFORMANCE	SOURCE OF VERIFICATION
A2.2 : Reinforce the organizational and technical capacity of target communities	A plan for capacity building developed and approved	INADES-formation NGO has supported the creation and/ revival of village development committees (CVD), and the establishment of the federation of those CVDs	Report prepared by INADES-Formation.
A2.3 : Support communities for the formulation of the village development plan	Village development plans of at least 50% villages formulated	INADES-formation has supported communities in the formulation of 2 aggregated development plans (1 for les villages around Eto Forest and 1 for those around Lilicope Forest).	Aggregated development plans
A2.4 : Improve the technical capacity of intervention of the project team.	At least 4 training sessions on relevant themes organized	More than 20 persons from ODEF, villages, and forestry administration were trained on the following topics: participatory diagnostic; social communication; participatory planning; negotiation of contract on natural resource management; and conflict management	Training session reports
A2.5 : Formalize the stakeholders' partnership	At 80% of stakeholders are involved in a partnership development process	The legal study has led to the formulation of the draft of a presidential decree regarding the modification of the decree creating Eto and Lilicope forests, in order to create the Forest Complex of Eto-Lilicope. A draft ministerial decree was formulated to formalize the cooperation framework between ODEF and communities which are main stakeholders of the Eto-Lilicope Forest Complex	Legal study report, draft of presidential decree, draft of ministerial decree, and workshop reports.

IV. Outcomes and Impacts

The implementation of this project has led to the main outcomes and impacts described hereafter:

- Creation of a collaborative framework for a participatory management of the gazetted Eto-Lilicope Forest Complex, which could be used as model for stakeholder collaboration in other parts of Togo in relation to the way to solve problems regarding the management of forest resources. The collaborative framework will be formalized after the signing of the draft decrees (presidential and ministerial) and will serve for the forest-related participatory management process;
- Those problems related to the management of forest resources are sources of conflicts among stakeholders, for which this project contributed to develop capacity for a participatory approach “bottom-up” to be used for the resolution of those conflicts, with local communities playing a key role in the consultation process; and
- It was noticed that land conflict was the most frequent one, due to the divergence of needs and interests of key forest-related stakeholders. Thus, this project has contributed to promoting the collaboration between key stakeholders for the resolution of land conflict and also to promote the sustainable management of forest resources with the involvement of key stakeholders, particularly local communities.

V. Lessons Learnt and sustainability

The main lesson learned from the implementation of this project was that a participatory process has led to take into account and harmonize the needs and interests of key stakeholders and has contributed to get them be aware about the potential conflicts to be derived for the management of forest resources. Through the sensitization campaigns appropriately undertaken and also through training sessions focusing on conflict-related negotiation, communication and management, local communities have understood the importance to establish a village development committee, which is supposed to play the role of platform for consultation process to solve problems and conflicts regarding the management of forest resources around the Eto-Lilicope Complex Forest and in other parts of Togo.

Regarding the sustainability of key findings and achievements, it depends on the signature of decrees drafted under the project implementation which could formalize the framework of stakeholder collaboration. For each village involved in the project implementation, a village development committee was established in order to continue using the consultation and participatory process for the local management of forest-related conflicts. Those village development committees will be advised by the steering committee of Eto-Lilicope Forest Complex to be established after the signing of decrees drafted under the implementation of this project.

VI. Concluding Remarks

In view of the need to further strengthen and sustain the main findings and achievements of the project, the Executing Agency formulated a follow-up project titled *PD 584/10 (F): "Implementing the Cooperative Framework between ODEF and the Stakeholders for the effective Participatory and Sustainable Management of the Eto-Lilicope Forest Complex"*. This new project proposal was assessed by the Expert Panel in August 2010.

As the ITTO Secretariat has received the Project Completion Report, Technical Reports, and Final Financial Audit Report, the project PD 217/03 Rev.2 (F) can be reported as completed.

(5) PD 237/03 Rev.4 (F) Binational Conservation and Peace in the Condor Range Region, Ecuador-Peru – Phase II (Peruvian Component)

Budget and Funding Sources:

Total Budget:		US\$	853,190
ITTO Budget:		US\$	577,800
Government of Japan:	US\$	502,800	
Government of :U.S.A.	US\$	75,000	
INRENA:		US\$	117,600
CI Peru:		US\$	157,790

Implementing Agency: Ministry of Environment (formerly National Institute for Natural Resources (INRENA)) in association with Conservation International (CI) - Peru and with the participation of indigenous organisations

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

Starting Date and Duration: September 2007 / 24 months

Approved Revised Date of Project Completion: First extension until February 2010 (CRF XLIII)

I. Introduction

The Council approved the Second Phase of the "Binational Conservation and Peace in the Condor Range Region" project during its Thirty-seventh Session in December 2004 and full financing for its implementation was pledged during the Thirty-ninth Session in November 2005. The Agreement regulating the implementation of the project was finalized in August 2007. The Secretariat received the first Yearly Plan of Operations, a bilateral agreement between the Governments, Executing and Collaborating Agencies in Ecuador and Peru, and a notification from the Executing Agency that the project was ready to start in September 2007 and further disbursed the first installment of funds in mid September 2007.

The Peace Treaty signed between Ecuador and Peru led to the establishment of a transboundary conservation area in the Condor Mountain Range Region in order to promote the integration of the peoples of these two sister countries and conserve their environment. The first phase of this Project (PD 3/00 Rev.2 (F)) was implemented within this framework and its major outputs were the establishment of a Sub-System of Natural Protected Areas in the Condor Range Region and the development of its corresponding master plans.

II. Project Objective

The second phase of the project envisioned to continue contributing to the consolidation of the peace and integration process between Peru and Ecuador through the coordinated management of natural protected areas and promotion of the sustainable development of indigenous communities in the Condor Range Region, in accordance with the National Strategy for Natural Protected Areas (NPAs) and with the guidelines, criteria and indicators promoted by ITTO.

Specifically, it aimed to ensure the management of the NPAs through the implementation of master plans and coordination between the institutions involved in the conservation of the Condor Range and, at the same time, enhance the capacity of indigenous communities for the sustainable management of the natural resources of the Condor Range Region.

III. Project Achievements and Outputs

It is worthy to note that in the interim period between the two phases of the project, the Peruvian government, based on the Peace Treaty with Ecuador and the management plans and other studies developed by the project's first phase, on August 9, 2007 legally declared the creation of the following: The Ichigkat Muja – Condor Range National Park over 88,477 ha; The Tuntanain Communal Reserve over 94,968 ha; and the Santiago Comaina Reserved Zone over 398,450 ha.

This Second Phase was reported as completed in September 2010. In accordance with the project document, planned activities were carried out during the second phase of the project's lifespan and its achievements can be summarized by major outputs as follows:

Output 1: An area of 152,873 ha in the Condor Range National Park monitored and controlled

- After several reviews, the Condor Range National Park was created over an area of 88,400 ha;
- While the national park's master plan has not been completed yet, two control posts, a communal monitoring center and a liaison office between the indigenous and local authorities have been built, and are currently being utilized by 33 trained park rangers implementing a properly developed monitoring and control plan;
- The area's critical borders have been delimited and signs have been posted in both Spanish and the Wampis dialect; and
- The Condor Range National Park Management Committee was installed and further boosted the participation of the indigenous communities in its administration.

Output 2: Twelve native communities, authorities and civil society stakeholders are identified, aware of and participating in the management of the Condor Range National Park

- Many workshops and meetings were arranged to disseminate the cultural and environmental values of the National Park among the native and rural communities in the region;
- 22 voluntary park rangers originate from the indigenous communities;
- A web site (www.cordilleradelcondor.org) has been developed so as to provide for a greater dissemination of the project's activities and results and activities, and further promote the biological and cultural values of the park and its area of influence; and
- Four books related to the Condor Range Transboundary Conservation Area were published and widely disseminated in the region.

Output 3: Two research lines shared by Ecuador and Peru at the Condor Range ecosystem level under implementation

- Transboundary GIS thematic mapping was finalized and the ecosystem, flora and fauna metadata has been consolidated on both sides of the border;
- A binational atlas of the Condor Range was finalized, but not published yet due to lack of funds;
- A document containing a strategy for the establishment of the Abiseo-Condor-Kutuku Transboundary Conservation Corridor has been developed and widely disseminated among the decision-making institutions in both Ecuador and Peru; and
- A study describing methodologies for the restoration of ecosystems affected by war and gold mining in Ecuador and Peru has been published and widely disseminated throughout the region.

Output 4: Management and biological diversity of an area of 152,873 ha in the Condor Range National Park monitored

- In addition to the 88,477 ha assigned to the Ichigkat Muja - Condor Range National Park, another 138,970 ha were set aside as the park's buffer zone, bringing the total area to 227,670 ha, the biological diversity having been monitored over the entire area;
- The most important data on ecosystems, flora and fauna have been compiled and further consolidated into the GIS spatial databases held in both Ecuador and Peru;
- A multi-temporal analysis based on satellite imagery studied the expansion of the deforestation in the region, and noted that it was only very minimal and concentrated around indigenous communities; and
- The strong relationship fostered between the National Park administration, the indigenous organizations and CI-Peru, allowed for the execution of a joint flora and fauna evaluation inside the National Park, this being the very first research effort to be carried out in this natural protected area.

Output 5: Coordinated conservation management of the Condor Range region between Ecuador and Peru established and under implementation

- With the demise of INRENA in Peru, the Peruvian system of protected areas was absorbed by the newly-created Ministry of Environment, and so was the implementation of this project;
- Technical discussions were held in Quito and Macas, Ecuador in February 2009 and again in Loja and Lima in April 2009 between the Peruvian Ministry of Environment, the Ecuadorian Ministry of Environment, Fundacion Natura, CI and both Ecuadorian and Peruvian Chapters of the Peru-Ecuador Binational Plan;
- On September 8, 2009, the Minister of Environment of Ecuador, Dr. Marcela Aguiñaga, and the Minister of Environment of Peru, Dr. Antonio Brack Egg, jointly subscribed a Bilateral Memorandum of Understanding in Lima, Peru to promote the technical cooperation between the two countries with a view towards the coordinated management of transboundary conservation areas, among others; and
- In September 2010 the First Bilateral Technical Meeting for the Joint Management of Transboundary Conservation Areas Ecuador-Peru met in Tumbes, Peru, to interchange information between the two ministries of environment and others as related to the development of master and management plans of protected areas along the border and to further discuss the future joint activities to be established within the Condor Range Transboundary Conservation Area and its potential expansion into the Abiseo-Condor-Kutuku Transboundary Conservation Corridor.

Output 6: Shuar (Ecuador) and Awajun-Wampis (Peru) indigenous communities in the Condor Range region have re-established their cultural links

- After many other interchanges, two large bi-national encounters were organized in June 26 - 28 2008 in Peru and in December 11 - 13, 2008 in Ecuador to strengthen the ties amongst the transboundary native communities, with a focus on natural resource management experiences;
- As a result of these encounters, the Binational Shuar and Wampis Development Agenda was elaborated and presented to Ecuadorian and Peruvian authorities in Quito, thereafter seven binational shuar and wampis committees were conformed in order to achieve the agenda objectives;
- Binational committees meetings were further organized in March and August, 2009 to train and strengthen the natural resource management capacities of the local native organizations (CGPSHA in Ecuador y FECOHRSA in Peru);
- Overall, there is no doubt that, during the implementation of the first and second phases of this project, the Shuar and Wampis indigenous communities re-established their cultural links and further integrated their leadership as regards the conservation and sustainable development of the region's natural resources; and
- The indigenous organizations (CGPSHA in Ecuador y FECOHRSA in Peru) now meet frequently and closely coordinate the management of their natural resources.

Output 7: Ten native communities have improved their development in the buffer zone of the Condor Range National Park through the implementation of management plans for their natural resources

- Technical assistance, workshops and specially-developed manuals were provided to the indigenous communities for their territorial zoning, their development of land-use plans, and for the implementation of sustainable productive processes based on the natural resources in the buffer zone; and

- Eight out of the ten native communities accepted to develop land-use plans on their deeded territories, and seven of these land-use plans currently continue to be implemented today, even in light of the social instability that affected the region about a year ago. Some of these communities have even been able to develop them further into basic forest management plans, focused mainly for the rehabilitation of degraded forests and auto-consumption, rather than for commercial endeavors.

IV. Outcomes and Impacts

Overall, one of the major outcomes of this project has been the implementation of a real peace process between these two sister countries, which has also brought about, after decades of segregation, the re-establishment of communications and cultural links among the ancestrally-connected Shuar and Wampis indigenous communities, and the conservation itself of a large swath of tropical rain forests considered a Hot Spot by Conservation International.

In addition, this project has highlighted the great importance of the cultural and biodiversity values of the Condor Region and established suitable strategies for supporting indigenous development and natural protected area management.

As regards impacts, the project paved the way for the Minister of Environment of Ecuador, Dr. Marcela Aguiñaga, and the Minister of Environment of Peru, Dr. Antonio Brack Egg, to jointly subscribe on September 8, 2009, in Lima, Peru, a Bilateral Memorandum of Understanding to promote the technical cooperation between the two countries with a view towards the coordinated management of transboundary conservation areas, a first among Latin American countries and possibly the world itself.

Last but not least, the project established a Bilateral Technical Group for the Joint Management of Transboundary Conservation Areas Ecuador-Peru, which first met in September 2010 and is expected to periodically meet in the future for the coordinated management of the aforementioned Condor Range Transboundary Area and its expansion to other sites along their mutual border.

V. Lessons Learnt and sustainability

Among the many lessons learnt, it is relevant to highlight the following:

- The Project lacked an effective, or at least demonstrative, sustainable development component that would improve living standards in the region based on the sustainable use of natural resources, so as to complement and strengthen the transboundary conservation area planning process;
- The focus of conservation projects involving indigenous communities must take into consideration the holistic view of these communities with respect to the use of forest resources, taking into consideration the cultural elements that define the use of determined natural resources; and
- External factors, such as the lack of clear land tenure systems, the inaccessibility of the region and the overall weaknesses of the Peruvian institutions in the field, hampered to a certain degree the full achievement of the project's objectives.

As regards continuity, the creation of the Peruvian Ministry for the Environment and of the National Service of State Protected Areas (SERNANP) in 2006 abodes greater consciousness and seriousness in the conservation of protected areas in Peru, and a substantial increase in the budget allocated to the Ichigkat Muja – Condor Range National Park in 2010, together with the strengthening of its field office, will also contribute towards its sustainability. It should also be further taken into account that this project originally considered three phases, and that the governments of Ecuador and Peru will be submitting these to ITTO shortly.

VI. Concluding Remarks

Overall, the project's second phase has significantly contributed towards the Ecuador-Peru Peace Process through the creation of a Transboundary Conservation Area in the Condor Mountain Range Region, via which sustainable development and the conservation of natural resources will be achieved in the region. Moreover, the achievements to date of the project's first and second phases were presented at the International Conference on Biodiversity Conservation in Transboundary Tropical Forests that took place in Quito on 21–24 July 2010.

As the ITTO Secretariat has received the Project Completion Report, several Technical Reports and other products, as well as the Final Financial Audit Report, the project can be reported as completed.

Technical documents and other products are available from the Executing Agency and Secretariat upon written request.

(6) PD 238/03 Rev.3 (F) Binational Conservation and Peace in the Condor Range Region, Ecuador-Peru (Ecuadorian Component) Phase II

Budget and Funding Sources:

Total Budget:		US\$	748,479
ITTO Budget:		US\$	577,800
Government of Japan:	US\$	502,800	
Government of :U.S.A.	US\$	75,000	
Ministry for the Environment:		US\$	20,000
Natura Foundation:		US\$	128,678
Conservation International:		US\$	22,000

Implementing Agency: Ministry for the Environment, Natura Foundation and Conservation International

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

Starting Date and Duration: November 2006 / 24 months

Approved Revised Date of Project Completion: First extension until June 2009 (CRF XLII)

I. Introduction

The Council approved the project during its Thirty-seventh Session in December 2004 and full financing for its implementation was pledged during the Thirty-ninth Session in November 2005. The final agreement regulating the implementation of the project was duly signed in August 2006. The Secretariat received the first Yearly Plan of Operations, a multilateral agreement between the Governments, Executing and Collaborating Agencies in Ecuador and Peru, and a notification from the Executing Agency that the project was ready to start and further disbursed the first installment of funds in November 2006.

The Condor Range Region has unique features because of its biodiversity, endemism and conservation status. During the first Phase of the Project “Bi-national Conservation and Peace in the Condor Range Region, Ecuador – Peru” (PD 2/00 Rev.2 (F)), two Conservation Areas were officially established within the Natural System of Protected Areas – NSPA: El Quimi Biological Reserve with 9,071 ha, El Zarza Wildlife Refuge with 3,643 ha as well as a protected forest with 17,953 ha, their management plans were designed and both SNAP areas were integrated into a framework of land use management and general master plans for conservation and sustainable development. In addition, conservation agreements and regulations for the natural resource use in the Shuar territory of approximately 200.000 ha were established in the northern part of the Condor Range. Joint cooperation was strengthened between conservation stakeholders and institutions in charge of biodiversity conservation such as the Ministry for the Environment of Ecuador and INRENA of Peru (Now Ministry for the Environment of Peru).

II. Project Objective

The second phase of the project envisioned to continue contributing to the consolidation of the peace and integration process between Peru and Ecuador through the coordinated management of natural protected areas and promotion of the sustainable development of indigenous and rural communities in the Condor Range Region in accordance with environmental and sustainable development policies of Ecuador and the guidelines, criteria and indicators promoted by ITTO.

Specifically, it aimed to ensure the management of the Transboundary Natural Protected Areas between Ecuador and Peru, such as the El Cóndor Protected Forest, the Biological Reserve El Quimi and the Wildlife Refuge El Zarza, mainly through the development of a binational conservation framework, the implementation of management plans for the aforementioned areas (construction of basic infrastructure, hiring of park rangers, supplying of equipment, training, among other), the coordination between the

institutions involved in the conservation of the Condor Range Region, while simultaneously enhancing the local/indigenous community Shuar skills in sustainable forest management and conservation practices, strengthening the technical and administrative skills for the management of their territory.

III. Project Achievements and Outputs

This Second Phase was reported as completed in January 2010. In accordance with the project document, planned activities were carried out during the second phase of the project's lifespan and its achievements can be summarized by major outputs as follows:

Output 1: Institutional framework established in the Shuar Territory of the Condor Range Region with technical and administrative capacity to apply a surveillance and control system in threatened areas and a monitoring system

- A Technical Unit for Natural Resources (Unidad Técnica de Recursos Naturales – UTRN) was established in the Shuar Territory of the Condor Range Region with a staff of 12 community technicians trained in natural resource management, conservation, biology, administration, research, project development and GIS management, and has action plans under implementation. It currently monitors hunting, fishing, gathering and timber harvesting activities in different utilisation areas, and also established a control and surveillance system in 8 sites under greatest pressure in totally protected and utilisation areas;
- 25 Shuar communities have applied standards for the resolution of conflicts on land tenure in collective territories;
- 45 Shuar communities have established special protection areas – sacred sites, animal feeding grounds in forests, and other areas; and
- A document systematizing the use of forest resources, the most commonly used species, the strengthening of the Shuar organization and the integrated management of their territory was published.
- An additional output is the development with 20 local and indigenous authorities of specific land-use plans by themes with a view towards a wider and more integrated sustainable management of the territory and its natural resources. These include agro-forestry systems, food security, a conservation fund in agreement with the Ecuadorian government through the Socio Bosque Program, and the recovery of the education and health linked to the traditional practices of good utilization of the forest, among others. The aforementioned scheme will warrant the conservation of 160.000 ha of tropical forests, while the remaining 40.000 ha of the 200.000-ha territory will be sustainably managed.

Output 2: A hunting, fishing and gathering management and protection system for conservation areas established

- Information was gathered on the state of hunting and fishing in the Shuar communities and the Shuar team responsible for developing the hunting, fishing and gathering plans for each community were trained in flora and fauna diagnostics and cuota planning; and
- A Shuar regulation was developed and approved by most of the Shuar families. 22 Shuar communities centers have developed and are implementing their hunting, fishing and gathering plans;

Output 3: 60% of Shuar families are harvesting timber for sale purposes using appropriate techniques

- According to the Ecuadorian Ministry of Environment, the volumes of timber legally harvested by the Shuar communities based on the Shuar Arutam communal system has increased to around 50% of the total volume harvested in the region;
- Shuar communities were assisted to develop 36 harvesting plans in compliance with the Shuar Forest Harvesting Standards and the Ecuadorian legislation;
- At least 50% of the Shuar loggers received technical assistance and improved their felling techniques, thus reducing waste and receiving better prices for their products; and
- The Shuar community forest enterprise ASOKANUS was strengthened as regards its financial and administrative management, marketing, harvesting plans and training, and currently operates two log yards, a central timber processing and marketing center, and a carpentry shop. However, further efforts are still required to make it self-sustainable.

Output 4: Integrated inter-institutional management framework established in the conservation system network, with capacity for research, monitoring, control, surveillance and dissemination management

- Reserve Management Plan Implementation Committees were established to oversee the El Zarza Wildlife Refuge, the El Quimi Biological Reserve and the Condor Protection Forest;
- Institutions were trained in activities related to the implementation of the management plans;
- A Monitoring Program was finalized and proposed for implementation to the Management Committee member institutions;
- A control and surveillance program was developed for implementation by the local communities; and
- 50% of the population in the area of influence are aware as regards the Reserves' conservation and sustainable development efforts.

Output 5: Watersheds and priority ecosystems (Tepuis) in the Ecological Reserve are under adequate conservation systems

- Two watershed areas were identified and set aside for future management: Quimi-Tundayme and Zarza-Machinanza;
- An agreement was arranged between the Municipality of Yanzatza and the Arco Iris NGO to develop the plan for the Zarza watershed so as to ensure its water sources and quality; and
- A special control system has been devised by 5 local communities and the Ministry of Environment for the protection of an important Tepuy in the El Quimi Biological Reserve.

Output 6: Increased technical assistance and support provide to the communities in the area of influence by local governments and grassroots organizations

- Rural families in four Shuar communities in the Quimi area of influence received technical assistance in reforestation and agroforestry practices.

Output 7: Mechanisms and instruments for coordinated conservation management between Ecuador and Peru established in the areas of control and surveillance, monitoring, research and dissemination of Ecuador-Peru Transboundary Natural Conservation Areas

- The creation of an Inter-institutional Binational Management Committee to support the implementation of Management and Master Plans in Conservation Areas was initiated in Lima in March 2008;
- Four transboundary meetings (April and November 2007 and April and June 2008) were organized in both Ecuador and Peru to gather more than 150 authorities and leaders of the Awajun, Wampis and Shuar indigenous communities in the Condor Range Region. A platform of policies, programs and projects for economic, natural resource, social and cultural organisation for the integration of these three ethnic groups that share common roots were formulated in a participatory manner and further discussed and agreed upon among national and native authorities at binational encounters organized in November 2008 at Tiwintza and others later; and
- A web site (www.cordilleradelcondor.org) was developed so as to provide for a greater dissemination of the project's activities and results and activities, and further promote the biological and cultural values of the transboundary conservation area and its area of influence.
- Transboundary GIS thematic mapping was finalized and the ecosystem, flora and fauna metadata has been consolidated on both sides of the border;
- A document containing a strategy for the establishment of the Abiseo-Condor-Kutuku Transboundary Conservation Corridor was developed and widely disseminated among the decision-making institutions in both Ecuador and Peru, and a proposal to establish a network of local actors for the management of the corridor was further designed; and
- A book with photographs that show the landscape and the daily life of the Shuar and Wampis was published.

Output 8: Specific protection actions identified and implemented in at least one priority ecosystem for Peru and Ecuador

- During the binational encounters it was unanimously agreed to consider the area that surrounds the Peruvian Condor Range National Park as a priority system of common interest, as it also corresponded

to Wampis and Shuar territories in both countries. A common strategy for the monitoring and control of this area was also designed.

Output 9: A proposal for binational environmental services in the Condor Range region developed

- A proposal for a trust fund for the conservation of 150,000 ha was formulated by the Shuar authorities and is to be proposed to both national governments so as to give it a binational nature; and
- A forest inventory that also included the estimation of organic matter was carried out to have a base line to estimate the amount of carbon fixed in the El Condor Range. This study was carried out in Ecuador but the information is also useful for Peru in similar ecosystems.

IV. Overall Outcomes and Impacts

Overall, one of the major outcomes of this project has been the implementation of a real peace process between these two sister countries, which has also brought about, after decades of segregation, the re-establishment of communications and cultural links among the ancestrally-connected Shuar and Wampis indigenous communities, and the conservation itself of a large swath of tropical rain forests considered to be a Hot Spot by Conservation International.

As regards impacts, the project paved the way for the Minister of Environment of Ecuador, Dr. Marcela Aguiñaga, and the Minister of Environment of Peru, Dr. Antonio Brack Egg, to jointly subscribe on September 8, 2009, in Lima, Peru, a Bilateral Memorandum of Understanding to promote the technical cooperation between the two countries with a view towards the coordinated management of transboundary conservation areas, a first among Latin American countries and possibly the world itself.

Last but not least, the project established a Bilateral Technical Group for the Joint Management of Transboundary Conservation Areas Ecuador-Peru, which first met in September 2010 and is expected to periodically met in the future for the coordinated management of the aforementioned Condor Range Transboundary Area and its expansion to other sites along their mutual border.

V. Lessons Learnt and sustainability

Among the many lessons learnt, it is relevant to highlight the following:

- These regions require to formulate projects with strong components on sustainable development that would improve living standards in the region based on the sustainable use of natural resources, so as to complement and strengthen the transboundary conservation area planning process;
- The focus of conservation projects involving indigenous communities must take into consideration the holistic view of these communities with respect to the use of forest resources, taking into consideration the cultural elements that define the use of determined natural resources; and thus maintaining the natural sources of their incomes, preventing their impoverishment; and
- External factors, such as i) the lack of a protected area category for indigenous territories within the legal framework of protected areas in Ecuador, ii) the lack of clear land tenure systems and the proper demarcation of mining concessions, and iii) the overall weakness of the Ecuadorian institutions and others, hampered to a certain degree the full achievement of the project's objectives.

As regards continuity, the project has permitted that the protected areas, El Quimi Biological Reserve and El Zarza Wildlife Refuge, obtain the legal, institutional and structural basis from the Ministry of Environment to allow for its sustainability. The monitoring and control activities carried out by the indigenous communities on either side of the border also contribute considerably to their permanence throughout time. It should also be further taken into account that this project originally considered three phases, and that the governments of Ecuador and Peru will be submitting these to ITTO shortly.

IV. Concluding Remarks

Overall, the project has significantly contributed towards the Ecuador-Peru Process through the creation of a Transboundary Conservation Area in the Condor Mountain Range Region, via which sustainable development and the conservation of natural resources will be achieved in the region.

As the ITTO Secretariat has received the Project Completion Report, several Technical Reports and other products, as well as the Final Financial Audit Report, the project can be reported as completed. Technical documents and other products are available from the Executing Agency and Secretariat upon written request.

(7) PD 256/03 Rev.1 (F) Alternative Mixed Plantation Systems and Restoration Strategies for Conservation and Sustainable Production of Native Timber Species in Ghana

Budget and Funding Sources:

Total Budget:		US\$	435,024
ITTO Budget:		US\$	301,750
Government of U.S.A.:	US\$	151,750	
Government of Japan:	US\$	150,000	
Government of Ghana:		US\$	84,896
Northern Arizona University (NAU):		US\$	48,378

Implementing Agency: Forestry Research Institute of Ghana (FORIG)

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

Starting Date and Duration: 28 September 2004 / 48 months

Approved Revised Date of Project Completion: July 2009 (NOLF.09-0095)

I. Introduction

The project was approved by the Council at its Thirty-fifth Session in November 2003 in Yokohama, Japan, and fully funded at the same Session. The Agreement regulating the implementation of the project was signed on 13 July 2004. The first installment of the ITTO funds was released in September 2004. A 10-month project extensions were granted until July 2009, without additional ITTO funds, by the ITTO Secretariat, based on an official request including proper justification with appropriate detailed work plan and budget. As an acceptable version of the project completion report was received on 22 September 2010, the duration of the project implementation had lasted 71 months instead of 48 initially designed by FORIG.

II. Project Objective

The Project was mainly aimed at promoting sustainable production of native tropical timber species and conserving biodiversity in Ghana. In order to achieve this objective, the project had developed ecologically stable plantation systems with native species offering sufficient protection for high-risk timber trees and that could be acceptable in Ghana. It had also restored gaps within the Bobiri Forest Reserve through biological suppression of an invasive weed followed by forest regeneration.

III. Project Achievements and Outputs

The participatory approach used to implement this research-development project had contributed to have a smooth implementation which contributed to get the following achievements and outputs:

Output 1.1: Mixed species “production” plantation systems established and assessed

- Sites were prepared and plantations were established in several locations and assessed. Not all plots were established within Bobiri Forest Reserve due to difficulty in obtaining permits to establish relatively large experimental plantations within reserve;
- Maintenance of some plots at Afram Headwaters, South Fumangsu and Mesewam nursery area were difficult due to either invasive alien species, or other anthropogenic factors; and

Output 1.2: Mixed species “restoration” plantation systems established and assessed

- Sites were prepared and plantations were established in several locations and assessed;
- Regular visits were made to the plots based on the research monitoring protocol; and

Output 1.3: Volunteer “farm” plantations established and evaluated

- At least two meetings were held per year for consultation between the project team and selected local community farmers involved in the project implementation;
- Sites for the establishment of volunteer farm plantations were inspected and approved by Project team members, and were subject to periodical maintenance activities and measurement of tree performance; and
- One volunteer farmer with relevant experience was co-opted to assist with monitoring of mixed species plantations established by community farmers.

Output 1.4: Ecological impacts of production and restoration plantations assessed

- Damage assessments were carried out based on the research monitoring protocol, and the main results were presented in the biannual Progress Reports submitted to ITTO;
- Natural enemy assessment was carried out as part of overall assessment of arthropod diversity in established plantations;
- Assessment of ant diversity was carried out in some established plantations, and ground beetle assessment was excluded because of its operational challenges. Ants proved sufficient as bio-indicators;
- Assessment was carried out in established older plantations and other land use types (e.g. crop farm, citrus plantation, teak plantation, etc), for comparative analysis in relation to the biodiversity richness. A new species of ant previously unknown to science was discovered during assessment; and
- Review of the results of the assessment was carried and published in peer-reviewed journal.

Output 1.5: Restoration treatment initiated in selected gaps

- Forest gaps overgrown with *Cedrela odorata* were selected and evaluated;
- Major difficulties were encountered rearing bio-control agents due to high population of natural enemies in field-collected larvae; and
- Bio-control agents were released in Bobiri Forest Reserve over two seasons, and the experiment should continue in the second phase project.

Output 1.6: Restoration process managed and assessed

- Seedlings of three high value high risk species were planted in declining gaps as part of restoration activities; and
- Monitoring of rehabilitated sites was carried out based on the research protocol.

The above-mentioned main achievements and outputs had been detailed in the final technical report which is available from the Secretariat upon written request. A national workshop was held to share and disseminate the main findings of the project, and to validate the content of the handbook publication titled “*Handbook on Mixed Indigenous Species Plantations in Ghana*”.

IV. Outcomes and Impacts

Although there is a need to continue monitoring over several seasons, the extent to which the project’s objective has led to key outcomes and impacts, through the implementation of this research-development project, can be presented as follows:

- Experimental plantations were established and assessed as planned, in order to demonstrate that the establishment of mixed indigenous species plantations is feasible for different forest stakeholders (government, timber private sector, local communities, etc);
- The key forest stakeholders have become less reluctant to establish mixed indigenous species plantations due to the results presented during sensitization campaigns undertaken to show that, in general, pest damage in mixed species forest plantations was lower than in monoculture forest plantations. The dissemination of those results should continue in the second phase project;

- The Ghana Forestry Commission, through the National Forest Plantation Development Programme, has started establishing some plantations using mixed indigenous species planting approach. These were established based on the results of this project and those of another ITTO project PD 105/01 Rev.3 (F), through the collaboration between FORIG and the Directorate of the Plantations Division of the Ghana Forestry Commission; and
- It cannot be said that the project has led to significant impact on the physical environment since the established plantations were small scale. However, those demonstration plots are starting to contribute to a changed paradigm in Ghana where individuals, companies and institutions establishing plantations are more and more placing native species over exotic species.

V. Lessons Learnt and sustainability

Among several lessons learned during the implementation of this project, the following can be highlighted for experience sharing:

- Project was well identified and well defined was a key element for its smooth implementation. It appeared that the inclusion of biological control of the invasive weed, *Chromolaena odorata*, as part of this project was somewhat out of place, as the background literature and information obtained on the subject during the project identification and development was not comprehensive enough;
- In spite of the limitations and challenges encountered, the idea to incorporate farmers in project implementation contributed significantly to the knowledge and understanding of how such community projects with mixed native species plantations could be implemented in the future;
- Clear definition of roles and responsibilities between FORIG and NAU contributed to have a smooth project implementation; and
- A farmer with background in agriculture was engaged to assist with monitoring of farm plantations. This proved to be very helpful as the farmers could readily identify with him. Activities of the doctoral student from NAU, who worked on the Project as data collection consultant was monitored and supervised by the NAU Co-Principal Investigator. Monitoring and evaluation activities were reported to ITTO through the biannual progress reports.

Regarding the sustainability of the key project findings and achievements, the following elements are to contribute to that continuity:

- Maintenance, monitoring, and continual assessments of experimental plantations will be carried out by the executing agency (FORIG). This is a standard procedure at FORIG, whereby plots established under funded projects revert to the research institute at the completion of the project;
- Care and maintenance of volunteer farmers' mixed native species plantations will be the responsibility of the farmers themselves. This was made clear to them at the initiation of the project, and they agreed due to the incentive measure of getting access to lands and in relation to the benefit sharing law on revenue derived from forest plantations. However, FORIG will undertake periodic monitoring and assessment of the farmers' plantations to provide technical guidance, and if and when necessary, collect relevant data; and
- FORIG will also continue to provide direction and guidance to other prospective tree growers interested in establishing mixed native species plantations, if contacted.

VI. Concluding Remarks

In view of the need to further strengthen and sustain the main findings and achievements of the project, the Executing Agency formulated and submitted the follow-up project proposal *PD 582/10 (F): "Promoting Native species Plantations in Ghana, Phase II: Enlarge Community Plantation Base through Appropriate Tree Choices and Improved Silvicultural Practices"*. This new project proposal was assessed by the Expert Panel in August 2010.

As The ITTO Secretariat has received the Project Completion Report, Final Technical Report, handbook publication, and Final Financial Audit Report, the project PD 256/03 Rev.1 (F) can be reported as completed.

(8) PD 272/04 Rev.2 (F) Development of National Principles, Criteria and Indicators for the Sustainable Management of Congo Forest Based on ITTO Criteria and Indicators for SFM (Republic of Congo)

Budget and Funding Sources:

Total Budget:		US\$	544,206
ITTO Budget:		US\$	447,702
Government of Japan:	US\$	347,702	
Government of U.S.A.:	US\$	100,000	
Government of Republic of Congo:		US\$	96,504

Implementing Agency: General Directorate for the Forest Economy Direction (Direction Générale de l'Economie Forestière – DGEF)

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

Starting Date and Duration: 22 February 2006 / 24 months

Approved Revised Date of Project Completion: August 2008 (NOLF.08-0125)

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 11 May 2005. The first installment of the ITTO funds was released in February 2006. A 6-month project extension was granted until August 2008 without additional ITTO funds, by the ITTO Secretariat, based on an official request including proper justification with appropriate detailed work plan and budget. As an acceptable version of the project completion report was received on 25 February 2010, the duration of the project implementation had lasted 48 months instead of 24 initially designed by DGEF.

II. Project Objective

The project aimed at assessing and promoting sustainable forest management (SFM) in Congolese forests. Specifically, it intends to develop a set of Criteria and Indicators (C&I) adapted to Congo's specific conditions, based on ITTO's C&I, in order to assess the progress towards SFM at both the national and forest management unit levels.

III. Project Achievements and Outputs

In accordance with the project document, final technical report and completion reports, the main achievements and outputs can be summarized under the four expected outputs, as follows:

Output 1.1: Project management structure established

- Project technical and executive staff members were appointed and operational during the entire project implementation. The project team was supported by an international consultant, Dr. Marie MBOLO;
- Project technical equipment and materials were purchased in accordance with ITTO rules and procedures;
- Three project steering committee meetings were convened for the monitoring and evaluation of the project implementation; and
- All reports, required by the ITTO rules and procedures applying to projects, were submitted to the ITTO Secretariat.

Output 1.2: A set of Criteria and Indicators adapted to Congo specific conditions developed and validated

- Six national experts were selected to be part of a multidisciplinary expert panel in order to conduct the testing of C&I in collaboration with an international consultant;

- As recommended by the first project steering committee meeting, the project used the first draft of the national set of C&Is developed by the National Working Group established by the regional ITTO/ATO project PD 124/01 Rev.2 (M), in order to promote synergy between two ITTO projects and therefore avoid a duplication of efforts and means in the same country;
- The first draft of the national set C&Is was disseminated to selected stakeholders involved for review and amendments in March-June 2006;
- The revision of the first draft of the national set of C&Is was undertaken during the field testing conducted in July-August 2006. Thus, the second draft of the national set of C&I was developed taking into account the results of the field testing;
- The testing of the national set of C&Is was conducted in three forest management units (FMU) located three forest sectors (Centre, South and North) of the Republic of Congo: Kola FMU Kola managed by the FORALAC company in the District of Niari, Boubissi FMU managed by TRABEC company in the District of Kouilou, and Kabo FMU managed by CIB company;
- The results of the field testing in three FMUs were used to develop the third draft of the national set of C&I;
- A national validation workshop was convened in December 2006 and the constructive discussion of participants led to the fourth draft of the national set of C&I containing 4 Principles, 20 Criteria, 92 Indicators and 281 Verifiers.

Output 1.3: National Internal Audit System for SFM formulated and established

- The first draft of the manual for the interpretation and application of the national set of C&Is was developed in July 2007 and circulated to key SFM stakeholders for comments and amendments, prior to its validation during a workshop held the same month;
- The internal audit procedures for SFM were developed, on the basis of PCIV adopted in December 2006;
- The institutional and organizational provisions to implement the national internal auditing system were developed, on the basis of the PCIV adopted in December 2006;
- The manual for the interpretation and application of the national set of C&Is was tested in the three selected FMUs.

Output 1.4: National Resources for SFM internal auditing procedures gathered and operational

- The training needs for local forest auditors were identified in timber companies, forestry administration, research institute, and civil society, in July 2007. The training modules and implementing training courses were developed by the international consultant in collaboration with the project team;
- The training materials were prepared, from October 2007 to March 2008, and included five modules (concept, auditing, auditing implementation, preparation of ITTO report and evaluation);
- The training courses and workshops were organized in each of the three forest sector (Pokola from 25 to 28 February 2008 for North Congo, Brazzaville from 03 to 05 March 2008 for Centre Congo, and Pointe-Noire from 25 to 28 March 2008 for South Congo);
- The additional training courses for auditors were conducted in November 2008 in Brazzaville, in collaboration with the ITTO/ATO regional project PD 124/01 Rev.2 (F), for those who did not attend the training sessions organized in the three forest sector;
- The training programme was assessed by participants during each training session, in order to get their feedback for the improvement of training sessions.

IV. Outcomes and Impacts

The main achievements and outputs of this project have contributed to the get the outcomes and impacts described as follows:

- A conceptual framework was established as a tool to be used for the periodical assessment of SFM progress in the natural tropical forests of Congo at the national, sub-national and FMU levels;
- An interpretation and application manual for the national set of Principles, Criteria and Indicators was made available, for possible utilization by all forest-related stakeholders;
- Institutional and organizational procedures and provisions for a national internal audit system for SFM developed and disseminated; and
- A pool of experts was trained to use the national set of Principles, Criteria and Indicators for SFM.

V. Lessons Learnt and sustainability

The most important lesson learned from the implementation of this project is that the Republic of Congo is rich of a number of assets to facilitate the applicability of ITTO C&Is for the sustainable management of natural tropical forests. With a normative framework specific to the Congolese context provided by a national set of Criteria and Indicators for sustainable forest management, it is important to involve all relevant stakeholders and get them understood the importance of this technical tool, and the role they can play to implement it.

The project sustainability is questionable if the Government of Congo does not materialize the promise to incorporate the main results of this project in the national forest legislation through appropriate decrees formalizing the compulsory utilization of the national set of C&I, manual for the interpretation and application of the national set of C&Is, and internal audit procedures for SFM assessment.

VI. Concluding Remarks

As the ITTO Secretariat has received the Project Completion Report, Final Technical Report and other technical documents, as well as the Final Financial Audit Report, the Project PD 272/04 Rev.2 (F) can be reported as completed.

(9) PD289/04 Rev.1 (F) **Management of the Emerald Triangle Protected Forests Complex to Promote Cooperation for Transboundary Biodiversity Conservation between Thailand, Cambodia and Laos (Phase II) (Thailand and Cambodia)**

Budget and Funding Sources:

Grand Total Budget:		US\$	1,551,943
Total ITTO Budget:		US\$	688,208
(ITTO Budget in Thailand:)			(352,879)
(ITTO Budget in Cambodia:)			(335,329)
Government of Japan:	US\$	368,208	
Government of Switzerland:	US\$	300,000	
Government of U.S.A.:	US\$	20,000	
Government of Thailand:		US\$	323,400
Government of Cambodia:		US\$	540,335

Implementing Agency: Royal Forest Department (main agency) (Thailand)
Forestry Administration (Cambodia)

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

Starting Date and Duration: March 2008 / Planned; 24 months, Actual; 27 months

I. Introduction

The project was approved by the Council during its Thirty-seventh Session in December 2004 in Yokohama and full financing was pledged during the same Session. The agreement regulating the implementation of the project was forwarded to the Governments of Thailand and Cambodia for their respective signatures on 15 February 2005 and signed by all parties on 30 March 2007. The first disbursement of funds was made on 7 March 2008. The implementation of the project activities had been completed in May 2010.

An independent evaluation of the project took place from 18 March to 2 April 2010 before the project completion. The purpose of the evaluation was to guide all factors relevant for the efficient and successful completion of the project in accordance with the rules and procedures of ITTO. Attention was also given to draw lessons and key project elements that can be used to improve similar projects in the future. The result of this evaluation is produced through Document CRF(XLIV)/7.

II. Project Objective

The project aimed at conserving the trans-boundary biodiversity in the Emerald Triangle Protected Forest Complex situated between Thailand, Cambodia and Lao PDR in a framework of trans-boundary biodiversity conservation area (TBCA). Its specific objectives were: i) to strengthen cooperation between Thailand, Cambodia and Laos for biodiversity conservation in respective trans-boundary conservation areas; ii) to enhance protection measures and monitoring of the biological resources along tri-national borders; and iii) to strengthen the involvement of local communities and stakeholders to ensure sustainable use and management of natural resources both in protected areas and in the buffer zones.

III. Project Achievements and Outputs

The achievements and outputs produced by the project can be summarized as follows:

Specific objective I: Strengthen cooperation between Thailand, Cambodia and Laos for biodiversity conservation in respective trans-boundary conservation areas

Thailand

- A National Coordinating Committee on TBCA established in Thailand was comprised of authorities from the Royal Forest Department and the National Park, Wildlife and Plant Conservation Department. Four Coordinating Committee Meetings were conducted to follow up and advise the project; and
- Three stakeholder group meetings were held to share information on progress of the project implementation. This group was comprised of NGOs, local forestry administration officers, RFD and DNP staff, community leaders and representatives, and project staff.

Cambodia

- A National Project Steering Committee (NPSC), National Project Technical Committee (NPTC) and Field Management Unit (FMU) were established to advance the implementation of the project;
- A Joint Task Force meeting was conducted in Siem Reap province on 08 April 2009 in conjunction with the second PSC meeting with the participation of representatives from Cambodia, Thailand and Lao PDR. There was an agreement to organize meetings in each country separately and to share relevant information afterward; and
- Consultations were carried out on a regular basis to ensure effective and efficient implementation of project activities. Main consulting group members are community leaders as well as commune, district and provincial authorities, military officers and Forestry Administration officers at triage, division and cantonment levels.

Technical cooperation between Thailand and Cambodia level had been improved considerably through a series of meetings of the Project Steering Committee (PSC) and Joint Task Force Groups. However, the project limitations remained including periodic border conflicts between Thailand and Cambodia setback achievements to some extent as well as non-participation of Lao PDR in the project except the second PSC meeting.

Specific objective II: Enhance protection measures and monitoring of the biological resources along tri-national borders

Thailand

- Two training courses on domestication of edible wild species and insects, two training courses on plant propagation and one training course on nursery techniques were held with the participation of 125 participants;
- Collaboration with the border patrol police and military had been made through three workshops to prevent wildlife poaching, illegal logging, and the trading and collection of wild plant;
- A technical report on wildlife survey and monitoring of the Bunthrik-Yotmon Wildlife Sanctuary was published. The landscape species of this Sanctuary include Asian Elephant (*Elephas maximus*), Barking deer (*Munticus muntjak*), Serow (*Capricornis sumatraensis*), Wild pig (*Sus scrofa*) and Siamese Fireback (*Lophura diardi*). These landscape species will be considered as focal conservation targets to set up Site Conservation Management Plan of the Sanctuary as an example of the management of the Emerald Triangle Protected Forest Complex;

- A technical report on ethnobotanical study in the Pha Taem Protected Forests was published under research programs on medicinal and edible plants to facilitate their domestication;
- All together 109 participants from five protected areas in Thailand and local stakeholders attended training courses on introduction to GIS and map reading, using GIS/MIST for effective controlling and land use allocation and land use change for protected areas; and
- A study on the land use classes of the Emerald Triangle Protected Forest Complex from 2002-2008 was carried out in 2008. It found that forest encroachment was a main threat to transboundary biodiversity. A study to project land use change based on three land demand scenarios in 2030 was also carried out. Results of the predicted wildlife distribution and wildlife hotspots in 2030 clearly show that long-term survival of biodiversity in this region depends on cooperation between the three countries to protect intact forests and remaining suitable habitats.

Cambodia

- A Preah Vihear Forest and Wildlife Research Station and a ranger control post were constructed in May 2010 to support and strengthen the conservation and management of Preah Vihear Protected Forest;
- Training on GIS was provided to local Forestry Administration staff members in Preah Vihear town in December 2009. The training was focused on GIS mapping and databank management, landscape planning, and habitat suitability analysis;
- A Preah Vihear Protected Forest Management Plan, incorporating zoning uses for the 2010-2014 period was completed and published in both Khmer and English in May 2010. The Management Plan, which is a “road map” for sustainable forest-land use planning, includes five programs: Natural Resource Conservation and Management; Recreation and Ecotourism Management; Integrated Community Livelihood Development and Cooperation; Institutional and Human Resource Development; and Research and Monitoring;
- Awareness raising activities for law enforcement and biodiversity conservation were carried out regularly with Forestry Administration officers and other stakeholders, especially relevant provincial and local authorities; and
- Three sign boards were erected to demarcate main entrances to the Preah Vihear Protected Forest in July 2009. The demarcation of sign boards highlighted the importance of the management of the Preah Vihear Protected Forest and local community awareness of the protected forest boundaries.

Specific objective III: Strengthening of the involvement of local communities and stakeholders to ensure sustainable use and management of natural resources both in protected areas and in the buffer zones

Thailand

- An extensive database on local community groups was established and local community networks and fora were strengthened to provide information to stakeholders and to develop criteria for the selection of communities to be included in an Integrated Community Livelihood Development and Cooperation (ICDP) program. Community networks have been established in the field of “Conservation, Home-stay & Ecotourism, Handicrafts, Wild Orchids Domestication, Herbs and Medicine Plants, Community Revolving fund, Domestic Crab as a food source, Organic Fertilizer, and Bamboo”;
- A series of training courses and workshops for local communities were organized to raise awareness of conservation and to gain experience with biodiversity conservation;
- Training workshops on formulating ICDP project proposals, criteria, regulations and monitoring system were conducted. Pilot activity funds to six local community networks jointly approved by the project and the local community network in accordance with the agreed criteria;
- Additional equipment for the existing tissue culture lab and a new nursery at the project headquarters for potential domesticated plant species had been purchased and established;
- A survey along the Mekong River/Thai-Cambodian borders identified potential areas for cultural-, adventure-, and nature-based tourism and produced a nature-based tourism map; and
- Training for staff and local communities in eco-tourism development and nature-based tourism management was conducted. Two communities developed eco-tourism packages and a home-stay project.

Cambodia

- Awareness of local people on the existence of the Protected Forest and the new Forestry Law had been increased. Meetings between the Forestry Administration and local communities to facilitate biodiversity conservation were held with the participation of 256 participants in Chaes, Chunh and Robunh villages where activities were promoted for participatory land use planning, community-based ecotourism and bird nest protection;
- Agro-forestry practices in the buffer zones of the Protected Forest with a reward system for outstanding conservation efforts had been promoted. A rice bank was established in Chaes village in December 2008 and had been used as a common facility. More than 2,500 fruit trees seedlings of different species were provided to 140 local families in the three target villages of Chaes, Chunh and Robunh. Chicken ranching was introduced to forty selected families in the three target villages. Cow banks were established in two target villages, Chunh and Robunh, and thirteen families were selected to receive a cow. Each family that received a cow had to pay into an investment fund. A micro-credit program was implemented in Chaes village, with a revolving fund of \$1000 and a community fund of \$130;
- Regulations and criteria on appropriate access to non-timber forest products were drafted through consultative meetings with local communities;
- Summaries of the implementation of the project activities had been regularly featured in the Cambodia Forestry and Wildlife Magazine which has published for every six months. The Phnom Penh Post (National English newspaper) featured an article on transboundary cooperation on 24 April 2009; and
- Potential ecotourism and recreation sites were identified and mapped. Strategies, activities, action plans, work plans and estimated budgets were included in a Management Plan the Preah of the Vihear Protected Forest. Four Forestry Administration project staff and eleven local community committee members from the three target villages were trained in community-based ecotourism through participation in a study tour in January 2010 to Dang Plet village in Chhiep district where the Conservation and Landscape Management project provides village support through ecotourism development activities.

IV. Outcomes and Impacts

The project prepared several technical reports in accordance with project activities. The reports were published and distributed to concerned agencies in the two countries. Apart from those, the project also produced several booklets and guidelines in the local language for distribution to local beneficiaries and communities. The main outcomes of the project were presented by two representatives of the two Executing Agencies at the International Conference on Biodiversity Conservation in Transboundary Tropical Forests held in Quito, Ecuador on 21-24 July 2010 which reviewed the social, economic and political implications and impacts of transboundary biodiversity conservation.

Overall, the project has significantly contributed to the foundation for transboundary biodiversity conservation between Thailand and Cambodia although the specific objectives 1 and 2 have not been fully achieved due to failure of Lao PDR to join the project and unclear vision of transboundary cooperation. At the national level, the project has influenced the importance of transboundary biodiversity conservation. The project was probably a first case in which the two Executing Agencies had a close collaboration to promote biodiversity conservation in the Emerald Triangle Protected Forests Complex. The Preah Vihear Protected Forest Management Plan is an important road map for the Cambodian government to implement recommended actions on the ground in close cooperation with key stakeholders. At the regional and local levels, the capacity of biodiversity management teams has been enhanced very much with more knowledge of GIS and social aspects of local communities. Local communities in the project sites, one of the important beneficiaries of the project, have been motivated with biodiversity conservation with the support of livelihood improvement activities.

V. Lessons Learnt and sustainability

The main lessons learned from the evaluation of the project include the following:

- Good design is very important to the success of the project. The project was with three specific objectives and too many outputs. The Logical Framework – specific objective 1 is not entirely deliverable by the Project Teams alone. It needs a definition of concrete assumptions on external responsibilities. Moreover, the indicators are not measurable and generally not relevant as far as measuring outcomes and impacts are concerned. It did not provide sufficient baseline information (no scoping in Cambodia);

- A trans-boundary coordination enabling vision is needed and should be established as early and clearly as possible. There is encouraging progress in cooperation at the technical level between Thailand and Cambodia. However, Lao PDR not joining the project caused some reluctance to pursue the development objective;
- Good technical capacity building will be an important success factor in the future. Individual consultants contracted should be accompanied by counterparts from the project to ensure smooth operation of activities;
- Community development activities have strengthened the trans-boundary coordination legitimacy and allowed its survival in a context of border disputes. However, good practices in planning and implementing rural development not adequately used. Lower levels of forestry services not adequately empowered to implement grassroots initiatives;
- The roles of Executing Agencies identified in the Project Document and frequent consultations between two Executing Agencies have played an important role for the smooth organization of Project Steering Committee (PSC) meetings as well as the implementation of joint activities; and
- Procurement of necessary equipment took time. Rainy season and occasional flooding affected accessibility to the area and delayed project implementation.

To ensure the sustainability associated with the extent of the achievements of the project to date and to strengthen trans-boundary biodiversity conservation in the Emerald Triangle, efforts will continue to be supported through the following:

- Extended work of management teams in Thailand and Cambodia who have been adequately trained on trans-boundary issues;
- Continued support to strong cooperation demonstrated at the technical level for biodiversity conservation in both countries, which will induce greater cooperation at higher levels of government, including that of Lao PDR;
- More local communities in both countries understood the necessity for transboundary biodiversity conservation will enforce more "social control" in protected areas; and
- The organization of public forums in both countries will continue to encourage active support from local communities and organizations.

Taking into account the challenges of the 2nd Phase of the project, a 3rd and final Phase proposal [PD 577/10 Rev.1 (F)] has been prepared in order to further strengthen the technical transboundary conservation cooperation with the engagement of Lao PDR in biodiversity assessment and monitoring activities. The proposal was appraised by the 40th Expert Panel in August 2010 and received Category 1 (minor amendments).

VI. Concluding Remarks

The ITTO Secretariat has received the completion report, technical reports and the final audited financial statements in accordance with the project agreement signed with ITTO. The Committee may wish to declare this project complete.

(10) PD 297/04 Rev.3 (F) **Implementation of the Sustainable Forest Management Programme of the Iwokrama International Centre (Guyana)**

Budget and Funding Sources:

Total Budget:		US\$	\$656,846
ITTO Budget:		US\$	406,836
Government of Japan:	US\$	296,836	
Government of USA:	US\$	90,000	
Government of Norway:	US\$	10,000	
Friends of Iwokrama-US:	US\$	10,000	
Iwokrama International Centre:		US\$	250,010

Implementing Agency: Iwokrama International Center

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

Starting Date and Duration: November 2006 / Planned: 18 months, Actual: 24 months

I. Introduction

The Council approved the project during its Thirty-eighth Session in June 2005 and full financing for its implementation was pledged during the Thirty-ninth Session in November 2005. The Project Agreement was signed in August 2006 and the first disbursement was made in November 2006. However, project execution did not start until March 2007, after finalization of the arrangements with the private sector joint-venture partner which was a key assumption for the development objective. This also allowed time for the procurement of key project equipment and the mobilization of key project personnel.

This project derived from ITTO Project PD 10/97 Rev. 1 (F) "*A Sustainable Management Model in the Iwokrama Rainforest*", that was completed in April, 2004. Along with a number of other important outputs, that project was able to complete the draft sustainable forest management plan. The principal objective of this project was to complement and support the implementation of that plan.

Guyana's commitment to the principles of sustainable forest management was reflected in the enactment of the Iwokrama Act, which was passed in Parliament on March 14 1996. The Act provided the legal framework for Iwokrama by setting aside approximately 360,000 ha of rainforest, established the Iwokrama Centre for Rainforest Conservation and Development and placed the management of the Iwokrama Programme Site under the Centre.

II. Project Objective

Overall, this project envisaged addressing the lack of knowledge and general misunderstanding about the sustainable nature of forest activities and the profitability of forest utilization in the Iwokrama Forest. More specifically, the project aimed to 1) manage the area in order to maximize net revenue from the sustainable production of forest goods and services, while developing local employment and training opportunities and providing capacity building and technology transfer programmes for the Amerindian communities; and 2) demonstrate, through effective monitoring, how the approach delivers lasting ecological, economic and social benefits to local, national and international communities.

III. Project Achievements and Outputs

The Project's field activities were completed in June 2008 and the overall project was reported as completed in June 2009. In accordance with the project document, planned activities were carried out during the project's lifespan and its achievements can be summarized under the five key outputs envisaged by the project, as follows:

Output 1: Training and technology transfer in the development and implementation of silvicultural programmes provided

- A volume and decay study of 155 trees of 23 species was completed and the field data was processed and analyzed. Outputs included an improved system for assessing defects and estimating volumes in standing trees for forest inventories;
- A total of 12 Permanent Sample Plots (PSPs) were established (2 in each of the 4 major commercial forest types for long term growth and yield assessment, plus 4 to assess the effects of different harvesting intensities). Outputs include a PSP database, key map, detailed plot maps and guidelines for remeasurement;
- Development of data management programs with links to the GIS mapping system for pre-harvest inventories, Volume & Decay studies and PSPs;
- Reforestation programme activities that included seed and seedling collection; nursery establishment and field species trials;
- Iwokrama's sustainable forest management programme and timber harvesting operation received FSC certification in January 2008;
- The ITTO Criteria and Indicators for SFM were applied at project start-up and again at project completion.

Output 2: Training and technology transfer in operational practices related to forest management

- The sustainable management of natural tropical forests requires a population with sufficient knowledge about organization and planning of forest production, including silvicultural techniques, to ensure sustainability. Iwokrama's strategy for the implementation of the sustainable forest management plan was through the development of human resources from local communities through on-the-job training.
- Operational training was completed for the volume and decay field work, the permanent sample plot field work, the pre-harvest inventory field work and supervision and monitoring of harvesting operations. Additional training was provided to field personnel in: principles of SFM and FSC certification, the GFCCode of Practice, occupational health and safety, labour laws (ILO) and the National Insurance Scheme (NIS).
- The ITTO Project team was also provided with the opportunity to provide training to trainees participating in Iwokrama's "Ranger", "Tour Guide" and "Collaborative Management" training programmes, in the form of lectures, visual aids and field trips. This training included the principles of SFM and basic silvicultural systems. The majority of the trainees in these programmes were from country-wide indigenous communities.
- Reduced Impact Logging (RIL) training in harvest planning, directional felling, skidding, preventative maintenance and forest roads was provided to Iwokrama staff and members of the local communities who were employed by the joint-venture company responsible for timber harvesting.

Output 3: Forest management and silviculture counterparts trained

- Forest management training was provided to three (3) counterparts during the course of the project (one university graduate in forestry and two forestry technicians). Subsequent to the completion of the project, a fourth counterpart (with a Master's degree in forestry) took up service with Iwokrama as Assistant Forest Manager. All counterparts received training in the basics of SFM including forest inventory, harvest planning and supervision, as well as maintenance of harvesting production records.
- Silviculture counterpart training was provided to three (3) university graduates in forestry (one with a Master's degree) during the course of the project. Key activities undertaken included assisting with the volume and decay study and the permanent sample plot programme, from inception and design through field establishment and measurement to final data analysis and mapping, as well as establishment of the forest nursery and conducting species trials.

Output 4: Socio-economic monitoring programme developed

- The final version of the Socio-economic Monitoring Protocol for Iwokrama's forestry based activities was completed. Work shops and consultations were held with the Fair View Village council and residents, as well as with other stakeholder groups within the NRDDDB, to assess critical issues and concerns about the socio-economic impacts of timber harvesting. These sessions also provided information on socio-economic impact monitoring findings to date as well as key indicators that needed to be tracked as part of the Integrated Monitoring System. This process also included assisting Fairview Village with the development of their Community Development Plan.

Output 5: Bio-physical monitoring programme developed

- The final version of the Bio-physical Monitoring Framework for Iwokrama's forestry based activities, as well as monitoring manuals were completed. Baseline floral and faunal data was collected for the areas subject to sustainable harvesting activities in 2007, 2008 and 2009. Further baseline data will continue to be collected for subsequent harvesting areas. The bio-physical monitoring program also covers the extent and severity of soil disturbance and soil erosion, as well as the protection of water bodies and the monitoring of water quality. To this end, post harvest inventory procedures have been developed for the bio-physical monitoring of Management Units after harvesting has been completed. Road and river monitoring patrols have been established for monitoring site integrity.
- A number of the PSPs established under this project will assess the impact of different harvesting intensities on the bio-physical environment.

IV. Outcomes and Impacts

Iwokrama signed Collaborative Management Agreements with Fair View Village and with the North Rupununi District Development Board (NRDDB) for the management of the resources of the Iwokrama Forest. Iwokrama created a wholly-owned subsidiary company – Iwokrama Timber Inc. (ITI), to manage the sustainable timber business. ITI formed a partnership with Fair View Village through a Shareholders Agreement guaranteeing a percentage of the net timber revenues to the Fair View Community. ITI then formed a joint-venture company (ISTI) with Tigerwood Guyana Inc. (TGI) for the sustainable harvesting, processing and marketing of timber from the Iwokrama Forest.

A qualified forest management team is now in place at Iwokrama, comprised of junior Guyanese professionals. Personnel from the Amerindian communities have been trained and are employed in a variety of forest management, forest harvesting and processing activities. The Joint-Venture timber company (ISTI) is well-established and revenues from the operation have increased exponentially over the duration of the project. Communities are represented at the highest levels in the business and have a director on the board of ITI. This representation gives community delegates exposure to high level decision-making and governance issues, improving the scope of their knowledge and their understanding of financial statements, as well as their capacity to bargain.

Moreover, ITI attained FSC certification in January 2008. TGI is currently exporting in excess of 400 m3 per month of certified sawnwood, one year after project completion. The timber operation has also provided employment and opportunities for spin-off businesses in the communities.

The socio-economic and bio-physical integrated monitoring and evaluation programmes have been developed and implemented. Preliminary studies and stakeholder consultations indicate a high level of satisfaction among the local communities with the new timber operation. Preliminary studies also indicate minimal negative impact to date on flora, fauna, water and soil resources.

Last but not least, through seminars, lectures and hands-on involvement with the timber business, members of the local communities and other stakeholders now have a broader understanding of the basics of SFM and the principles of FSC certification. The concept of sustainable management being demonstrated by ITI is now being used as a model in many of the local communities for the management of their own natural resources.

The impact on the social environment is appreciable. The local indigenous communities, as well as the public in general, now possess an increased awareness of the potential of the Iwokrama Forest for the production of forest goods and services, as well as for training, employment and as a client for support services. Communities are represented at the highest levels in Iwokrama's timber business and have a director on the board of ITI. This representation gives community delegates the exposure to high level decision-making and governance issues, improving the scope of their knowledge and their understanding of financial statements, as well as their capacity to bargain.

V. Lessons Learnt and sustainability

Among the many lessons learnt, the following can be highlighted:

- The aspect of project design which most contributed to the successful completion of the development objective was the firm commitment of all major stakeholders (Iwokrama, Government of Guyana and the local Amerindian communities) to making the joint venture timber operation a reality.
- The signing of the Collaborative Management Agreements with the NRDDB and with Fair View Village in 2006, as well as the signing of the Joint-Venture Agreement with Tigerwood Guyana Inc. in 2007 laid the groundwork for the successful implementation of this project.
- The dedication of ITI and TGI management and staff ensured that the fledgling timber operation would survive the difficult start-up phase and eventually achieve FSC certification, so as to become self-sufficient and profitable in the medium term.
- Close, critical analysis of project progress must be an on-going process. This could be handled through internal bi-monthly reviews with all parties involved in project implementation. Frank assessments must be made if a project is not performing to desired expectations and measures taken to determine the root cause of delay or failure and to take immediate corrective action.

VI. Concluding Remarks

Overall, the project contributed towards the know-how for the development of sustainable forest management in the tropics and the good forest management practices currently being adopted by small community-based timber enterprises in the Amazon Basin. Proof of that, was its selection by ITTO to be presented at the SFM side event convened by ITTO during the FAO World forestry Congress, in Buenos Aires, October 2009.

As the ITTO Secretariat has received the Project Completion Report, several Technical Reports and other products, as well as the Final Financial Audit Report, the project can be reported as completed. Technical documents and other products are available from the Executing Agency and Secretariat upon written request.

(11) PD 319/04 Rev.2 (F) Modular System of Forest Management in the Brazilian Amazon (Brazil)

Budget and Funding Sources:

Total Budget:		US\$	405,760
ITTO Budget:		US\$	277,560
Government of U.S.A.:	US\$	100,000	
Government of the Netherlands:	US\$	100,000	
Government of Japan:	US\$	77,560	
IMAZON:		US\$	128,200

Implementing Agency: Instituto do Homem e Meio Ambiente da Amazônia
(Amazon Institute of People and Environment - IMAZON)

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

Starting Date and Duration: November 2005 / 36 months

Approved Revised Date of First extension until March 2009 (CRF XLII)
Project Completion: Second extension until December 2009 (CRF XLIII)
Third Extension until July 2010 (Secretariat)

I. Introduction

The project was approved and fully financed by the Council at its Thirty-eighth Session in June 2005 and the agreement fully processed 31st August 2005. Upon the submission of the First Yearly Plan of Operations and a notification that implementation was about to begin, the first installment of funds was transferred in November 2005.

II. Project Objective

The overall objective of the project is to promote an increase in the area under sustainable forest management in the Brazilian Amazon region through the adoption of the modular system of implementation and verification (MIV) by 20 small and medium sized timber companies. Specifically, it intended to: i) test and fine-tune the modular forest management implementation system for conditions in the Brazilian Amazon; and ii) assess the technical, management and legal viability for implementing the modular forest management system in the Brazilian Amazon region.

III. Project Achievements and Outputs

This project was reported as completed in September 2010. In accordance with the project document, planned activities were carried out during the project's lifespan and its achievements can be summarized by major outputs as follows:

Output 1: MIV methodology adapted to the rules for forest management of Brazilian legislation

- Based on an assessment of the Brazilian laws and regulations, as well as a review of modular forest management systems worldwide, IMAZON defined an appropriate MIV system for the Brazilian Amazon. However, in 2006 a new Federal Law for Management of Public Forests (Law 11.284/2006) came into effect and established a framework for public forest management which disallowed the concept of Modular Management. As IMAZON could not continue to develop the MIV concept any further in Brazil, it therefore substituted it with a system denominated the Modular Forest Management System (SAMFLOR), which is comprised of four modules (legal aspects, technical aspects, social aspects, plus the chain of custody), and fourteen sub-modules, indicators and verifiers.

Output 2: Partner companies identified for implementation of modular management in the state of Pará

- A workshop was organized in order to explain the project to the forest companies in Pará and discuss the elements of the modular system. The workshop further made suggestions with regard to the coverage of the project and the selection criteria of the companies to be involved in the project;
- Visits were made to forest associations and unions and individual companies in Eastern and Western Amazon in order to evaluate the potential and identify companies that were willing to be involved in the project; and
- From an initial list of thirty forest enterprises, nine companies belonging to UNIFLOR (forest industry association), and covering a forested area of approximately 200,000 ha, were selected for participation in the pilot system, based on their having both domestic and export markets, good awareness regarding forest management and abundance of forest areas (the majority of enterprises could not be included in the process due to their borderline legality with respect to timber harvesting).

Output 3: Legal, technical and management obstacles to the implementation of forest management identified

- The main legal, technical and management bottlenecks for companies to implement forest management practices required by current legislation in Pará State were diagnosed and techniques for overcoming these barriers were developed; and
- The Permanent Forum on Discussions Regarding Forestry Activity of Pará met regularly to discuss the aforementioned issues and the development of SAMFLOR.

Output 4: Proposal for changes to legal framework and institutional proposal for MIV elaborated

- The Modular Forest Management System (SAMFLOR) was elaborated and its legal recognition proposed to governmental agencies such as SEMA-PA (Pará State Environmental Agency) and other private and public sector actors.

Output 5: Implementation methodology for MIV tested

- The process for the validation of the SAMFLOR was discussed with certification bodies such as Imaflora/Smartwood and government; and
- The means of verification were tested during the different implementation phases of Modular Forest Management System (SAMFLOR).

Output 6: Field guide about forest management techniques and the modular system rules published and disseminated to the companies

- A Field Guide on SAMFLOR, with differentiated language for the target audience (owners and employees of the timber companies), was developed and published;
- The SAMFLOR Field Guide was further widely disseminated through direct mail, meetings with loggers and field visits in the logging areas in the action area of the project (Centre-East of Pará);

- Partnerships were established with AIMEX (larger exporting companies), UNIFLOR (companies producing more for the domestic market) and producer syndicates in Pará, for the implementation of SAMFLOR through a program denominated PAMFLOR, to be executed by SEMA-PA;
- IMAZON continues to strengthen cooperation and build partnerships with other institutions/organizations in order to promote SAMFLOR and encourage companies and communities to participate; and
- The SAMFLOR guide is available on the IMAZON website. It was instrumental in the creation of PAMFLOR.

IV. Outcomes and Impacts

One of the major outcomes of this project is that SAMFLOR provided the foundation and structure for the State of Pará PAMFLOR program. The State Environmental Agency SEMA-PA has substituted IBAMA in monitoring forest management plans in Pará State. In this monitoring process, IMAZON is the main Independent Verifier for Remote Sensing Verification. While SAMFLOR had a more voluntary approach and could not provide effective rewards and sanctions, the newer PAMFLOR plan has stronger measures for assuring compliance. It is worth noting, however, that the SAMFLOR plans implemented by the 9 companies, covering 200,000 hectares in total and partnering with IMAZON returned effective compliance for around 80% of the areas surveyed.

PAMFLOR was officially published in the DOE (*Diário Oficial do Estado* - State of Pará Official Gazette) number 31555, on November 30, 2009, as Decree number 1.976 from the Office of the Governor of Pará, issued on November 27, 2009. The publication number is 48253. PAMFLOR stands for Program for Supporting Forest Management, and its main objective is to promote and support the development of sustainable forest management in the State of Pará, and also to enhance the transparency, efficiency, and timely processing of the environmental and forestry licensing mechanisms put in place by SEMA-PA.

Forestry companies now have two options in the State of Pará for obtaining their annual harvesting plans (under their overall forest management plans): (i) the normal process, which is currently a very cumbersome bureaucratic procedure; and (ii) PAMFLOR. This is a fast-track approach that qualifies the enterprises for technical assistance, in as long as they allow their management plans to be independently monitored. PAMFLOR stems from a public-private multilateral agreement, which was consensuated in the Permanent Forum on Discussions Regarding Forestry Activity of Pará, which is composed of companies, Public Prosecutors, other government agencies and NGOs.

V. Lessons Learnt and sustainability

Among the many lessons learnt, the following deserve to be highlighted:

- While most of the project's activities were progressing satisfactorily, some suffered delays, particularly those related to the selection of partner enterprises and the field validation of the methodology. This was due mainly to the difficulties in finding forest enterprises with valid management plans and also to the short duration of the dry season during which the field validations can be carried out.
- In 2009, the Public Prosecution Service (MPF) examined various management plans approved by SEMA-PA and concluded that several were poorly executed, as demonstrated by results of independent monitoring by IMAZON. The MPF then called on SEMA-PA to explain its methodology, given that its results were contradicted by IMAZON's findings. Additionally, there were longstanding urgent demands by forest enterprises for more timely approval of forest management plans and their related YPOs. As a result, the entire SEMA-PA approval process was reviewed, and a consensus was reached that the EA should work with its partners, federal and state agencies and other stakeholders in developing a program derived from SAMFLOR, which was to be later implemented by SEMA-PA to provide improved options for the enterprises to obtain timely approval for their YPOs, as well as to ensure that good management practices are implemented. This program further received the name PAMFLOR, and was adopted by the State of Pará Government and continues to be sustainably implemented.

VI. Concluding Remarks

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 upon request either from IFT or from the Secretariat.

(12) PD 392/06 Rev.2 (F) Phase I: Regional Project to Promote Reduced Impact Logging in the Congo Basin (Gabon)

Budget and Funding Sources:

Total Budget:		US\$	1,106,490
ITTO Budget:		US\$	950,087
Government of Japan:	US\$	475,087	
Government of Switzerland:	US\$	200,000	
Government of U.S.A.:	US\$	110,000	
Government of France:	US\$	65,000	
BPF-B:	US\$	100,000	
MINEF (Gabon):		US\$	30,000
TFF/WCS:		US\$	126,403

Implementing Agency: Tropical Forest Foundation (TFF) in collaboration with the Wildlife Conservation Society (WCS)

Session of Approval: ITTC Session XL, June 2006, Merida, Mexico

Starting Date and Duration: 17 March 2008 / 24 months

I. Introduction

The project was approved by the Council at its Fortieth Session in Merida, Mexico, in June 2006, and the financing was not allocated at the same Session. After the reduction of the ITTO budget, the full financing for its implementation was pledged during the Forty-second Council Session in Port Moresby, Papua New Guinea, in May 2007. The Agreement regulating the implementation of the project was signed on 13 November 2007. The first installment of the ITTO funds was released in March 2008. As an acceptable version of the project completion report was received on 19 July 2010, the duration of the project implementation had lasted 28 months instead of 24 initially designed by TFF.

II. Project Objective

The project aimed at promoting and achieving sustainable forest management among the logging in companies in Gabon and the Central African Region by implementing Reduced Impact Logging (RIL) practices incorporating fauna conservation concerns. The two project specific objectives were: (1) raising the awareness to and promotion of RIL in the region through, inter alia, demonstrating the opportunities and feasibilities of RIL under different conditions; and (2) the provision and improvement of the complete range of RIL courses in the Region and the creation of training capacities including through building those of existing vocational training institutes.

III. Project Achievements and Outputs

The implementation of this project has led to the main achievements and outputs summarized as follows:

Output 1.1: Completion of a demonstration area (50 to 100 ha) to demonstrate the differences between CE (Conventional Logging) and RIL in the forest devoted for training which covered around 12,000 ha in 2005 (approved logging permit).

- The operations in the demonstration blocks using both techniques: conventional exploitation (CE) and reduced impact logging (RIL) were completed;
- Studies and demonstration on the various differences of impact between the two methods (effects on vegetation, fauna, soil and river network) were conducted;
- The various perceptible differences between RIL and CE, using sign posts, tapes, etc. to signal the effects of the two respective techniques were marked on the ground in the project site;
- The reporting on differences with comments on their environmental and commercial aspects, based on trainers' experiences and the studies conducted, was prepared by the executing agency; and

- The acquisition of an adjacent forest area representing the types of forests requested and appropriate for long-running RIL training courses was not achieved, as most of timber companies were reluctant to send their workers to such training center and expressed the preference to get trainers coming to their forest concessions for the training of their workers.

Output 1.2: A study of the level of dependence to governmental financial support for the viability of a self-sufficient training centre after completion of phases 1 & 2

- The level of interest demonstrated and attendance recorded during the various courses (number of participants by discipline) in both national and international institutions (Logging companies, forestry schools, civil servants, NGOs, etc) was assessed after the first year of the project implementation;
- The costs «completed» by the project under operation were analyzed (Costs and amortizing of equipment, construction and materials, Cost of consumables, Human resource costs, Transports, accommodation and food & beverage for participants, Possible income sources, such as the sale of logs produced or financial or material support;
- Interviews, survey of former, present and potential future sponsors were conducted; and
- A cost-benefit analysis of the RIL Training infrastructure and human resource capacity after project completion was developed.

Output 1.3: Completion of the RIL Feasibility study (costs & revenue) in SBL Concession (RILSIM software)

- The RILSIM software of different capacities, whether or not applying RIL techniques in the different regions, was introduced to logging companies concerned in order to obtain a wide range of RILSIM data and results; and
- The study and analysis of the RILSIM were conducted at the level of the pilot company (SBL). A detailed report and a cost-benefits analysis were prepared.

Output 1.4: Information on RIL «pros and cons» provided to target groups

- A Power Point and hard-copy presentation of the RIL Training Project was compiled with following themes: RIL Definition and basic principles, Brief but extensively illustrated summary of all courses, List of course participants during the past years (Government staff, employees and managers, vocational schools and NGOs); and
- Survey of opinions of all relevant persons and partner institutions was conducted on RIL implementation in their institutions;

Output 2.1: RIL Training Centre near the training forest: demonstration area

- The RIL Training with many personnel from logging companies, trainers and teachers from ENEF and other organizations (university of Libreville) in all disciplines, was conducted; and
- Facilities were not established in the training centre, as it was not to be operational due to the attitude of timber companies to avoid sending their workers there for training.

Output 2.2: Personnel trained in Gabon in partnership with schools and tertiary education institutes at all levels: 5-10 civil servants; 10-20 trainers and assistant; 30-50 company executives and staff; 50-100 students schools/forest institutions

- Courses were conducted for participants from timber companies, University of Libreville and National Forestry School of Libreville on two training modules (RIL concept and Controlled felling).

Output 2.3: Introductory course for specialists and supervisors from neighbouring countries

- A RIL workshop was organized in December 2009, in Libreville (Gabon), to share the findings of the project with all interested parties; and
- The participation in the RaceWood exhibition in March 2010, in Douala (Cameroon), was an opportunity to present the main findings of the projects and explain the advantage of using RIL techniques.

Output 2.4: Vocational training institute for RIL Training in a third country

- The project has contacted different institutions dealing with RIL training in the Congo Basin (FRM and ONF-International both based in France, but have representation offices in the central African sub-region), for the harmonization of the training modules et more synergy in their actions in the field.

Output 2.5: Project proposal for a continued extension in the Region: Phase 2

- A project proposal was submitted to the ITTO Secretariat for the second phase of this project; and
- Other institutions (FAO, USAID, and French Cooperation) were contacted to get funds for the project maintenance during the transitional period between phase-I and phase-II of this project.

The abovementioned main achievements and outcomes described here above are detailed in the website created for that purpose: <http://tffgabon.toile-libre.org>

IV. Outcomes and Impacts

The outcomes and impacts of this project are questionable, as neither the training center nor the demonstration forest adjacent to that center had been established and made operational under the implementation of this phase-I project. It was no longer relevant to establish them due to the preference of timber companies to get their workers trained within their own forest concessions instead of sending them to that training center. With this complete change of the strategic approach of this phase-I project, it is recommended to conduct an ex-post evaluation of its implementation in order to draw lessons for the preparation of a phase-II project.

V. Lessons Learnt and sustainability

As main lesson learned from the implementation of this phase-I project is that the lack of a good problem analysis and stakeholder analysis, prior to the project formulation, has led to total change of the project strategic approach during its implementation. Therefore, the project sustainability could not be ensured during its implementation.

VI. Concluding Remarks

In view of the need to further strengthen and sustain the main findings and achievements of the project, the Executing Agency formulated a follow-up project titled *PD 579/10 (F): "Promoting Reduced Impact Logging Techniques in Gabon and the Congo Basin"*. This new project proposal was assessed by the Expert Panel in August 2010.

As the ITTO Secretariat has received the Project Completion Report, many technical reports and publications, as well as the Final Financial Audit Report, the project PD 392/06 Rev.2 (F) can be reported as completed.

(13) PD 394/06 Rev.1 (F) Restoring the Ecosystem Functions of the Lake Toba Catchment Through Community Development and Local Capacity Building for and Land Rehabilitation (Indonesia)

Budget and Funding Sources:

Total Budget:		US\$	686,784
ITTO Budget:		US\$	549,974
Government of Japan (MoFA) :	US\$	539,974	
Government of Republic of Korea:	US\$	10,000	
Government of Indonesia:		US\$	136,810

Implementing Agency: Forestry Research and Development Agency (FORDA), The of Forestry

Session of Approval: ITTC Session XL, May-June 2006, Mérida, Yucatán, Mexico

Starting Date and Duration: September 2007 / Planned; 36 months, Actual; 37 months

I. Introduction

The Council approved the project at its Fortieth Session in June 2006 and funded fully at its Forty-second Session in Port Moresby. The agreement regulating the implementation of the project was fully signed by all parties on 2 August 2007. The first disbursement of funds was made on 16 August 2007. There was a slight delay in the project completion compared to its work plan.

II. Project Objective

The project aimed to contribute to improving and sustaining the ecosystem functions of the Lake Toba Catchment Area (LTCA) through prevention of continued forest clearings and promotion of degraded forest land rehabilitation programs. Its specific objectives were to: i) reduce the rate of forest clearings and conversion to agricultural uses through community development; and ii) promote forest and land rehabilitation on the LTCA through strengthening of local capacity in forest and land rehabilitation.

III. Project Achievements and Outputs

The main achievements and outputs delivered through the implementation of the project can be summarized as follows:

Output 1.1: Land productivity surrounding LTCA increased

- A study to select prospective agroforestry systems and appropriate cultivation techniques was carried out and training for the local communities was organized to improve cultivation techniques and agroforestry systems;
- A study on potential environmental services of the LTCA was carried out and its outcome was presented at the Workshop on Implementation Strategy of PES in the LTCA held at the University of Nommensen, Medan on January 28, 2010. The final report was printed and circulated to relevant agencies and local universities in the LTCA; and
- Around 32.5 ha of demonstration plots for agroforestry were established in Girsang, Lintong Ni Huta, Tambun Raya and Martoba Villages.

Output 1.2: Options for household sources of income are available

- A study to increase local household income sources was carried out along with training courses to increase the local capacity to develop home-based industries and other potential agro-based industries. Training for the development of home-based industries was carried out in collaboration with the FTI of Pematang Siantar on August 10-15 August 2009.

Output 2.1: FLR models with forest fire prevention techniques established

- A study to understand the underlying causes of forest fire in the LTCA was carried out and discussed at the Workshop on Forest Fire Prevention Technique through Community Participation that was held at Kabanjahe, Karo on 11-12 March 2009 in collaboration with the Forestry Service of Karo District. The workshop was attended by 74 participants from various and relevant institutions.; and
- Around 39 ha of demonstration plots of rehabilitation with fire breaks were established in Sipangan Bolon and Sibolangit Villages. These plots were focused on the rehabilitation of Sipiso-piso Mountain with a fire break with 3 km in length and 15 m in width. A moderate nursery with a production capacity of 50,000 seedlings near Sipiso-piso was established to support its rehabilitation activity. A forest fire brigade was moved from Aek Nauli to Sipiso-piso through MoU between BKSDA North Sumatera and Forestry services of Karo and Simalungun Districts in Medan.

Output 2.2: Models of land tenure conflict resolution established and accepted by the target groups

- Workshop on collaborative management in communal lands was organized by the Crop Estate and Forestry Service of Samosir District on 25-26 February 2009 at Teisya Hotel, Samosir. A study on land tenure system in the LTCA carried out to find best options for collaborative land management system was presented at this workshop which was attended by about 55 participants; and

- Demonstration plots of agroforestry system on communal lands were established in the total are of about 39 ha in Tambun Sukkean and Parbatuan Villages. Owners of the communal lands have increased rehabilitated areas with their own resources.

Output 2.3: Local community awareness on ecosystem functions improved

- Workshop on Increasing Awareness of Forest Ecosystem Function was organized by the Forestry Service of Simalungun District on 27-28 March 2009 at Inna Prapat Hotel, Simalungun. It was attended by 83 participants including the head of the Center of Forest and Nature Conservation Research and Development; and
- Various forest conservation campaigns were carried out with NGOs. It involved a writing competition (for students from High Schools), an environmental drawing competition (for students from Junior Schools), a camping ground for young students at the nature educational centre of FRIAN, a tree planting event, and the involvement of students for seedling production at their school yard. The total involvement of young students from the first campaign was around 1,183 while the second campaign was 550.

Output 2.4: Appropriate technology for Forest Landscape Restoration (FLR) in LTCA identified

- A study on rehabilitation strategy and techniques was carried out to find best options for rehabilitating the LTCA. The study report was discussed at the Workshop II on Dissemination of ITTO Study Results in Medan on January 28, 2010; and
- Trainings to improve knowledge and skills of rehabilitation techniques were carried out 10-15 August 2009 and training reports were circulated to relevant agencies and local universities in the LTCA.

Output 2.5: Well trained and highly motivated community groups on FLR program established

- Training courses on technical FLR for forestry extension officers and for farmers were organized in collaboration with the FTI of Pematang Siantar on August 10-15 August 2009; and
- A comparison study on the success of FLR in Java was carried out on 17-23 November 2009 with selected 15 persons from the LTCA. The participants visited several locations including a Suren fatherhood program at Cibugel village, community-based rehabilitation activities in Ciamis, Java and a sustainable forest village at Gunung Kidul, Yogyakarta. The final report was circulated to relevant agencies and local universities in the LTCA.

Output 2.6: Capacity of local institutions on managing FLR program are strengthened

- A stakeholder analysis on rehabilitation programs was carried out to identify potential conflicts as well as collaborative actions among stakeholders. The draft report was presented to obtain feedbacks at the Workshop I on Dissemination of ITTO Study Results in Medan on February 9, 2010; and
- Two workshops for stakeholders were organized to share experiences and disseminate study finding with the local institutions. Workshop I on dissemination on study results of ITTO PD 394/06 Rev. 1 (F) was organized in 2009 in collaboration with the Forestry Service of North Sumatera Province on February 9, 2009. It was attended by 62 participants from various and relevant institutions. Workshop II on dissemination on study results of the project was organized at the University of Nommensen, Medan on 28 January 2010. This workshop was attended by 75 participants from concerned institutions. Both workshop proceedings have been circulated to relevant agencies and local universities in the LTCA.

Output 2.7: Participatory master plan for rehabilitation and conservation of LTCA formulated

- Review of the existing plans for rehabilitations and conservation of the LTCA was carried out and its final report was circulated to relevant agencies and institutions;
- A series of workshops had been organized with the involvement of project stakeholders and collaborators. The discussion topics include best FLR strategies and FLR master plan, FLR data validation, a master plan of Sipiso-piso and a proposal for payment of environmental services (PES). This proposal has been reproduced into ITTO project proposal PD 585/10 (F) "Management Strategies for Payment of Environmental Services at Toba Lake Watershed System, North Sumatera, Indonesia". This proposal was evaluated by the 40th Expert Panel and required a substantial change (Category 2); and

- A master plan for rehabilitation and conservation of the LTCA was formulated based on a series of discussions and workshops. The draft report was presented in the Workshop II on Dissemination of ITTO Study Results in Medan on January 28, 2010. The final report has been circulated to relevant agencies and institutions.

IV. Outcomes and Impacts

Most of the project's outputs have been achieved and the project's specific objective of promoting forest and land rehabilitation in the LTCA through strengthening of the local capacity in rehabilitation was largely achieved. The project has contributed significantly to the increased planting movement in the LTCA. For example, the Forestry and Crops Estate Service of Samosir District has planted trees in a main road with 19 km long on October 2009. In case of the Simalungun district around 20,000 trees had been planted in its district in July 2010 with the involvement of government employees, policemen and boy scouts.

The project has also contributed to the preparation of a participatory master plan for FLR in the LTCA and the formulation of strategies for FLR implementation in the LTCA. The FLR village models will be applied to other districts for sustainable tree planting management. The project had drafted a local regulation on Lake Toba land-use system and made improvements to its third draft. The revised regulation has been discussed and reviewed by all primary and secondary stakeholders for the approval of the local parliament.

At the national level, the project has also influenced the introduction of payment mechanisms for environmental services which are being developed in the country. The project conducted a study on economic value of environmental services provided by the LTCA and initiated a new project proposal to develop payment systems for watershed services in the LTCA.

V. Lessons Learnt and sustainability

The project had significant impacts at the district level in the LTCA through various community-based activities. The main lessons learned from the implementation of the project include the following:

- In project design, an emphasis on the ownership of the project by local stakeholders and support to local communities was effective for the active participation of local communities in the implementation of the project activities. The ownership of the project by local stakeholders has been increased through active involvement of local institutions in implementing project activities. The establishment of six self-sufficient villages has motivated local stakeholders in increasing the social ownership of the project initiative;
- It was important for ITTO project office to move from Ajibata to FRI of Aek Nauli area where facilitated efficient communications among the project staffs, collaborators, local communities and other stakeholders;
- A detailed project organization structure and standards for travel and operational costs were a guiding tool to ensure the smooth implementation of the project activities. The standards were helpful for the project treasury to keep the consistency, transparency and accountability of the project budget;
- Implementation of livelihoods activities requires a broad range of skills, including technical and marketing, and strong partnerships;
- Support from the local government was crucial to the active participation of local communities in the project activities. The Forestry and Crops Estate Service of Samosir played an important role in promoting community-based activities;
- Documentation of the outcome of each project meeting contributed to a good working environment. Minutes after meetings were circulated to key stakeholders to guidance their follow-up actions. Their commitments to implement the recommendations specified in the minutes have been increased; and
- The Project Steering Committee (PSC) played an important role in directing the project in accordance with yearly plans of operation and the project document. Internal project monitoring and evaluation conducted every six months by team leader was useful to review the implementation of the yearly plans of operation.

Project Sustainability after Project Completion

Project results have been disseminated through five project workshops. The proceedings of these workshops have been circulated to regional and local universities (Bogor Agriculture University, North Sumatera University, University of Nommensen, University of Simalungun, University of North Tapanuli) and relevant research institutes and local governments. The project also published the Manglid Media (every 2 months publication) with the number of 650 copies and circulated it to the farmer groups and forestry extension workers to widely disseminate the project outcomes. The outcomes of the project are expected to be continuously used by stakeholders as an important reference in particular for the LTCA.

Local stakeholders including local communities, in the project site have been motivated for tree planting for rehabilitation of degraded forests in the LTCA. With the commitment of local District Forestry Services, seedling production units, which had been established by the project in the local communities, and school and local government offices, will be sustainably operational. The central government's continued support will also be important for the sustainability. The Ministry of Forestry has planned to build a nursery with the production capacity of 1.5-2.0 million seedlings per month in North Sumatera to speed up the land and forest rehabilitation in North Sumatera especially in the LTCA.

The six self-sufficient villages on FLR will be continuously supported by relevant District Forestry Services with the assistance of Directorate General of Land Rehabilitation and Social Forestry, Ministry of Forestry as well as local governments. The continued monitoring and evaluation of the village models and the implementation of the Master Plan to be conducted by both the each district forestry service and Forest Research Institute of Aek Nauli (FRIAN) will add the sustainability of the project.

VI. Concluding Remarks

The ITTO Secretariat has received the completion report, technical reports and the final audited financial statements in accordance with the project agreement signed with ITTO. The Committee may wish to declare this project complete.

(14) PD 423/06 Rev.2 (F) Training on Demonstration, Application and Extension of ITTO Manual on Restoring Forest Landscapes In Tropics of China (China)

Budget and Funding Sources:

Total Budget:		US\$	531,085
ITTO Budget:		US\$	372,060
Government of Switzerland:	US\$	250,000	
Government of Japan (MoFA):	US\$	122,060	
Government of China:		US\$	159,025

Implementing Agency: Research Institute of Forest Resource Information Techniques, Chinese Academy of Forestry (CAF)

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

Starting Date and Duration: October 2007 / Planned; 30 months, Actual; 33 months

I. Introduction

The project was approved and fully funded at the 42nd Session of the Council. The agreement regulating the implementation of the project was fully signed by all parties on 2 August 2007. The first disbursement of funds was made on 14 September 2007. The implementation of the project activities had been completed in June 2010.

II. Project Objective

The project aimed at promoting the landscape restoration, sustainable management of tropical forests and the sustainable development in the tropics of China. Its specific objectives were to: i) train and apply the ITTO manual on restoring forest landscapes in the tropics of China; and ii) demonstrate and extend the ITTO Manual on restoring forest landscapes in the tropics of China.

III. Project Achievements and Outputs

The main achievements and outputs produced by the project include the following:

Output 1.1: Training of *ITTO Manual on Restoring Forest Landscapes*

- Many of ITTO technical guidelines/manuals had been translated into Chinese in order to introduce them to interested parties in the country. The following are the technical guidelines/manuals translated by the project:
 - *Restoring Forest Landscapes* (ITTO Technical Series 23),
 - *ITTO Guidelines for the Restoration, Management and Rehabilitation of Degraded and Secondary Tropical Forests* (ITTO Policy Development Series No 13),
 - *Revised ITTO Criteria and Indicators for the Sustainable Management of Tropical Forests Including Reporting Format* (ITTO Policy Development Series No 15),
 - *ATO/ITTO Principles, Criteria and Indicators for the Sustainable Management of African Natural Tropical Forests* (ITTO Policy Development Series No 14) and
 - *ITTO/IUCN Guidelines for the conservation and sustainable use of biodiversity in tropical timber production forests* (ITTO Policy Development Series No 17)
- Two training courses on ITTO Manual on Restoring Forest Landscapes were conducted: the first one for the project members and national experts in Hainan on 25 February - 1 March 2008 with the assistance of an international consultant (Dr. James Gasana); and the second one for main stakeholders in Lingshui County on 5 March 2008 in Lingshui County to train local government officials.

Output 1.2: Report on Application of *ITTO Manual on Restoring Forest Landscapes* in Lingshui County of Hainan Province

- Relevant documents on key components of the landscape mosaic in Lingshui County were collected. Mapping and describing the landscape mosaic in the project area were carried out; and
- Maps of landscape mosaic in Lingshui County in 1991, 1994, 1999, 2000, 2004, 2006, 2007, and 2008 were developed respectively. The status of landscape mosaic in Lingshui County in different periods was also analyzed.

Output 1.3: Plan of FLR in Lingshui County of Hainan Province

- Results from the application of ITTO Manual on Restoring Forest Landscapes in Lingshui County were presented in the Plan of Forest Landscape Restoration (FLR) in Lingshui County of Hainan Province which was developed at the community level; and
- Support for the FLR initiative in Lingshui County was made. The support includes establishing a Steering Team of Forest Landscape Restoration in Lingshui County which is headed by the Standing Vice Head of the County.

Output 2.1: 60 Ha demonstration plots for FLR in Lingshui County of Hainan Province

- Around 60 ha demonstration plots had been established in Dagan demonstration area in Lingshui County of Hainan Province. The demonstration plots include restoring degraded primary forests, managing secondary forests, rehabilitating degraded forest lands, and restoring forest functions on agricultural lands.

Output 2.2: Training and Extending of ITTO Manual on Restoring Forest Landscapes in tropics of China

- Two additional training courses on ITTO Manual on Restoring Forest Landscapes were held in Haikuo city and Lingshui county on March 30 to April 2, 2010. These courses were attended by 226 from local governments and local research institutes and reviewed the lessons learned from the application of FLR in the demonstration plots.

IV. Outcomes and Impacts

The project work had dedicated to introducing the *ITTO Manual of Restoring Forest Landscapes* in tropical forests in South China and to extending those concepts through the establishment of demonstration plots. The implementation of the project has promoted the restoration of forest landscape with improved the socio-economic conditions of local people in the project sites through the establishment of successful demonstration plots. The project provided professional and advanced knowledge in the promotion of FLR in South China at both the regional and community level. Training on FLR manual and results of the project has raised the understanding of the concept and practical approaches for tropical forest landscapes restoration in China.

Project outcomes were presented by the project team at national and international forums. These include a poster entitled "Study on Forest Landscape Restoration (FLR) in Lingshui County, Hainan Province, China" was displayed at the XIII World Forestry Congress 2009 (18-23 October 2009, Buenos Aires, Argentina) and an oral presentation on "Analysis of Pattern, Dynamics and Driving Forces of Forest Landscapes at the Community Level in Lingshui Li Autonomous County, Hainan Province, China" at the 23rd IUFRO World Congress (23-28 August 2010, Seoul, Korea). The project also contributed to the research capacity of the project team members. One member of the project team received a PhD degree with a thesis focused on study of forest landscape restoration in the demonstration sites.

At present, tropical forests in South China are facing the increased problem of forest degradation and fragmentation. When these challenges will be addressed by local governments, the outcomes of the project will contribute to the process of restoring such degraded forests through FLR approach.

V. Lessons Learnt and sustainability

The main lessons learned from the implementation of the project include the following:

- *ITTO Manual on Restoring Forest Landscapes (2005)* provided a basic structure for project design. This Manual helped field practitioners in South China to undertake forest restoration activities to ensure the ecological function of landscapes and benefits to local communities living in those landscapes;
- Identification of key stakeholders was important to ensure the effective engagement of project's target beneficiaries. At the beginning of the project design, field investigation was conducted to select project area (Lingshui Li Autonomous County) and to seek the support of different stakeholder groups. Consultative meetings with key stakeholders were effective to the formulation of main project elements to address local demands;
- The project development and implementation was enhanced by strong institutional cooperation between the Research Institute of Forest Resource Information Techniques of CAF (Executing Agency) and local institutes including Forestry Bureau of Hainan Province, Diaoluoshan District and Lingshui County;
- Establishing demonstration plots facilitated a multi-stakeholder consultation between local communities, local forestry bureaus and research institutes. Project staff located in the demonstrate pots efficiently coordinated the network and project activities;
- In the implementation of the project, the project key stakeholders have benefited from two international consultants (Dr Juergen Blaser and Dr James Gasana) who provided technical guidance on forest landscape restoration and sustainable management of tropical forests; and
- More attention is needed for continued activities to enhance the awareness of public participation in restoration. The site-level restoration interventions will not be implemented successfully without the active participation of local inhabitants at demonstration plots.

Project sustainability after project completion

The project achievements such as Chinese translated versions of ITTO manual on FLR and ITTO Policy Development Series No. 14, 15 and 17, 60 ha demonstrative plots for FLR, FLR plans of project area both at the regional and community level will be continuously used by stakeholders in South China. The local government's commitment to the extended work for FLR has been largely recognized. For instance, the Lingshui Forestry Bureaus has set up a special management unit to fully charge the protection and management of demonstration forests to ensure the long-term sustainability after the project completion. A new team of forest rangers around Dagan demonstration area has been established in May 2010. In order to further restore the degraded and secondary forests in demonstrative plots, the Forestry Bureau of Hainan Province will play an important role by providing native tree seedlings (most are *Dalbergia odorifera*) to local villagers in order to sustain the outputs of the project.

VI. Concluding Remarks

The ITTO Secretariat has received the completion report, technical reports and the final audited financial statements in accordance with the project agreement signed with ITTO. The Committee may wish to declare this project complete.

(15) PD 432/06 Rev.2 (F) Promoting adoption of sustainable forest management in the Brazilian Amazon

Budget and Funding Sources:

Total Budget:		US\$	1187,115
ITTO Budget:		US\$	508,464
Government of Japan:	US\$	383,464	
Government of U.S.A.:	US\$	125,000	
IFT:		US\$	678,651

Implementing Agency: Tropical Forest Institute

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

Starting Date and Duration: April 2008 / 24 months

I. Introduction

The Council approved the project during its Forty-third Session in November 2007 and full financing for its implementation was pledged at that same session. The final agreement regulating the implementation of the project was duly signed in March 2008. Upon the submission of the first Yearly Plan of Operations, a request for the no-objection of the project's key personnel and a notification that implementation was about to begin, the first installment of funds was transferred in April 2008.

The project was geared to build upon the achievements of projects PD 45/97 Rev.1 (F) "On-site training of tropical foresters and forestry trainers" and PD 206/03 (F) "Development of human resources in sustainable forest management and reduced impact logging in the Brazilian Amazon" previously implemented by Insituto Floresta Tropical (IFT). Under these two projects, training activities were conducted for both industrial forest enterprises and for community forestry initiatives.

II. Project Objective

The objective of this project was to further promote sustainable multiple-use forest management on public and private forests in the Brazilian Amazon while increasing the socioeconomic and conservation benefits of forest management activities. More specifically, it aimed to: i) Strengthen the technical capacity of new Brazilian Forest Service and state agency officials responsible for promoting, regulating, and supervising forest management activities on federal, state, and private lands in the Brazilian Amazon, through practical training; and ii) Raise awareness about the role of forest management (FM) in the sustainable development of the Brazilian Amazon and promote good FM practices through educational

outreach that targets forest sector stakeholders with a particular emphasis in the newly created federal Forestry Districts and state forests.

III. Project Achievements and Outputs

The Project was reported as completed in May 2010. In accordance with the project document, planned activities were carried out during the project's lifespan and its achievements can be summarized by major outputs as follows:

Output 1: Forty technical staff and managers from the Brazilian Forest Service and state regulatory agencies with up-to-date knowledge of forest management and improved technical capacity to regulate and monitor forest management activities on public and private lands

- IFT trained 144 government employees from federal, state, and municipal levels. Government employees and managers were people involved in the design of concessions, forest management in private lands, licensing and enforcement, mainly from the Brazilian Forest Service, IBAMA and the Instituto Chico Mendes (ICMBio);
- Training of agents was made through 24 practical courses, of which five were designed exclusively for government participants. The majority of the agents were trained in "Decision-Makers" courses, which were one-week courses specifically aimed at natural resource management entities and policy makers designed to raise awareness about the current situation and perspectives of the forestry sector in the Brazilian Amazon;
- It is important to highlight courses with strong government participation, such as the special course on roads and rural infrastructure (October 19-24, 2009) and the BR-163 Highway Decision-Makers Course (February 01-06, 2010). The first course focused on best management practices for low-volume logging roads and was ministered by three forest road engineers from the U.S. Forest Service. The course included both classroom lectures as well as field discussion to look at forest roads and infrastructure related to Reduced Impact Logging efforts in the Amazon; and
- The Decision-Makers course was the course with the biggest number of government participants. Entities represented included the Brazilian Forest Service (SFB), Instituto Chico Mendes (ICMBio), Ideflor (Pará State Forest Institute), and IBAMA.

Output 2: Forty-eight practitioners from the private sector and 36 practitioners from communities with approved FM plans in the newly established forest districts trained to implement sound FM practices

- A total of 324 practitioners from the private sector, including forest entrepreneurs and independent professionals, and communities were trained in 32 hands-on courses;
- Fourteen of these courses were specifically designed for workers of felling operations, construction of roads and forest infrastructure and skidding to improve their practices;
- Eleven courses were specifically designed for loggers as decision-makers of forest management. Among the participants of these courses were technicians, foresters (firm employees or independent professionals), company owners and managers and representatives of mill unions;
- Several private sector practitioners participated in the *roads Course* carried out by U.S. Forest Service engineers in October 2009; and
- The Decision-Makers course carried out September 28-October 03, 2009 counted on the participation of several community members representing extractivist cooperatives from Santarém and Jacareacanga.

Output 3: Twelve instructors from other Training Centers with enhanced forest management technical skills and improved teaching abilities

- In October 2008 IFT organized two courses in roads and infrastructure construction, planning, and layout, the first of which was open to general audiences, and the second focused on an audience of university professors. The courses were ministered by three engineering experts. A total of 28 people were trained in both courses, of which 16 were university professors.

Output 4: Increased technical capacity of 144 other stakeholders from the Brazilian Amazon (including 120 students or graduates of forestry and technical programs and 24 decision makers) to apply sound FM practices

- Students of forestry technical schools were a priority target in IFT's training strategy, since in most community and company-based harvesting operations they are held responsible to closely follow and orient the implementation of such techniques. During the Project period, 32% of IFT's total trained audience was composed by students of forestry schools such as Castanhal, Itaituba, Tailândia and Marituba (Juscelino Kubitschek). Courses offered to technical schools, with a time length longer than usual IFT courses (> 85 hours), were specifically designed to focus on punctual aspects of forest management for the students, teaching them how to implement the practices and how to use related equipments (compasses, software, etc). Finally, in addition to the audiences presented in the items above (a total of 244 students), IFT also trained other stakeholders such as NGO representatives (29), working mainly in the surrounding regions elected as priority by IFT; international and national press (25), forest consultants (15), and others (3).

Output 5: Four hundred and eighty individuals from government (60), the private sector (150), communities (120), and educational institutions (150) with increased awareness about the feasibility and importance of forest management as an economic activity in the Brazilian Amazon. Extension efforts will be focused in the newly created federal Forestry Districts and state forests

- During the Project period, IFT actually reached 835 people in 28 raising awareness events, mainly from audiences such as students and small producers. However, in addition to the extension lectures listed above, IFT reached an estimated 800 people at the 3rd Certified Brazil Fair in April 2008 and 500 people at its stand at the VIII Forest Sector Machinery & Products Fair/IX International Congress on Plywood & Tropical Timber, in Belém, October 28-31, 2009; and
- A second alternative explored by IFT to generate public awareness about the importance of forest management for wider audiences was through the press. During the Project period, IFT invited journalists for short courses to increase the level of understanding of FM principles and benefits within the general public. With the Brazilian Forest Service support, IFT organized three 3-days courses for correspondents from national newspapers and media organizations (21-23 November 2008 and 18-20 Sep 2009) and international journals (28-30 Aug 2009). The main objectives of the courses were to present FM-RIL and the role of forest concessions in public lands for rural economic development and conservation. By targeting journalists, IFT hoped to achieve broad dissemination of forest management principles and benefits, while correcting common misunderstandings about FM that have been perpetuated by ill-informed media sources. The courses have generated constructive coverage of forest management issues in the mainstream Brazilian media, which has helped raise IFT's profile. In total, 25 journalists, from some of the most prominent media outlets, participated in these workshops. Several high-impact articles and materials were produced after these courses.

Output 6: IFT's training and extension materials (lesson plans, presentations, operational and training manuals, graphical aids) updated, refined, and tailored to the specific target audiences; distributed to participants in training courses and extension events; and made accessible to the public on IFT's web page

- IFT updated all didactic materials, including manuals, presentations and flip charts during the project duration. Existing *PowerPoint* presentations for courses and extension were updated to reflect changes in forest legislation and IFT operational practices. A number of course flipcharts were revised for training season: felling and bucking techniques; forest inventory; road planning and construction; skid trail planning and operations.
- In addition to routine updates of course and extension materials during the rainy season, IFT developed three manuals: (1) safety in RIL operations; (2) felling techniques, safety in felling, and chainsaw maintenance; (3) pre-harvest techniques adapted for communities and smallholders. The first has been fully edited and revised and is ready for publication; the second requires technical and editorial revisions before publication; and the third is being concluded. The intention is to launch a new series of IFT technical materials to be widely disseminated through its website www.ift.org.br

IV. Outcomes and Impacts

Overall, the project was highly successful, exceeding both initial and revised training and extension targets. All target stakeholders were reached in the priority areas established by the Project. IFT has trained under this scope of this project 1/5 of the total audience trained by FFT/IFT since 1996 (800/4000). This is a significant achievement considering that IFT is the one of the two initiatives in FM-RIL capacity building in the Amazon, as well as the only independent center for FM promotion and improvement across the region. Without such project and without IFT's work, punctual, incomplete and pulverized initiatives related to capacity building would eventually have been executed in the Brazilian Amazon by government and other organizations, but probably not concentrated in the main forest districts and remote areas, in which marginal benefits from conservation initiatives and foment tend to be greater.

V. Lessons Learnt and sustainability

Major lessons learned from this project, among others, are as follows:

- Investments in capacity building typically require years or even decades to be fruitful, but they are especially important in the Amazonian forest sector context. It seems common sense to argue that any important economic industry was developed from a basis in which capacity building and training were crucial strategies. However, Government and civil society are establishing instruments to allow an overarching strategy of managing millions of hectares of public forests in the next few years as a way to ally economic development and forest conservation. This policy has as the main paradox the scarce concern regarding the technical capacity necessary to manage forests in a sound way.
- Since the beginning of this project, significant gains have been made in training, extension and relationship-building in priority regions of the Amazon frontier, highlighting Calha Norte, BR319, BR163 and the Transamazon. In most of these regions there has been little prior exposure to forest management principles and practices prior to this project, meaning the project's extension efforts were key to developing social acceptance of and interest in forest management;
- Interest in forest management in the priority regions also is directly tied to government progress in creating public forest concessions. Without a working concession system (and law enforcement system) there is little incentive for most operations on new frontiers to invest in forest management, since there is abundance of perverse incentives towards illegality; and
- IFT's experience in aspects of capacity building, training and extension decreased the risks and the problems related to the project design and stakeholder identification. As the matter of fact, the demand for services offered by IFT under the scope of this project has frequently increased, without clear signs that it will be met in the next few years. The slow progress in public forests auctioned for concessions and the scarcity of private areas under forest management plans could have originated a smaller demand from practitioners of FM-RIL for training in comparison to the ideal scenario. However, a correct design for the project and IFT's experience allowed the execution of capacity building initiatives for audiences that will have a crucial role in planning, implementing and monitoring FM in the future. This choice for correct audiences in this period pre-expansion of FM-RIL and the choice for implementing a strategy focused on the forest districts and regions with special relevance for forest conservation and new frontiers led the project to a successful outcome despite the slow progress of FM implementation in the field.

As regards sustainability, the following aspects should be highlighted:

- Sustainability of this project depends on the long-term duration of IFT's mission. Several actions have been taken with support of IFT's institutional donors to strengthen its administrative/managerial structure, and negotiations have been done with federal and state government towards finding a definitive solution for long-term stability of IFT's training center. In other words, IFT's model on disseminating and improving forest management needs to be replicated, not only within Brazil, but to some other pan-Amazonian countries. IFT is discussing with federal and state government in an attempt to convincing agencies that it is necessary to support the establishment of a permanent training center in the Brazilian Amazon through some type of special concession for producing goods (i.e., timber) and services (i.e., training). This would make possible for an organization to run this Forest Management Center and, at the same time, finding a permanent source of income (i.e., wood) to fund part of its activities in capacity building and training. This central training center would serve as a reference for other organizations and companies interested in offering services in training, but also as a school to properly train forest instructors to become trainers on Reduced Impact Logging in other organizations.

VI. Concluding Remarks

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 upon request either from IFT or from the Secretariat.

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