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EX-POST EVALUATION REPORTS

EXECUTIVE SUMMARIES

**ITTO Project PD 353/05 Rev.2 (M,F,I)
Adoption and Implementation of the
Forestry Information System (FIS) for the Philippines
(Philippines)**

**ITTO Project PD 440/07 Rev.1 (M,I)
Improving the Detection and Prevention of Illegal Logging and
Illegality in Shipment and Trade of Wood Products in Guyana
(Guyana)**

**ITTO Project PD 37/94 Rev.3 (I)
Strengthening of the Forest Products Laboratory of IBAMA
(Brazil)**

**ITTO Project PD 100/01 Rev.3 (I)
Capacity Building for the Development of a
Sustainable Rattan Sector in China based on Plantation Sources
(China)**

[Complete reports are available from the Secretariat.]

TABLE OF CONTENTS

		Page
PD 353/05 Rev.2 (M,F,I)	Adoption and Implementation of the Forestry Information System (FIS) for the Philippines	1
PD 440/07 Rev.1 (M,I)	Improving the Detection and Prevention of Illegal Logging and Illegality in Shipment and Trade of Wood Products in Guyana	6
PD 37/94 Rev.3 (I)	Strengthening of the Forest Products Laboratory of IBAMA (Brazil)	12
PD 100/01 Rev.3 (I)	Capacity Building for the Development of a Sustainable Rattan Sector in China based on Plantation Sources	18

ITTO Project PD 353/05 Rev.2 (M,F,I)

**Adoption and Implementation of the
Forestry Information System (FIS) for the Philippines
(Philippines)**

**EX-POST EVALUATION REPORT
[EXECUTIVE SUMMARY]**

[Complete report is available in English from the Secretariat]

Prepared for ITTO

by

Mr. Erik Lammerts van Bueren

Executive Summary

1. Introduction

The objective of PD 353/05 Rev.2 (M,F,I) "*Adoption and Implementation of the Forestry Information System (FIS) for the Philippines*", with a total budget of \$716,399, is to develop and implement a country-wide information system for forest policy and management. The Ex-post Evaluation shall give insight in the impact and sustainability of the FIS as well as the needs for improvement, almost two years after completion of the nation wide installation of the FIS.

Main problems to be addressed

After the successful completion of PD 41/99 Rev.4 (M) the main problems to resolve were:

- Some technical and methodological imperfections in the newly developed FIS,
- installation of FIS in the Forest Management Services Units not accomplished in 14 of the 16 regions,
- lack of skills in data management and effectively using the technologies,
- lack of awareness of the strength and practicality of a uniform and automated information system. (Data collection and generation must not be considered as a separate additional activity).

PD 353/05 Rev.2 (M,F,I)

Development objective

To promote and enhance the sustainable management of forest in the Philippines through improved data collection and information processes.

Specific objective

To develop and implement a country-wide information system for forest policy and management.

The Project budget was \$ 477,889, ITTO, and \$ 238,510, Govt. of Philippines. The project started July 2007 for an anticipated duration of 2 years. The Forest Management Bureau (FMB), a staff unit of the Department of Environment and Natural Resources (DENR), was the Executing Agency of the project. The FMB provides technical support and assist in the monitoring of all forestry-related projects, programs and activities that the DENR is presently pursuing.

Scope and approach of the evaluation

The Ex-post evaluation of PD 353/05 Rev.2 (M,F) is particularly interesting, in the light of the observations and the lessons learned from the proceeding pre-project PPD 9/97 Rev.1 (M) and pilot project PD 41/99 Rev.4 (M). The ex-post evaluation has been carried out in August 2011, by Mr Erik Lammerts van Bueren, Netherlands. He studied relevant project documents prior to his visit 13-20 August to the Philippines. He consulted and discussed matters with the Director of FMB, the Project Team Leader and members of the project team. He visited the Regional, provincial and community office of DENR in Region 11 Davao in Mindanao.

2. Findings

Full support and commitment of the management levels of DENR and FMB were indispensable for creating a motivating environment for the implementation of the Project. A full committed, dedicated and adequate project team with clear assignments as well as the establishment of a Technical Working Group guaranteed a smooth and professional implementation of the Project. Implementation of the project was thoroughly prepared.

Achievements of the project

Overall, PD 353/05 Rev 2 (M, F, I) has been implemented with a high rate of efficiency and has resulted in a sound infrastructure of the Forestry Information System and a Geographic Information System (GIS). At the time of the ex-post evaluation, almost two years after the completion of the project, FIS was fully operational as to the administrative information of the registered title holders and relevant spatial information (area, coordinates, topography). The strength of FIS lies in the combination with GIS. The FIS/GIS provides a clear insight in the way the country is covered with land title agreements. Overlaps and areas without land titles could easily be identified.

FIS/GIS has already shown to be instrumental for the preparation of site identification for an effective implementation of the Upland Development Program and the identification of suitable sites for the implementation of the National Greening Program.

FIS is capable of producing much more information but that capacity can only step by step become fully utilized. Collecting and entering all these data is a cumbersome and meticulous work and may require prioritizing, a project approach and a concerted effort.

FIS is part of a growing overall information infrastructure for DENR. Therefore all information systems must attune with each other and seek convergence.

The quality of the data has been stepped up a great deal. The unique entry point of data at the Community Environment and Natural Resources Offices (CENRO) guarantees integrity of the data at the higher levels in the DENR/FMB organization.

Continuing training is a point of concern. Frequent movement of trained focal persons may affect sustainability of the FIS adversely.

A permanent line item appears in DENR's regular budget specifically for information management activities. This can be tapped, among others, for the continuing procurement and maintenance of IT resources at FMB and the field offices.

Project Formulation

The gamut of activities, outputs and specific objective was sound and consistent.

During the ITTO pre-project consultations were held in order to arrive at a proper design of FIS. As the FIS is intended as a policy instrument and a monitoring tool for DENR programs implementers ,i.e. the field offices, most of the consultations were done with the DENR implementers from the field and those FMB officials handling the monitoring of tenure instruments.

Some NGO's in the regions were interviewed. Since then no formal consultation was organized, albeit some NGO delivered incidentally advice. The indicators for the Development objective did not provide a clear reference for the evaluation of the intended impact.

Financial matters

The decrease of the value of the US dollar with 16% against the pesos has affected the budget negatively.

According to the final Audit report, the ITTO funds have been fully spent with only minor deviations from the budget components in the Project document. The expenditures of the Government are reportedly exactly the same as the proposed budget.

3. Lessons learned

The following lessons can be learned from this project:

Project management

- 1) Commitment at the top of the organization and full commitment and dedication of a professional project team are key to a successful development and implementation of a Forestry Information System.
- 2) The project has demonstrated that critical success factors for its implementation were: Selection of the right people; securing availability of these people during the full time of the project; clear division of tasks and responsibilities and focus on quality control and change control.

Project development

- 3) It had been observed that, at least during project implementation, not all people, who had to contribute data to the system but without specific project tasks, fully appreciated the value of the tool.
- 4) Systematic user analysis and analysis of user needs is a prerequisite to identify Outputs which satisfy end users and to create a sense of ownership over the project, which in turn stimulates the use of the project products and services.

Project design

- 5) A justified Project strategy, based on a thorough problem analysis, and a solid Project design, comprising a sound vertical and horizontal logic, are crucial for effective project implementation, monitoring and validation.
- 6) More accurate formulation of the indicators for the development objective might have contributed to a stronger focus on the involvement of stakeholders outside DENR/FMB.
- 7) The formulation of the anticipated outcome should be modest and realistic and raise no false expectations. An example is the following phrase in the Project proposal (2.7). *A total picture of the state of the forest would be easily made accessible to policy makers be it in national, regional, and provincial as well as municipal levels.* The system is not yet able to produce a total picture of the state of the forest and it will take a lot of efforts and resources to reach that stage of information.
- 8) The required amendments in the project proposal, prior to submission to the Committee for final appraisal, contribute to the further improvement of the proposal. However they are not always followed in a satisfactory way.

Project Implementation and sustainability

- 9) All existing files must first be validated on the ground to come up with more accurate data to be stored in the system.
- 10) Training of focal points at the various levels is a major point of concern and requires continues attention. Frequent movement of these people may affect sustainability of the FIS adversely.

Financial matters

- 11) Fluctuations of exchange rates have had a negative effect on the budget.
- 12) Financial information is fragmented over the financial statement and the completion report. This impedes a clear picture of the actual expenses versus the planned expenses at the level of activities. The expenditures of the Government are reportedly exactly the same as the proposed budget.

4. Conclusions

- 1) Managers and policy makers, from top to bottom in the organization, recognize ICT as an effective and efficient tool for monitoring, policy formulation and decision-making.
- 2) FIS/GIS has stepped up the quality of delivered services necessary to enhance forest management.
- 3) The strength of FIS lies in its combination with GIS. At the present stage GIS seems to be the attribute that contributes most progress in providing information enabling analysis.
- 4) FIS is part of a growing overall information infrastructure of DENR. All information systems must attune with each other and seek convergence.
- 5) The significance of FIS/GIS reaches out already to other sectors within DENR.
- 6) Cooperation between FMB and other Agencies such as the Protected Areas and Wildlife Bureau and the National Commission for Indigenous Peoples is essential for including the entire forest cover in the FIS data base.
- 7) Various features (attributes) of FIS are not yet operational. The value of the system could be further increased by collecting and entering data to operationalize these features, by building up time series, and by establishing a link between GIS and the FIS data base to retrieve all non-spatial information. It is expected that increased value will be reflected in continuing and sufficient availability of human and financial resources to keep the system up to date.
- 8) Collecting and entering all data, which the FIS is capable to process, is a cumbersome and meticulous work and may require prioritizing, a project approach and a concerted effort.
- 9) Well trained and skilled personnel at all levels is crucial for an efficient and effective FIS. In that respect is frequent movement of field personnel is a thread for the sustainability of the system.

- 10) Introduction of IT systems like FIS/GIS in other ITTO member countries is most likely to reveal overlapping boundaries of tenure areas and other inconsistencies with the implementation of policies and license programmes, which otherwise would have left undetected.

5. Recommendations

Recommendations for the EA

All information systems must attune with each other and seek convergence to contribute to the growing overall information infrastructure of DENR.

It is recommended, in order to sustain the **present level of performance**, to:

- Implement an effective protocol for training people who replace key persons in FIS management;
- implement an effective protocol for refreshment training for key persons in FIS management;
- keep a helpdesk function operational at the national and regional level;
- sustain narrow cooperation with other Agencies such as the Agency for Protected Areas and for Indigenous People to complete data entry of the entire forest cover in the FIS data base;
- establish a link between GIS and the FIS data base to retrieve all non-spatial information;
- to establish a procedure for a proactive signaling of new information to users within and outside DENR;
- complete ground validation of insecure data which have been entered in the present database; keep hard ware and soft ware up to date and secure timely replacement.
- Improve internet access at the CENRO level for fast transmission of FIS updates.
- make the necessary human and financial resources available to secure the implementation of the above measures.

It is recommended to further **increase the value of FIS/GIS** by:

- Applying a project approach and a concerted effort for prioritizing the features, which the FIS is capable to process, and collecting and entering the relevant data;
- producing time series enabling to identify (trends of) changes in land cover and land use.

Systematic user analysis

A systematic user analysis may be helpful to prioritize the collection and entering of data for the various features of the database and to further enhance access and user friendliness of the system.

Project formulation and design

It is recommended, for future project proposals, to take full advantage of the guidance of the present ITTO Manual for Project Formulation (2009), notably for designing a sound problem tree and formulating relevant assumptions and, if possible quantitative, indicators in the Logical Frame Work.

GIS

It is recommended to critically consider the desirability and practicality of producing GIS at the CENRO level, bearing in mind the considerable investments and the required skills and routine to operate GIS.

Recommendations for ITTO

Project appraisal

It is worthwhile to carefully check that the required amendments in the project proposal, prior to submission to the Committee for final appraisal, have been followed in a satisfactory way.

Financial statements

Consider the inclusion of expenditures per activity in the format for the (final) Financial statement. Clarification should be sought for inconsistencies between various financial reports and statements and for expenditures where they are reported to be exactly the same as the proposed budget.

Follow up

Consider further support, when requested, to enhance the value of the FIS by a one time effort to collect and enter data necessary to operationalize the essential features.

Recommendations to the EA are formulated with a view on sustaining the **present level of performance** as well as to further **increase the value of FIS/GIS**.

ITTO Project PD 440/07 Rev.1 (M,I)

**Improving the Detection and Prevention of Illegal Logging and
Illegality in Shipment and Trade of Wood Products in Guyana
(Guyana)**

**EX-POST EVALUATION REPORT
[EXECUTIVE SUMMARY]**

[Complete report is available in English from the Secretariat]

Prepared for ITTO

by

Dr. Kwame Asumadu

Executive Summary

1. Background Information about the project

The Project arose from the desire of the Government of Guyana (GoG) to address illegal logging and/or other illegal activities that may be occurring in the forestry sector in Guyana.

There were two components to the Project as follows:

- the first component was to develop a remote sensing capability within the Guyana Forestry Commission (GFC)'s Geographical Information Systems (GIS) Unit, to enable the analysis and interpretation of satellite imagery, to assist in determining temporal patterns in forest land use changes. The objective was to design and implement a forest change detection system for recording and updating Guyana's roads and forest disturbance from satellite data, and to verify whether or not these changes rated to legitimate forestry activities; and
- the second component was to transform GFC's existing paper-based barcode log tracking system into an electronic-based system through incorporating digital hand-held scanners, linked to a Wide Area Network (WAN), so that data from GFC's barcodes can be accessed during monitoring wood products transshipments, and enable detection of malpractices and other illegal activities associated with wood product flows within the country.

The Project's Executing Agency was the GFC and the international consultant was Poyry Forest Industry of New Zealand. The Project duration period approved by the ITTO was 18months but the actual duration period was 20 months, with a commencement date of February 2008. The actual total Project cost was US\$754,319.00.

The Project's Development Objective was "to increase the contribution of the forest sector to the national economy by means of higher remittances to the consolidated fund and increased foreign exchange earnings as a result of increased detection and prevention of illegal activities."

The Specific Objective was "to improve the detection and prevention of illegal logging and illegality in shipment and trade of wood products in Guyana."

GFC adopted a two-pronged approach to implementing the Project involving the following:

- first, establishing the necessary technological framework to undertake the tasks necessary to tackle the identified causes of the problem, and thereby achieve the stated Project Objectives; and
- second, providing the necessary training, development and extension to ensure that the new systems are properly implemented by the regulatory agency and as appropriate, by the wood products industry sector.

The Project's expected outputs were:

- Output 1: Creating a dedicated GIS (including satellite image analysis and legality database).
- Output 2: Implementing an electronic Barcode Timber-Tracking system to replace GFC's existing manual tracking system.
- Output 3: Developing and implementing a central monitoring and detections database.
- Output 4: Implementing a wireless Wide-area computer network (WAN) for capturing, sharing and disseminating data between central office and field staff.
- Output 5: Establishing a Legality, Monitoring and Extension Unit within GFC.

2. The Purpose of the Evaluation

The ITTO commissioned the ex-post evaluation to provide a concise diagnosis of the Project, so as to point out the successful and unsuccessful outcomes, the reasons for successes and failures, and the Project's contribution towards ITTO's Objective 2000, and to draw lessons that can be used to improve similar projects in the future.

3. The Scope of the Evaluation

The Ex-Post Evaluation's scope of work required the consultant to:

- i. assess the extent to which the general objective, the specific objective and the outputs of the project have been achieved;
- ii. assess the relevance of the project to ITTA, 1994 and the ITTO Yokohama Action Plan;
- iii. evaluate the impact and relevance of the project and determine to what extent the project has contributed to improvement in the detection and prevention of illegal logging as well as illegality in shipment and trade of wood products in Guyana resulting in increased contribution of the forest sector to the national economy in the form of higher remittance to government revenue and greater foreign exchange earnings;
- iv. determine the effectiveness of information dissemination of project outputs and assess the overall post project situation in relation to its impact on the efforts to address illegal logging as well as illegal shipment and trade in wood products in Guyana;
- v. define and assess any unexpected event, effect and impact, either harmful or beneficial, and offer explanation for their occurrence;
- vi. analyze and assess the efficiency of project implementation and management, including technical, financial and managerial aspects;
- vii. recommend follow-up action, where appropriate, in order to enhance utilization of the results of the project;
- viii. make an overall assessment of the project's relative success or failure, summarize the key lessons learned; and identify any issues or problems which should be taken into account in the design and implementation of similar projects in future;
- ix. prepare an evaluation report with an executive summary in accordance with the outline provided in the ITTO Manual for Project Monitoring, Review and Evaluation;
- x. prepare an article for possible publication in the ITTO Tropical Forest Update (TFU), in consultation with the editor, containing an overview of the project and summarizing the lessons learned from the evaluation work. Compile twenty or more high-resolution photographs of the project in a CD along with data on each photograph according to the proforma to be provided by ITTO for this purpose. Guidelines for the preparation of articles for ITTO's TFU are enclosed.

In addition to addressing the above, the consultant was expected to conduct the evaluation in such a way as to answer the questions identified in the ex-post evaluation checklist provided in the ITTO Manual for Project Monitoring Review and Evaluation.

The Work Schedule for the consultant involved:

- consultation by correspondence and e-mail with the ITTO Secretariat;
- travel to Georgetown, Guyana to conduct the ex-post evaluation at the office of the Executing Agency, Guyana Forestry Commission (GFC);
- meetings with officials of GFC particularly the Project Coordinator and other available members of the project team for elaboration and finalization of the programme for the assignment, briefing and discussions on project implementation and results and inspection of project sites, tangible outputs and financial accounts and statements. During the course of the assignment, the consultant may hold discussions with any relevant stakeholders involved in, or impacted by, the project;
- submission of draft report to ITTO and the Executing Agency for comments and suggestions;
- submission to ITTO, of the final report, including an executive summary, the draft article for the TFU and twenty or more high-resolution photographs of the project compiled in a CD along with data on each photograph according to the proforma to be provided by ITTO for this purpose; and
- presentation of the report at the Forty-fifth Session of the ITTO Committee on Economic Information and Market Intelligence to be held in Antigua, Guatemala from 14 to 19 November 2011.

4. Conclusions of the Evaluation

Based on the review of the Project's Completion Report, the various Progress Reports, field visit and discussions with individuals involved with the Project's implementation, the consultant concluded that, overall, the Project was executed efficiently. All the activities in the Project document and the Work Plan were undertaken successfully. The allocated resources were used as per the Project's budget and the scheduled activities.

After reviewing all Project documents, visiting the Project sites at Georgetown, Soesdyke and Linden and discussions with the PIT members, relevant GFC staff and representatives of Guyana's wood products industry sector and communities impacted by the Project, the consultant concluded that the Project's Developmental Objective and Specific Objective were achieved. All Project outputs were achieved satisfactorily.

The consultant found that the PIT had disseminated the Project results effectively through:

- several high quality training manuals and procedures;
- presentations at stakeholder meetings and workshops; and
- training of relevant GFC staff, 15 for the GIS unit and some 35 for the wood products tracking system.

In the view of the consultant, the Project has been sustainable and will continue to be so in the future because, the GFC and the sector are continually considering options for building on the Project's outputs and outcomes to develop new activities and create new opportunities.

Discussions with the PIT, GFC staff and several stakeholders in both the private sector and the forest-dependent communities, confirmed that the Project has had a number of positive impacts, and these impacts are likely to continue into the future. The Project impacts, to date, include the following:

- enhancement of the capability and capacity of the GFC's existing GIS Unit in the analysis and interpretation of satellite imagery;
- the capacity to produce high quality maps from satellite imagery for GFC for the management of Guyana's entire forest estate, as well as commercial concessions. High quality maps are also now being produced for other government agencies such as the Defence and Police Forces for national security and law and order maintenance in remote areas, the Guyana Geology and Mines Commission, the Guyana Lands Survey Commission, as well as the private sector, in particular concession holders for the preparation of concession and annual management plans, and the general public;
- the new system has boosted significantly, the GFC's ability to manage effectively the whole of the nation's forest resources, in particular commercial concessions. The GFC is now better able to monitor how companies are implementing their annual management plans including their harvesting activities;
- enabled the GFC to better understand the drivers of deforestation in Guyana, which principally involve agriculture, mining and infrastructure development, thus leading to better government planning and decision making in land use management;
- significantly improved wood products tracking system incorporating the use of barcoding, electronic scanners and Wide Area Networks (WAN), for tracking the trans-shipment of both wood and non-timber forest products;
- more efficient detection of illegal activities, particularly procedural breaches involving misuse of tags and incomplete documentation;
- enabled the GFC to be more proactive in its monitoring activities;
- provided the GFC with the capability for random and surprise monitoring of wood products (logs and sawn timber) flows throughout the country. This has created a strong "deterrence factor" among concessionaires and other producers within the country's forest and wood products industry sector;
- reduced the incidences of log pilfering and wrong species identification;
- improved staff productivity by between 60% and 70%, particularly in the detection of procedural breaches (e.g. wrong completion of forms and other related documentation) and misuse of tags;
- reduced the incidences of corruption through overall improvement in the time taken to process stakeholder permits;
- quicker and easier identification of the legitimate owners of statutory documents such as permits;
- GFC's ability to identify potential areas of illegal encroachment, through its remote sensing capability, was instrumental in the Government of Norway and Guyana implementing the agreed terms of the Memorandum of Cooperation that allows for the provision of funding of \$USD250 million over five years under REDD+;
- the recent exploratory dialogue between the EU and the Government of Guyana to consider negotiating a Voluntary Partnership Agreement (VPA) and subsequent fact finding visit by an EU delegation, was the direct result of the twin outcomes of the ITTO Project i.e. Guyana's capacity to

- identity and control unauthorized deforestation as well as the country's ability to track timber and non-timber product flows within Guyana;
- complying fully with GFC's statutory requirements has also made it easier for wood products companies to establish their own internal inventory and information management systems, which has resulted in improvements to their own internal practices such as inventories and product recovery, and resulted in increased revenue;
 - companies are also using the legality monitoring as the first step towards forest management and chain of custody certification under internationally recognised certifications systems such as the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC);
 - successful implementation of the ITTO Project has encouraged the GFC to collaborate with the wood products sector and other stakeholders to work towards the development and implementation of the Guyana Legality Assurance System; and
 - enabled the GFC to assist Amerindian producers and processors to adopt GFC's code of harvesting practices, as well as the tagging system, thus improving the sustainable management of some Amerindian forest lands, and enabling them to detect illegal activities such as poaching of trees.

The main lessons learned were:

- while electronic-based wood products tracking system are more efficient compared with paper-based systems, they can nevertheless be technology intensive and therefore expensive to implement, operate and maintain;
- use of satellite images for detecting "hot spots" of deforestation (rather than just ground checking as was the case previously) is very efficient, although it can be expensive;
- extensive and comprehensive pre-planning and research is necessary for the successful design, formulation and implementation of any project, to ensure all the project elements come together seamlessly; and
- the introduction of any new system requires extensive education and awareness raising among all the stakeholders who would be impacted by the system.

5. Recommendations

For the ITTO

The Guyana Project is unique, and is an example of successfully combining remote sensing and wireless WAN-enabled electronic wood products tracking system to verify legality through:

- monitoring temporal changes in forest cover to isolate legitimate deforestation associated with commercial wood products harvesting; and
- monitoring trans-shipment and wood flows to uncover procedural breaches such as incorrect documentation and misuse of tags.

The systems also have the ability, through the central database, to provide useful management information such inventory and accounting data, and thereby assist the GFC to enhance revenue collection from the country's commercial forest resources.

It would be useful for the ITTO to document and publicise the Project's outcomes, including the lessons learned, for the benefit of other ITTO member countries.

For the Country

The following are recommended for consideration by the GoG and the GFC:

- in the medium to long term, the Government of Guyana and the Guyana Forestry Commission should consider expanding the coverage of the Wide Area Network (now covering 6 main strategic stations) to the other remaining 31 stations, taking into consideration key factors, including cost;
- in the medium term, consideration should be given to exploring the possibility of expanding the functionality of the scanners to include both data collection/entry, as well as legality monitoring;
- the following aspects related to scanners should also be considered :
 - the ability to input data from the field and thereby update the Headquarters database; and
 - Scanners with longer scanning distance.

- given the on-going cost of maintaining and operating the satellite imagery capability for detecting and updating information on temporal land use changes, which also have operational benefits for other government agencies such as the Guyana Defence Force (for national security), the Guyana Police Force (for law enforcement), the Guyana Geology and Mines Commissions (for mineral exploration and extraction licenses) and the Guyana Lands and Surveys Commission (for updating national land use maps), the GoG and the GFC should consider options for assisting the GFC to recover some of its costs;
- for applications deemed to provide “public good” benefits, the GoG should consider subsidising the GFC's costs from the national consolidated revenue/funds; and
- for applications considered to deliver commercial benefits to consuming government agencies, the GoG should consider empowering the GFC to recover its costs fully.

6. Conclusions

The main conclusions from the evaluation are:

- the Project was executed effectively and efficiently by the Executing Agency, the GFC;
- all Project activities were undertaken effectively and efficiently;
- Project resources were expended effectively and efficiently in undertaking all Project tasks and activities as described in the Project Document, the Project Work Plans, and the Project budget was underspent by \$USD3,801.00;
- the Project met its Development and Specific Objectives through achieving all five outputs;
- the Project outputs were disseminated effectively through staff training and awareness-raising workshops for stakeholders including communities impacted by the Project;
- there is sufficient evidence as well as on-going activities post completion of the Project, which indicate that the Project is sustainable now and into the future;
- the Project has created effective and sustainable impacts at the institutional (GFC), national, sectoral (industry) and community (stakeholder) levels; and
- the Project is unique, as it is the first time an ITTO producer member country has successfully combined remote sensing and wood products tracking to address the issue of illegality in its forests and wood products sector, and therefore provides valuable lessons, both positive and negative, for other countries contemplating developing and implementing such systems in the future.

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ITTO Project PD 37/94 Rev.3 (I)

**Strengthening of the Forest Products Laboratory of IBAMA
(Brazil)**

EX-POST EVALUATION REPORT

EXECUTIVE SUMMARY

Prepared for the ITTO

by

Dr. Sadaaki Ohta

Executive Summary

Introduction

The ITTO Committees on Economic Information and Market Intelligence and the Committee on Forest Industry (CEM-CFI), during their Forty-fourth Sessions in December 2010 decided that an ex-post evaluation for Project PD 37/94 Rev.3 (I) be carried out to establish how well the project served its purposes and to draw up recommendations for future action.

The ex-post evaluation was conducted on 19-23 September 2011, about 3 years after project completion. The primary purpose of the ex-post evaluation aimed to provide an in-depth diagnosis of the Project in order to point out the successful and unsuccessful outcomes, the reasons for successes and failures, and the contributions of ITTO Project PD 37/94 Rev. 3(1) towards the achievement of ITTO's Objective 2000, and to draw lessons that can be used to improve similar projects in the future.

The Project

The ITTO project PD 37/94 Rev. 3 (I) "Strengthening of the Forest Products Laboratory of IBAMA" started in September 1998 and finished in November 2008, with effective duration of ten years. The project was approved at the Twentieth Council Session of the International Tropical Timber Council (Manila, 1996). The implementing Agency was the Brazilian Institute of Environmental and Renewable Natural Resources (IBAMA).

This project was built on completed Pre-Project PCI-(VII)/6: entitled "Institutional Strengthening of the Forest Products Laboratory of IBAMA", approved and financed by ITTO. The Pre-Project allowed an evaluation of historical development of the Laboratory. Preliminary constructions with governmental organizations, private sector and non-government organizations were carried out to establish research needs and priorities.

The latest Project was planned for a duration of 24 months and a total of budget of US\$ 660,703, of which US\$ 556,703 was from ITTO and the rest US\$ 104,000 contributed by the Government of Brazil.

Specific Objectives and Outputs

This project carried out a series of activities with two objectives:

- (i) Modernization and strengthening of the Forest Products Laboratory (FPL) of IBAMA, with a view to fulfill its mission as a center of excellence in the field of tropical timber research and development, world-wide as well as in Brazil.
- (ii) Improvement of tropical timber identification, standardization of timber products, monitoring of production, and trade of tropical timber.

The target outputs were as follows:

- (1) Preparation of a detailed long term research programme and adequate planning and monitoring system were established and carried-out (2000-2005). IBAMA adopted the management style based on "the guide to the Project Management Body of Knowledge (PMBOK) methodology, according to Project Management Institute, Inc. (PMI) established and based in Philadelphia, USA in 2004.
- (2) Three research lines were established by the FPL, that is, Sustainability of tropical forest resources, Multiple uses of planted forests, and Agroforestry products and environment. From these three research lines, seven research sectors were further defined. Revision to the research sectors was carried out, for 2006–2010, and 2010–2013.

- (3) During project execution a Human Resource Development programme was prepared and implemented. The programme included appropriate incentive mechanisms to enhance motivation of the staff and support research work. FPL staff members have been trained during and after project execution.
- (4) The project developed and established a communication programme to disseminate the information generated from the research works. The publication list from 2000 to 2010 was obtained.
- (5) The project developed and established of a computerized DATA BANK on tropical timbers with about 300 species. The DATA BANK is fully accessible to external users at <http://www.ibama.gov.br/lpf/madeira/> a CD-rom version is available too. Nonetheless the DATA BANK needs to be continuously updated.
- (6) Under the project, the FPL prepared and submitted at least ten basic texts of Brazilian Standards for tropical timber and timber products (including plantation timbers, terminology, specification, standardization, dimensions and Plywood Lumber drying, test methods, and so on) to the ABNT (Brazilian Association of Technical Norms).

Findings

The consultant visited seven research sectors and held discussions with the chief of each sector and co-workers on present research and its situation, especially effectiveness of the research projects and future study plans.

- (1) The main idea of the project in creating a research centre of tropical timber products has been relevant for the Brazilian forest industry, and this was well executed by the ITTO project.
- (2) The implementation of the project had been conducted as originally planned and the inputs revealed to be totally adequate, there was a huge delay in the completion of project PD 37/94, which can be attributed to many different factors and reasons. However, most of them were due to operational problems. The problems were solved, and the activities were well executed during the last stage of this project.
- (3) Planned outputs had all been delivered; consequently, the specific objectives had also been achieved. The development objective should also have been achieved as it was defined similarly to Specific Objectives 1 and 2.
- (4) According to the Audit analysis executed in 2009, at that time some comments were noted, however they all have been cleared.
- (5) According to the Completion report, the LFP had 13 research themes (projects) and 22 researchers, which still remained at the time of the Ex-post evaluation. It is important to highlight that the quality of the research is quite good; however dissemination of results needs to be strengthened.
- (6) It can be seen that the staff members are advanced in age, and this may result in a future problem of manpower, if a proper succession system is not put in place.
- (7) Obtained technologies had been transferred to stakeholders through various means including printed materials, press and radio releases. In addition, technological presentations and publications of FPL or IBAMA have appeared in private companies, academic Journals with higher citation (Holz-Folshung, Germany, etc.), and professional organizations. Eight manuals in Portuguese were published and extended, for instance, on Wood drying, Wood preservation, Wood Strength and Construction.
- (8) One of the key success factors of project implementation was the involvement of stakeholders in implementing the project in various forms such as respondents, resource persons, cooperators, and trainees.
- (9) A lot of Graduate, Master degree, and PhD students from the University of Brasilia have been studying at FPL and obtained titles, this collaboration has been very useful for extending

knowledge on timber and timber products and on sustainable forest management to the next generation.

- (10) Laboratory equipment was acquired and installed under the project. At the time of the Ex-post evaluation, it was noted that all equipment granted by ITTO have been well maintained, well managed, and frequently used.
- (11) Under the project, activities on standardization of timber and timber products included: preparation and submission of at least ten basic texts of standards for tropical timber products, classification of timber grades, terminology, specification, dimension measuring methods, and plywood testing methods and terminology, and wood drying procedures. All these standards were submitted to ABNT.

In spite of all key outputs had been substantially completed during the Project, the project closure was pushed further for several years by the Executing Agency in order to comply with ITTO procedures.

Lessons learned

The ITTO project highlighted the important role of the Forest Products Laboratory for the Brazilian forest sector as a center of research, development, innovation, and information on tropical timber and other forest products.

It also indicated that most improvements should be maintained in the long-term planning of the FPL, in order for it to become, in an internationally recognized research center, especially in the tropical rain forest.

It is important to highlight that this type of projects may require longer duration due to time involved in executing the research for development of technologies that may result in high added value products, and then the time involved in transferring the technology to the stakeholders.

- (1) Continuous internal monitoring and revision of the research projects (average every 3 months, plus an annual presentation by the researchers) is necessary in order to assure that the goals established in the research plan may be met.
- (2) Even though a Publication list, a Catalogue of products and services of the FPL have been produced and published, it seems that further dissemination systems need to be put in place in order to ease accessibility by interested parties and users.
- (3) FPL staff has been contributing as a chief of the ABNT Norms Committee. This lesson learned could be replicated in similar projects.
- (4) One of the most important outputs of the project was technology transfer, however techniques to materialize such transfer to the stakeholders need to be envisaged during project design, as technology transfer implies much more than exchange among world-wide researchers. The technology transfer has to be more practical (hands-on).
- (5) During the Project eight timber utilization manuals were published. However, the contents of the manuals are too technical for some end users (e.i. small-medium timber industries, carpentries and workshops), and further extension of these manuals may be required.

Conclusions

Further exchanges among the FPL and other institutions such as the University of Brasilia, shall be further encouraged, especially for Graduate, Master degree, and PhD students, as the FPL has reached a high quality level of research in tropical timber. It can be said that the Project by ITTO has well succeeded in these aspects.

Considering that the targets of the project are aiming at contributing to maintain the sustainability of FPL, keeping higher research level as well as finding better ways for technology transfer of research results should be encouraged.

Timber and timber products from tropical regions, especially the Amazon, have more than 3,000 species of unknown or lesser used species. Even though the Data Bank has store the characteristics of about 300 species during the ITTO Project, further consideration should be given in the long term research programme of the FPL. This is an area in which ITTO could continue its support.

The quality of the information of the Data Bank is pretty high, since the FPL rigorously controlled all relevant activities for the timber characterization from sample collection, sample preparation, testing methodology and testing conditions.

In addition, in case of Amazon timber species utilization should not only limited to lumber, but also extended to its chemical utilization (extractives) which may have applications for medicals and cosmetics, etc. In this field, it will be necessary to accumulate more results of wood extractives, and wood chemical Data Base should be built up in near future.

Recommendations

Some recommendations have been reached as follows:

For the Executing Agency

Strengthening researcher's international exchange for collaborative work with other research institutions or Universities should be promoted by FPL and IBAMA, for example, relationship between FPL and the University of Brasilia, CIRAD Foret (France), etc. FPL is positively ready for receiving many undergraduate students, master course, and Ph.D. students.

1) Transfer of technology

- Further dissemination of the information obtained during the project to industries, and other stakeholders, should be carried-out especially to small and medium factories. Techniques to realize the transfer of the research to the stakeholders need to be considered in the FPL long term plans.
- Technical transfer shall be done by a specialized group in translating the research into practical terms. For this the FPL could employ senior or retired researches in collaboration with junior researches and technicians for the extension works.
- IBAMA could consider create a new specialized institution focused on transfer of technology, which shall be located closer to the forest or the timber industrial area. This is an idea that has to be further thought within by the FPL.

2) The FPL could consider Bio-energy and utilization of timber residues in its future research programme, as these subjects are quite attractive from the environmental point of view.

3) The FPL could consider venturing in anatomical and morphological studies through the application of Near Infra-Red Spectrograph (NIRS) or DNA identification.

4) The information on the chemical utilization (extractives) of Amazon timbers for aiming at medicals and cosmetics is very important. In this field, it will be necessary to accumulate the data for build up as new Data Base.

5) FPL has to make effort to maintain a sustainable succession of its senior research staff in order to keep in shape its s long term research programme. Wood technology fields are being highly specialized year by year. Attaining the research staff's knowledge will require at least five or ten years training or experience.

6) For the Data Bank, the Executing Agency could use IT (Information Technologies) in order to keep a record of visits (citation index).

For the ITTO

- 1) ITTO could further support the implementation of the recommendations above, in particular in assisting further dissemination of the research results and technology transfer.
- 2) Continue to support projects on wood waste utilization, such as saw dusts, residual branch trees in the forest, and bio-energy. In addition, ITTO could use its experience to support projects in Brazil for rubber-wood utilization as raw material.
- 3) Ensure that technical and steering meetings are held during project extension periods, it will be better to use more concrete numerical indicator for progressing of the project.

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ITTO Project PD 100/01 Rev.3 (I)

**Capacity Building for the Development of a
Sustainable Rattan Sector in China based on Plantation Sources
(China)**

EX-POST EVALUATION REPORT

EXECUTIVE SUMMARY

Prepared for the ITTO

by

Dr. Florence P. Soriano

Executive Summary

Introduction

The ITTO Committee on Economic and Market Intelligence and Committee on Forest Industry (CEM-CFI), during their Forty-fourth Session in December 2010 decided that an ex-post evaluation of ITTO Project PD 100/01 Rev.3 (I) be carried out to establish how well the Project served its purpose and to draw recommendations for future action.

The ex-post evaluation was conducted on 20-28 September 2011, about 15 months after project closure or 29 months after project completion. The evaluation aimed to provide an in-depth diagnosis of the Project in order to point out the successful and unsuccessful outcomes, the reasons for successes and failures, and the contribution of ITTO Project PD 100/01 Rev.3 (I) toward the achievement of ITTO's Objective 2000; and draw lessons that can be used to improve similar projects in the future.

The Project

ITTO PD 100/01 Rev.3 (I) "Capacity building for the development of a sustainable rattan sector in China based on plantation sources" was approved during the 33rd Session of the International Tropical Timber Council held on 4-9 November 2002 in Yokohama, Japan.

The project was implemented by the International Centre for Bamboo and Rattan based in Beijing, China starting June 2003. It was conceived to address the general lack of knowledge on cultivation and management of rattan plantations, of forestry workers and farmers in tropical China. The project specifically aimed to demonstrate sustainable management techniques for rattan plantations in three different ecological zones, and providing guidance and training on rattan plantation management for farmers and forestry workers.

The project was planned for 36 months duration and a total budget of USD 983,582.00, of which USD 504,369.00 was from ITTO and the rest contributed by the Government of China. The project was implemented for 85 months with a total budget of USD 1,164,458.70, with two approved extensions at no added cost to ITTO, and the Government of China increasing its contribution to USD 660,089.70.

The target outputs were (1) three demonstration plots for the development and dissemination of sustainable plantation and management techniques in three different ecological zones; (2) three technical manuals on rattan cultivation, management and harvesting, and rattan cane processing; (3) three national training courses on rattan tissue culture and nursery technologies, silviculture, plantation management and cane/shoot harvesting and processing, and products development and marketing; and (4) a regional course/seminar on rattan cultivation, management, utilization and marketing in Asia.

Findings

Despite the lack of a multi-stakeholder consultation conducted purposely for this project, the identified problem was valid as it was drawn from recent investigations in areas in southern China where rattan plantations were distributed, and from in depth reviews on the development and extent of application of technologies on cultivation and plantation management.

The project had successfully demonstrated rattan plantation management practices through over 32 hectares of rattan demonstration plots in southern China (Output 1). In the course of the project, more plots were established than planned, with funds provided by the Guangzhou Municipal Forestry Administration. The project produced a technical manual in the local language mainly for training purposes, and this was later on translated to English. This manual is an integration of the three proposed manuals on rattan cultivation, management and harvesting, and rattan cane processing (Output 2). The project held three local training courses on rattan cultivation, management, utilization and marketing. A total of 109 forestry workers and farmers attended the training courses (Output 3). The project also hosted a five-day workshop held in Beijing on 23-27 July 2006, in collaboration with the International Network of Bamboo and Rattan (INBAR) (Output 4). The workshop had excellent attendance with 48 participants representing 10 countries in Asia, Latin America and Africa.

At 29 months after project completion, the state owned forest farms continued to engage their forestry workers and farmers from nearby villages in managing rattan plantations and harvesting rattan shoots. Collective farmers who were interviewed showed enthusiasm for rattan plantations and tended to give feedback more on the benefits derived from edible rattan plantations than those for cane production. This is obviously because they have harvested rattan shoots quite regularly starting around 9 months after the establishment of plantations, whereas it will take at least 3-5 years more before mature canes can be harvested.

The sustainability of the project effects is evident from the continuing tangible support from both government and private entities as follows:

- Financial support in the amount of CNY 250,000 (USD 39,195) until December 2012, from the Guangzhou Municipal Forestry Administration, for the expansion of *Calamus viminalis* plantations for edible shoots production in Guangdong, and vegetative propagation of *C. viminalis*; and
- Financial support amounting to CNY 250,000 (USD 39,195) from the Hainan Hongqi Rattan Industry Co., Ltd for the conduct of research to develop techniques for the extraction and separation of antioxidant substances in rattans, with a commitment of support until new products are developed.

The on-going formulation of a draft standard for edible rattan cultivation and storage and preservation of rattan shoots is an important project spin-off that can significantly strengthen the longer-term sustainability of the project effects and deliver the desired impact. Financial support amounting to CNY 50,000 (USD 7,839) for the formulation of these standards until May 2012, has been given by the Guangdong Provincial Forestry Department.

An examination of the progress reports revealed that the delays in completing project outputs were due partly to reasons beyond the control of the Executing Agency. The SARS outbreak and bird flu epidemic in China and other Asian countries in 2003-2004 contributed to the delay in project staff study tours and training workshops for farmers and forestry workers. Due to the untimely demise of a project consultant while on duty travel to Hainan Province and the difficulties of identifying a suitable replacement, the training needs assessment and the subsequent preparation of the technical manual were delayed, pushing the dates of the training courses further.

As this project took about three years before approval and funding, two demonstration sites that were identified when the project was planned were no longer available. Aside from additional time to establish more demonstration sites, the durations of some activities such as production of seedlings for the demonstration plots were also under estimated in the project document.

While all key outputs had been substantially completed in 66 months, the project closure was pushed further for another 19 months until the Executing Agency complied with ITTO management requirements.

Lessons learned

- The value of consensus building during multi-stakeholder consultations is that the process imparts a sense of loyalty to the project, and ownership of the project outputs – ingredients that can result in positive outcomes.
- The conduct of multi-stakeholder consultations and analysis, assessments of project demonstration sites based on suitable criteria, and training needs assessment provide sufficient scope for a pre-project for projects of this nature.
- If commitments from stakeholders are identified during the stakeholder consultation, instead of during the project implementation, such commitments can be factored into the project design and strategy earlier on, resulting in a more efficient and economical implementation.
- Weaknesses in the project design as planned can be addressed in a timely and efficient manner during implementation by constantly revisiting the logical framework matrix (LFM) in order to assess the links between objectives, outputs and activities, and the higher order objective of the project.

- The involvement of decision makers of collaborating organizations is critical to the successful completion of project outputs.
- Collaboration and information exchange among country project teams implementing related ITTO projects contribute significantly to the delivery of successful project outcomes. The role of the ITTO Projects Manager is critical in creating productive linkages among project teams.
- It is equally important, if not even more critical, to hold technical and steering committee meetings during the project extension period.
- Awareness of ITTO project management requirements at project completion avoids the unnecessary lull until project closure.

Conclusions

The project PD 100/01 Rev.3 (I) completed all outputs beyond targets, and satisfactorily achieved the specific objective. The delays encountered by the project were due partly to reasons beyond the Executing Agency's control such as the SARS outbreak, the untimely demise of a Project Consultant. Demonstration sites that were identified during project planning were no longer available after three years of waiting for project approval.

At 15 months after project closure, the sustainability of project outcomes and effects were evident from the continuing tangible support of former project collaborators for the establishment of rattan plantations, and the interest of the private sector to fund spin-off research activities, especially on the development of products from bio-active components of edible rattan. Households of forestry workers are willing to get involved in managing the rattan plantations in state-owned forest farms, for as long they benefit from the proceeds of the harvests.

The on-going formulation of a standard on edible rattan plantation management and preservation of rattan shoots, and other regulatory tools can facilitate the long-term effects of this project's interventions, and the wider and faster paced realization of its development objective.

It is hoped that the continuing collaboration of the ICBR and INBAR and other international organizations such as FAO and WWF, could lead to a global strategy for a sustainable rattan sector as part of an integrated approach to sustainable forest management.

Recommendations

For the Executing Agency

- In order to generate support for the inclusion of the rattan sector in China's 12th Five Year Plan, conduct timely multi-stakeholder stakeholder consultations and analyses, and prepare a strategic plan for the rattan production and utilization industry in China;
- As a follow through to the successful outcomes of this project, support the formulation of a standard on edible rattan plantation management and other similar initiatives, however, this should involve all rattan-growing provinces in China, including Yunnan;
- Pursue the improvement of the technical manual that was prepared by the project, considering user feedbacks including those gathered during this ex-post evaluation;
- Enhance the capacity of researchers and research managers to prepare well-designed project proposals using the objectives-oriented framework approach; and
- Encourage research staff to participate in the ITTO Freezailah Fellowship Programme for funding of short-term activities such as participation in international conferences, training courses and study tours, preparation of manuals and monographs, and small grants for post-graduate study.

For the ITTO

- As part of the Project Completion Reports, it is worthwhile to require inclusion of the LFM that has evolved during implementation. This will be a more useful tool for ex-post evaluations aside from the LFM derived during planning stage. In most cases, changes in project elements are inevitable and if these are not reflected in the final LFM, evaluation can result in an inappropriate diagnosis of project performance. Lessons drawn from LFMs that have undergone changes would be useful for designing future projects of a similar nature;
- Continue to support projects on non-wood forest products such as rattan, whilst encouraging a more robust collaboration and information exchange among rattan- producing ITTO member countries;
- Ensure that technical and steering meetings are held during project extension periods; and
- Reiterate ITTO project management requirements at project completion to facilitate project closure.

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