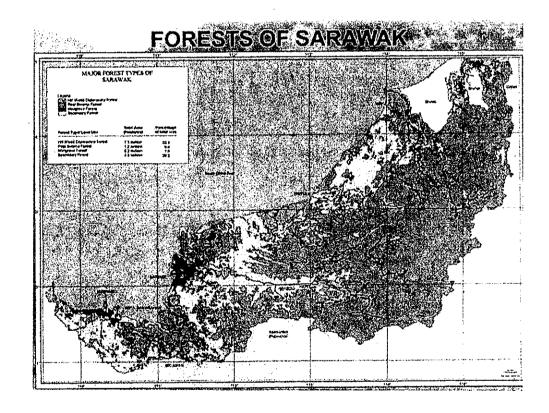
INTERNATIONAL TROPICAL TIMBER ORGANIZATION

FINAL REPORT

EX-POST EVALUATION REPORT

ITTO PROJECT PD 107/90 (i)

STRATEGIES FOR SUSTAINABLE WOOD INDUSTRIES IN SARAWAK



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Prepared for the ITTO

Thomas R. Waggener
International Forestry Sector Analysis (IFSA)
International Consulting

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Part I. Executive Summary

1. Background Information About the Project

Project PD 107/90 (I) was approved by the Eleventh Session of the ITTO Council on 24 July 1992. The project was one component of a package of proposals submitted by the Government of Malaysia. The project agreement with the Government of Malaysia was signed on 18 September 1992. The project duration was initially specified at 13 months. The project was funded at US\$ 497,371, including ITTO contribution of US\$ 440,550 and State of Sarawak contribution of US\$ 56,821.

The State Government of Sarawak, Forest Department (FD) with the cooperation of the Sarawak Timber Industry Development Corporation (STIDC), implemented the project. The Project was initiated on 1 March 1993. The original project timeframe was 13 months. Due to unforeseen circumstances, the project implementation (1 April 1993) was delayed by almost 8 months after signing of the project agreement. The project output (Project Report or "Plan") was delivered in March 1995, or 24 months from actual project implementation. Due to changes in the project workplan, the project was not closed upon receipt of the Project Report but was continued (without budget modification) until March 1999. ITTO project closure was implemented on November 17, 2000.

This project reviewed the forestry situation and the structure of the forest industry sector in Sarawak (1993-1994) with the Objective of developing a basic "plan" for the sustainable development of forest industries in Sarawak. The plan was to be based on assessments of 1) the forest resources of the State and 2) of the long-term market outlook for forest products. The project developed a number of forest resources utilization scenarios as the basis for the suggested proposed plan for the forest industry sector.

The project was designed to attain the following specific objectives:

- 1. Review and update the existing market studies previously carried out for the State Government of Sarawak.
- 2. Determine the current capacity of the wood processing industry.
- 3. Determine locations of sustainable forest management units and assess their production potential and the quality of the timber.
- 4. Determine the product mix that will optimize the economic return to the country and to the State.
- 5. Recommend changes to enable the forest sector to produce the optimum product mix.

The expected Output of the Project was to "prepare a basic plan for the sustainable development of Sarawak's forest industries."

2. Evaluation Purpose

The Forest Industry Committee, at its Twenty-sixth Session in May 2000, decided that an Ex-Post evaluation of PD 107/90 should 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 undertaken to review the formulation and implementation of Project 107/90 (I), to identify circumstances or difficulties encountered and the nature of the unanticipated delays, the resulting impacts on the success of the project in meeting the Sarawak development objectives, and the lessons learned that can assist in the formulation and implementation of similar projects elsewhere.

3. Scope of the Evaluation

An independent consultant with experience in project formulation, implementation and evaluation conducted the Ex-Post Evaluation. The Evaluation included consultations with appropriate ITTO staff in Yokohama, Japan, review of relevant project documents and project files, a visit to Sarawak for in-depth review and discussions with government officials, the forest industry and others knowledgeable of the project, for the period March 20-30, 2001, and follow-up consultations with ITTO staff in Yokohama April 2-3, 2001.

Efficiency and Operational Aspects:

The Evaluation mission examined the efficiency and operational aspects of the project in order to understand how the project formulation and preparations impacted the later implementation of project activities. It also sought to review the operational and managerial structures for the project. Finally the review included the selection of inputs, the use of ITTO funds and reporting activities.

Effectiveness

The Ex-Post Evaluation mission assessed the overall effectiveness of the Project in achieving the Development Objective of planning for sustainable forest industry based on a comprehensive assessment of the forest resource base for timber production and a detailed assessment of demand and supply for forest products likely to prevail in the longer- term.

Impacts and Effects:

Timely completion of the Project was envisioned given the urgency expressed by the ITTO Case Study Mission to Sarawak upon completion of its report (1990). Although the expectations for a forest industry 'development plan' were not clearly articulated in the Project Document, the nearly decade-long (1990-2000) experience following the Project approval has provided an unusual opportunity to assess the impacts and effects of changes in the sector. The Ex-Post Evaluation reviewed these changes and the incremental steps taken by the Forest Department in order to achieve sustainable forest industry.

Other Evaluation Mission considerations:

The Evaluation Mission also sought to understand the dynamics of the forestry sector and the forest industry in Sarawak over the extended period 1980 to 2000, since this period included the decade prior to the Project and the external market setting leading up to the needs identified by the ITTO Case Study Mission (1989-1990).

4. Conclusions of the Evaluation

The Consultant found a broad consensus on most issues regarding this Project. Individual differences of findings and interpretation must, of course, be respected.

Efficiency and Operational Aspects:

Project Formulation and Preparations

Examination of project records and documents did not reveal the processes used to formulate the project from conception in the ITTO Mission report to the signed Project Document. The time period was very limited. Formal ITTO guidelines were not yet formally published. The Project Document is brief, fairly general, and provided only a basic understanding of the project goals, objective, activities, and output. Much of the workplan was left for subsequent development. Only a single output (the Sector Plan) was envisioned. A subsequent lack of consensus on the nature of the output (Plan) appears to have led to greatly varying expectations.

Project Scope and Complexity

The ITTO Mission recognized the need for the forest products industry to adapt to two major factors: 1) a reduction in sustainable timber harvests and 2) restructuring of export and domestic capacity and product mix in light of trends in timber supply.

It appears that the scope of sectoral reform and the complexity of the sector and the national macroeconomic policies and goals were seriously underestimated. The project formulation appears to have under-estimated the difficulty of preparing such a sector development plan for forest industries. The need to integrate a true "Sector Plan with the existing political and policy framework for the forest industry was not well articulated. The time frame for the study was unrealistically short. The level of resource inputs was marginal if a comprehensive "sector plan" is interpreted to mean a plan within the context of policy analysis and if the recommendations for administrative rules, operational guidelines, and both national and state legislation reforms are to be based on a broad public and private consensus.

Project Implementation

The project implementation was, overall, good and closely followed the intent of the original project document. However, the Project experienced considerable delay, in terms of the implementation schedule. There were also shortcomings in project activity implementation. The Project Document contained only a rudimentary workplan. An Advisory Committee, specified to provide multi-agency and industry inputs, was not implemented. While a project steering committee consisting of the

relevant Implementing Agencies, ITTO, and the forest industry through the Sarawak Timber Association (STA) was apparently established, examination of the records did not reveal either the formal membership or Terms of Reference for the Steering Committee. Records are minimal for meetings, recommendations, and are missing after mid-1995. A project evaluation was specified, but did not take place. The critical phase of the workplan providing for 'consultation' also appears to have been minimal with no recorded minutes or summary of specific activities or results.

The draft Report (Plan) was submitted by the Planning Consultant in 1994 and finalized (as a draft) in 1995. However, new activities proposed by the Steering Committee in July 1995 had not been undertaken (secondary forest products market study and sector workshop). The project received two documented 'extensions', the first for one month administratively upon the initial progress report submitted, and a second six month extension acknowledged by the Steering Committee upon recommending the added project activities. Hence the project was not actually closed until March 1999, following the January 1999 project workshop.

Operational and Managerial Structure

The Project was carried out through a Project Director (half time) assigned by the Forest Department. The Sector Planning Consultant also assumed the role of "Project Co-Leader" or "Project Leader. A Sector Plan Consultant was identified in November 1992 but was not able to begin work on the project until early April 1993. A review of the files (ITTO) identified CV's for four additional consultants, but not for the Sector Planning Consultant. Progress Reports indicate continuing difficulties with the identification, recruitment and timely initiation of consultant contracts.

The Evaluation consultant failed to locate written Terms of Reference (TORs) for both the international consultants and their Sarawak counterparts. One specific project activity was specified as the responsibility of the STIDC (determination of the existing capacity of the Forest Products Industry) and the Forest Department. Another activity (determination of locations of sustainable forest management units, assessment of the production potential and quality of timber) was to be supported by two officers of the Forest Department and four technicians, assisting the International Consultant. The actual level of effort and cooperation, and the expectations of both FD and STIDC counterparts and the international consultants cannot be verified. Discussions during the Ex-Post Evaluation mission suggest that there was only weak collaboration throughout much of the project. The STIDC and the STA counterparts were largely involved through responding to data requests and informal 'advisory' discussions.

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¹ In 1991 ITTC adopted a decision relating to the establishment and function of a Project Steering Committee, which should apply to all ITTO projects. The absence of any specific reference to the role of this committee in the Project Document, however, appears to have minimized its role and functions. ² The Project Document simply specifies a "Project Evaluation" without reference to the timing, but only that it should be in accordance with ITTO and State of Sarawak policies and procedures. However, in a "Note for the Files" from a project monitoring meeting held on 14 September 1993, the participants (ITTO, Project Coordinator, Forest Planning Expert) agreed that "A more comprehensive mid-term review meeting, with participation of a representative of ITTO, was tentatively scheduled in January 1994." The current Ex-Post Evaluation Mission appears to be the only formal evaluation.

The Project was adversely impacted by the part time role of counterparts, with project involvement mixed with other regular job responsibilities. The Project was managed separately within the FD, without close coordination or interaction with the ongoing FD functions of policy analysis or planning. The Project submitted the required progress reports as scheduled, including financial and budget updates. This function appears to have been well handled. Substantive documentation of actual progress and objective analysis of problems, issues, and other administrative details of accomplishments were minimal.

Use of ITTO Inputs

The project resources appear to have been well utilized according to the formulated budget. ITTO inputs were mainly allocated to support international consultants. A review of CV's for four consultants indicated that the individuals were qualified on the basis of training and experience. Discussions during the Ex-Post Evaluation Mission, however, indicated a significant level of concern about the working relationships established between the project consultants, FD counterparts, and other organizations including the STIDC and the STA. Personalities and the absence of clear TOR also led to uncertainty regarding the consultant roles and responsibilities.

International travel for consultants was fully utilized. Funds were also budgeted for ITTO Monitoring, Review and Evaluation. A large sum was allocated for reports and translation (US\$ 40,050) but only US\$ 11,114 appears to be used for this purpose based on the project final financial statement of 14 May 1998. The necessary approved extensions of the project were 'no-cost' extensions. Upon the submission of the Project Report in 1995, significant funds remained unexpended. The Steering Committee suggested additional activities (Secondary Product Market Assessment, Forest Industry Workshop) as a means of completing the project and effectively utilizing the full budget resources. The Project subsequently returned to ITTO an amount of US\$ 12,763 upon project closing as unspent.

Reporting and Monitoring

Reporting for the Project was through periodic Progress Reports. Brief comment was typically included under "Critical analysis of Project progress". Documentation of the Steering Committee TOR was not located. Reporting (Minutes) are sparse and brief. Dr. Sobral provided ITTO linkage and monitoring, advised the project and summarized information through notes to the file (ITTO. A formal Mid-Project ITTO Evaluation Mission was not fielded.

The Project submitted two Project Completion Reports (1996, 1999) per ITTO guidelines.

Effectiveness:

Due to the unanticipated delays in project implementation and completion of all activities, including the added consultancy on Secondary Forest Product Markets and the completion of the Project Workshop, it is difficult to evaluate the overall effectiveness of the project in terms of primary output (Sector Plan)

Development Objective - Project Output

The sole output of the project was identified as "sector plan for the forest industries of Sarawak". The draft project report was submitted in April 1994 and again submitted as the 'final report' on March 10, 1995. The draft report includes five reports prepared by the Project Consultants as annex documents.

None of the parties to the Project viewed the report as a true "Sector Plan." In this context, the Report did not meet the overall Project Objective. Some components of the draft report 'recommendations' were viewed by the Forest Department and forest industry as being unsupported by clear analysis or documentation. The non-conformance with existing policy and/or the absence of implicit variation from such policies (e.g. industrialization policy for locating industry) resulted in both confusion and disagreement

The Sector Plan was to have been based on two fundamental prerequisites: First, "a reliable assessment of the forest resources in the State, and second, on "the long-term demand and supply outlook for forest products." Considerable differences in viewpoints were expressed about the Project's adequacy of establishing these two fundamental. The Project review of the forest resources (Study Annex Report 1) sought to identify resource conditions and alternative options or scenarios for timber output for eight regions. This was viewed as helpful but not definitive in terms of "a comprehensive assessment of forest resources." The Project included two separate Consultant marketing studies, which were primarily descriptive with little documented analysis of 'the long-term demand and supply outlook for forest products." The Project simply adopted linear extrapolations for demand and also assumed that there was sufficient demand for all products Sarawak.

On a different level, the project was frequently viewed positively as a catalyst for action. The Forest Department indicated the reality of their need to take ongoing actions for adjusting policy for both sustainable forest management and restructuring of forest industry. Time and market change had, in effect, passed the Project by in terms of a 'Plan'. The catalytic influences, however, were several:

- Ongoing adjustments and reductions in Sustained Yields from the Permanent Forest Estate (PFE) and further allocation of State Forestlands to permanent forest production status
- Establishment of Export Quotas for balancing export and domestic processing phasing downward the share exported while concurrently increasing the share reserved for domestic production. Refinement of industrial processing licensing based on timber supplay considerations
- Establishing Industrial Estates for locating processing facilities to encourage efficiency and economical utilization.
- Reevaluation of current Forest Management schemes and timber utilization
- Explicit recognition of a more open log market between concessionaires and timber processors.
- Import of sawn square imports from Indonesia as a supplemental source of lower valued raw material for small independent processors.

• Encouragement of private sector commercial forest plantations for both industrial timber supply and future pulpwood.

These steps taken by the Forest Department support and are consistent with the ultimate objectives of the Project and the broad outlines of the suggested "Sector Plan".

Project Coordination and Sector Linkages

The Project Document identified an Advisory Committee to provide broad input regarding the study. No such committee was established³. An alternative "Steering Committee" helped oversee the implementation of the project. ITTO also supported several 'monitoring visits" during the life of the project. The absence of a true Advisory Committee with diverse participation and viewpoints seriously limited the input of alternative viewpoints and 'outside' ideas from those groups (industry, NGO's, public, other government Agencies).

Workplan Adjustments and Scheduling

The Project Document contained only briefly defined activities. A revised workplan was subsequently developed. The Steering Committee suggested and approved an extension of six months in order to accommodate two additional activities. The extensions were no-cost extensions. The concluding Workshop was held in January 1999. Delay was attributed to problems in the identification and recruitment of a consultant for the secondary product market review. This report was not received until January 1998, well after the 1994 preparation of the draft "Sector Plan."

Dissemination of Outputs and Consensus

The absence of the Advisory Committee limited the exchange of viewpoints during the active period of the Project. Further, the "Dialog phase" was not clearly implemented. The individual consultant reports were not distributed (except few copies) beyond individuals and organizations involved in project implementation. Plans noted in the Project Document for distribution of multiple copies of the Report were not implemented. The draft 1994 report was expanded only modestly, and reissued as a draft report in 1995. Only a handful of copies were printed in 1996 (same as 1995 draft report) for internal use only.

In 1995, discussions of the desirability of the workshop "to lay the foundation for government decisions and to adopt strategies", suggested the workshop be held at the end of 1995. Instead, the Workshop was not held until January 1999. Proceedings of the workshop were prepared. No information was available during the Ex-Post Evaluation Mission relative to distribution. The Forest Department, in its role as the Implementing Agency, indicated no further formal review of the Study Report or the Workshop Proceedings was presently contemplated.

³ The specification of an Advisory Committee, and the indefinite status of a Steering Committee made documentation of actual activities difficult. Two documents ((3/17/94 and 4/19/94) are titled "Advisory Committee." However, the context is much more indicative of a "Steering Committee" rather than the broader role of an advisory committee composed of additional sector representatives, NGO's, etc.

Impacts and Effects:

The Project has had limited direct impact on the processes of policy formulation, although there has been a substantial catalytic effect on ongoing Forest Department actions. The primary impact of the Project has been indirect, cumulative and incremental rather than through the direct Output of a formal development plan.

The Sector "Plan"

The report was not clear in documenting and articulating a 'plan.' The lack of compatibility with the existing policy framework for achieving sustainability and a stable industry was viewed as a weakness. Both Government and private industry generally viewed the recommendations as "ignoring the realities" of Sarawak.⁴

Government Strategy and Policy Development

The Government of Sarawak, through the Forest Department, has chosen a continuing course of incremental and flexible policy adjustment to both timber harvest reductions and industry structural adjustments. While influencing the expansion and adaptation of the industry, the State role is largely regulatory based on broad considerations of timber supply and the provision of public services and infrastructure (favoring location in coastal or lowland Industrial Estates). The FD is concurrently examining issues of forest royalties and alternative sustainable management schemes (options to single tree selection) through other avenues, including ITTO supported projects.

Other Evaluation Mission considerations - The Sector Setting of the 1980's:

The Ex-Post Project Evaluation considered the project within the context of both the late 1980's at the time of the ITTO Case Study Mission to Sarawak but also the experiences of the past decade. The 1989-1990 ITTO Mission did not include a detailed economic analysis; however, the findings did clearly recognize the fundamental role of prices, costs and markets in shaping utilization decisions for timber under sustainable management, the role of export markets for Sarawak timber, and the dynamics of comparative advantage and international competition. The decades of the 1980-90's provide important evidence of the impacts of markets, costs and competition. Without ascribing cause-effect to these trends, it is evident that Sarawak has made important adjustments in timber harvest, utilization patterns, and the development of primary and secondary processing

Dynamics of Log Production

The ITTO Mission and the International community perceived non-sustainable harvesting in Sarawak's natural forests. The 1980's reflected relatively weak markets followed by strong growth peaking in 1989-90. At the same time, Indonesia banned all log exports over a five-year period ending in 1985. As Indonesia withdrew from the log export markets, a vacuum in log supply was created, greatly favoring the

⁴ This viewpoint, as summarized here, is based on extended discussions with both Mr. Barney Chan, General Manager STA, on 3/22/2001 and Mr. Cheong Ek Choon, Director, FD, on 3/21/2001 and 3/29/2001. The characterization of these discussions here is by the Consultant and is not intended as a direct quote from any individual.

expansion of market presence by Sarawak. Government royalties from timber harvests also increased during the decade. These revenues became a significant source of Sarawak government funds during this period. Domestic capacity was limited, yet processing did grow. Many of the forests were "old growth" forests with high volumes, exceeding the expected 'sustainable yield' under future management.

Dynamics of Export of Logs and Primary Products

In the early 1980's, Sarawak exports were primarily logs, reflecting the small domestic market for timber and the lack of primary processing capacity. The growth in demand, and the vacuum created by the Indonesian withdrawal for log markets, favored continued export of since the domestic market in Sarawak had not increased. Log export volume grew from about 9 million cubic meters in 1981-82 to some 15 million cubic meters by 1989-90. Domestic processing did grow by about 1 million cubic meters during the 1980's. The volume and value of sawnwood exports increased moderately during the decade.

Dynamics of Secondary and "Downstream" Processing

The immature domestic market in Sarawak at the early 1980's did not justify significant investment in secondary "downstream" products. Domestic utilization increased only modestly, to about 3 million cubic meters by 1991. In addition to the production of sawnwood, the domestic utilization included plywood, mouldings, dowels, laminated board, and woodchips.

Location of Forest Products Industry

The domestic industry was scattered, but primarily located in or near the major coastal cities while much of the logging operations were located in the remote interior Woods and mill wastes were typically unutilized. The Sarawak Government developed an Industrialization Development Policy favoring grouping of industrial activities, including forest products, in Industrial Estates or specialized concentrated areas reserved for industrial development. The Project Report suggested a reversal of this approach, with government initiatives and subsidies to encourage industrial capacity location in the remote areas. Both government and private industry reactions were that such a location policy was unrealistic and economically undesirable.

Concessions, Marketing of Logs and Domestic Timber Supply

The forest resources of Sarawak are State resources. The Forest Department administers utilization through concessions providing for cutting quotas and forest management. In the early 1980's approximately 80 percent of harvest was being exported. This share reached 92.5 percent in 1987. Concession holders have been subject to gradually changing guidelines on the proportion of harvest subject to export from about 1992. The current policy is for approximately 40 percent exportable.

Revenue Earnings

The Sarawak government has earned substantial revenues from forest concession royalties creating a dependency on the forests. Total forest royalties were

approximately MR 150 million in 1981-82, increasing to about MR 620 million in 1989-90.

Post-1990 Industry Adjustments and Achievements towards Sustainability

A brief review of the 1990's provides a much more encouraging view of progress during the 1990's in comparison to the situation at the time of the ITTO Mission. In brief:

- Timber harvest has declined from over 19 million M³ (1989-91) to about 13.5 million M³ (1999-2000), a reduction of about 30 percent.
- Export of logs declined from over 15 million M³ (1989-90) to about 6 million M³ (1999-2000), a decline of 60 percent.
- Sawnwood exports have increased, from about 270 thousand M³ (1989-90) to over 1.2 million M³ (2000).
- Total export value for logs and sawnwood have remained fairly constant at about RM 3.5 billion over the decade.
- Domestic processing of timber has increased from about 3 million cubic meters (89-90) to over 8.1 million M³ (2000), with the share domestically utilized increasing to about 55-58 percent.
- Plywood exports have increased from about 100 thousand square meters (1989-90) to about 2.5 million square meters (1999-2000).
- Export value for plywood and other secondary products have increased from MR 200 thousand (1990) to almost MR 3 million (1998-2000), nearly equal to the export of logs and primary processing (sawnwood).
- Value of log exports has declined to about 40 percent of total forest products exports, sawnwood has increased to about 16 percent, and plywood has grown to over 40 percent. Secondary products account for only about 1.5-2.0 percent.
- Total forest products exports have continued to grow, from about MR 3 million in 1989 to over MR 6 million in 1999-2000.

These achievements by the forest sector and forest industry provide a significant improvement from the conditions prevalent in the late 1989. The Project was actively engaged during the early half of the decade. The Project stimulated awareness and contributed to the catalytic actions and incremental policy changes noted previously.

5. Recommendations and Further Actions

The Ex-Post Evaluation Mission suggests several important lessons regarding technical assistance for forest policy and industrial development objectives within a dynamic and changing socio-political environment. These lessons suggest important recommendations for the future projects of ITTO related to sector policy and industrial development. In summary, the major recommendations are presented here.

Lessons Learned through Project PD 107/90 (I)

1. Project Formulation:

The process of Project Formulation and preparation of the Project Document is critical to overall project success. The Project formulation was completed in a very brief period. Many details were missing, and the framework for implementation poorly defined. Future projects within the area of forest industry strategy and development will benefit from the subsequent (1992, 1999) development of Guidelines for Project Formulation. In spite of this situation, the Forest Department, the STIDC and the forest industry jointly worked towards establishing a working relationship based on common interest. It is recommended that much more careful attention be paid to aspects of coordination and implementation during project formulation

2. Project Implementation:

The present Project experience highlights some of the achievements as well as the difficulties encountered in project initiation and implementation. It is recommended that a detailed workplan specifying activities, immediate objectives and outputs, complimented by realistic timelines and linkages, be developed in the Project Formulation. Terms of Reference should be prepared well in advance for all Project Staff, including consultants. .

3. Project Staffing and Management:

It is strongly recommended that a relatively senior, experienced staff be assigned as a full time Project Director, freed from other ongoing assignments. While assigning a senior officer as Project Director, the staff capacity of FD did not permit full time staffing for either the Director or the counterpart officers. While committed to the project, part time staff were not capable of giving continuous and attentive efforts. Full attention should be directed to both the project administration and management and to the operational aspects of the workplan.

4. Administrative Placement of Project

The project was administered within the ITTO coordination office of the Forest Department. This provided for good coordination with ITTO, but removed the project from direct line involvement with ongoing Policy and Planning required as part of the Forest Department responsibilities. Thus while the study was active, separate ongoing decisions and reviews were implemented by the FD. It is recommended that the administrative location of the Project for should be placed at a high level within the regular structure of the Implementing Agency, assuring close linkage with ongoing programs, policies, and analysis.

5. Monitoring and Evaluation:

It is recommended that a firm schedule of monitoring and evaluation activities be developed as a priority in project implementation. Written, agreed-upon TOR for Project Steering Committees (for project administration) and Advisory Committees (technical, substantive) and Evaluators should be provided.

6. Formal Evaluations:

It is recommended that projects with an expected duration of 18 months or longer be subject to an external and independent mid-project evaluation. Evaluation should be designed to assisting in project modifications at the midpoint or earlier, while necessary changes can still be implemented prior to project completion.

7. Guidelines for Consultants:

It is recommended that the ITTO guidelines for employment of consultants should be explicitly utilized in securing and employing qualified professional consultants as specified during Project formulation and workplans. Consultation on recruitment, TOR and related matters of employment should be provided within the limitations of ITTO staffing and timing.

8. Output Dissemination:

The value of technical assistance projects depends on the usefulness of the Output(s) specified in the Project Document and workplan. It is recommended that a project Dissemination Plan be developed indicating the nature and timing of dissemination activities designed to make maximum opportunities for the review and discussion of draft documents, findings and recommendations, and formal reports.

Future Actions and Potentials

The Ex-Post Evaluation Mission included wide-ranging discussions of future actions and the potential for subsequent assistance to Sarawak in the Forest Industry adjustment to Sustainable forest management. These potential areas of interest should be further discussed between ITTO and the appropriate Sarawak forest and forest industry representatives, including the private sector.

 Criteria and Institutional Arrangements for Benefit and Cost Sharing under Sustainable Forest Management

The implementation of sustainable forest management is expected to generate a wide range of public values and benefits, many of which are presently intangible and not easily captured in forest product output values. A case study of the problems and issues, estimates of the nature and level (significance) of costs, and the market distortions based on Sarawak experience could assist in

developing broader regional and international guidelines and to minimize production and market distortions.

2. Certification of Sustainable Forest Products

International certification of forest products will likely become a major obligation for international suppliers in the future. Strategies for incorporating certification into industry practices and operations in a major producer region such as Sarawak can document and highlight the complex issues surrounding the market implications of such practices.

3. Integrated Byproduct Utilization

More complete utilization of harvested timber will be required to maintain adequate economic margins and to meet environmental standards. Current log recovery rates are still low, ranging from 45-60 percent depending on both product type, technology, and markets. Harvesting wastes are also high, where harvesting recovery was estimated to be no higher (on average) than 60 percent of tree volume. Economic feasibility analysis and testing of new product innovations and/or new processing technologies for low valued timber and/or byproducts and waste could yield significant results for Sarawak and can help in maintaining economically efficient integrated processing.

4. Training for Reduced Impact Logging (RIL)

Considerable attention has been given to new technologies, management methods, and logging methods that can potentially reduce the negative impacts of conventional forest management and harvesting techniques. There is a substantial need for technical training to move RIL from the experimental and exploratory stage to operational practice. Cooperative efforts between appropriate government and private sector organizations can potentially make such training more comprehensive, more efficient, and deliverable at reasonable costs. A regionally based program of training would also permit the pooling of knowledge and expertise within the SE Asian tropical region relevant to the unique needs and conditions of the region.

5. Market Uncertainty and Distortions from Illegal Felling and Undocumented Trade

Sarawak is facing growing competition in international markets, for logs, commodity products, and for secondary or value added products. International markets are subject to high levels of uncertainty and growing indications of illegal logging and trade, eroding markets by reducing the competitiveness of producers involved in sustainable forest products production. A regional assessment of the issues involved and possible new market structures and interventions (including policy and regulatory enforcement) on a multinational level could assist in more stable planning and production for the Sarawak timber industry.

Sarawak Log Exports 1981-2000 (Volume & Value)

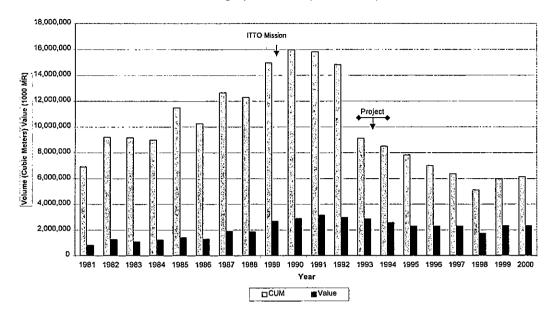


Figure 1 Sarawak Log Exports 1981-2000 (Volume & Value)

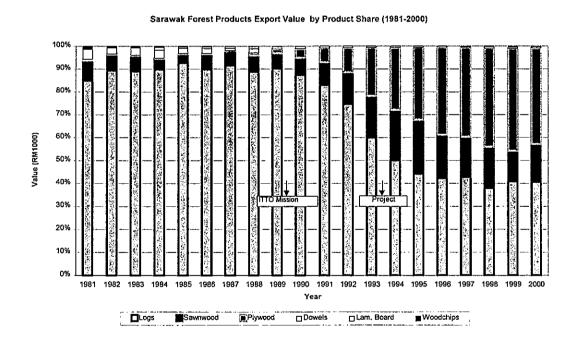


Figure 2 Sarawak Forest Products Export Value by Product Share 1981-2000

Sarawak Export of Forest Products by Value 1981-2000

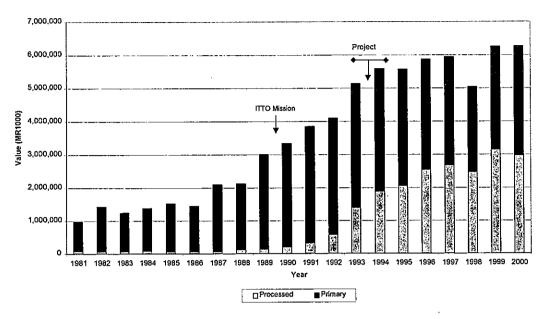


Figure 3 Sarawak Export of Forest Products by Value 1981-2000

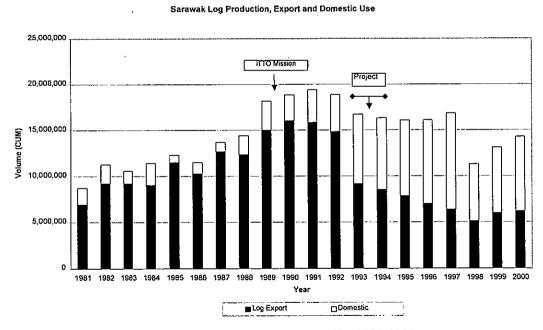


Figure 4 Sarawak Log Production, Export and Domestic Use 1981-2000

Part II. Main Text

1. Project Context

Project PD 107/90 (I) was approved by the Eleventh Session of the ITTO Council on 24 July 1992. The project was one component of a package of proposals submitted by the Government of Malaysia following the ITTO Mission to Sarawak (1989-90) which had been invited to undertake a review (Case Study) of sustainable forest management within the State. The project agreement with the Government of Malaysia was signed on 18 September 1992. The project duration was initially specified at 13 months.

The project was initially funded at a total level of US\$ 497,371, including ITTO contribution of US\$ 440,550 and State of Sarawak contribution of US\$ 56,821. The adjusted total funding was US\$ 519,398.50, including US\$ 447,407.50 from Japan and US\$ 15,170.00 from Australia supplemented by the Government of Sarawak inkind contribution. A total of US\$ 12,763 was unspent and returned to ITTO upon project closure.

The project was implemented by the State Government of Sarawak through the Forest Department (FD) with the cooperation of the Sarawak Timber Industry Development Corporation (STIDC). Project activities were initiated on 1 March 1993 upon arrival of the appointed Forest Planning consultant in Kuching. The original project timeframe was 13 months. Due to unforeseen circumstances, the project implementation (1 April 1993) was delayed by almost 8 months after signing of the project agreement. The project output (Project Report or "Plan") was not delivered until March 1995, or 24 months from actual project implementation. Due to suggested changes in the project workplan, and the addition of project activities, the project was not closed upon receipt of the Project Report but was continued (without budget modification) until March 1999. ITTO project closure was implemented on November 17, 2000.

This project reflected the pre-existing (1990-1991) forestry situation and the structure of the forest industry sector in Sarawak, and sought to developing a basic "plan" for the sustainable development of forest industries in Sarawak. The plan was to be based on assessments of 1) the forest resources of the State and 2) of the long-term market outlook for forest products. The project developed a number of forest resources utilization scenarios as the basis for the suggested proposed plan for the forest industry sector.

The project was designed to attain the following specific objectives:

- 1. Review and update the existing market studies previously carried out for the State Government of Sarawak.
- 2. Determine the current capacity of the wood processing industry.

- 3. Determine locations of sustainable forest management units and assess their production potential and the quality of the timber.
- 4. Determine the product mix that will optimize the economic return to the country and to the State.
- 5. Recommend changes to enable the forest sector to produce the optimum product mix.

The expected output of the Project was to "prepare a basic plan for the sustainable development of Sarawak's forest industries."

2. Evaluation Scope and Focus

The Forest Industry Committee, at its Twenty-sixth Session in May 2000, directed that an Ex-Post evaluation of PD 107/90 should be carried out to establish how well the project served its development purposes and to draw up recommendations for future action. The project was one of a family of related projects that flowed directly from the report of the 1989-90 ITTO Mission to Sarawak. As such, the project was developed to address the most urgent problems related to the harvest adjustment and industrial structure development as a result of implementation of sustainable forest management of the Sarawak natural production forests (Permanent Forest Estate).

The Ex-Post Evaluation was undertaken in order to review the formulation and implementation of Project 107/90 (I), to identify circumstances or difficulties encountered and the nature of the unanticipated delays, the resulting impacts on the success of the project in meeting the Sarawak development objectives, and the lessons learned that can assist in the formulation and implementation of similar projects elsewhere.

3. Evaluation Methodology

An independent consultant with experience in project formulation, implementation and evaluation conducted the Ex-Post Evaluation. The Evaluation included consultations with appropriate ITTO staff in Yokohama, Japan, review of relevant project documents (Annex III) and project files, a visit to Sarawak for in-depth review and discussions with government officials, the forest industry and others knowledgeable of the project, for the period March 20-30, 2001, and follow-up consultations with ITTO staff in Yokohama April 2-3, 2001. The Terms of Reference for the Ex-Post Evaluation are provided in Annex I. and the schedule of evaluation activities is given in Annex IV. A listing of individuals met during the Ex-Post Evaluation Mission is provided in Annex II.

(a) Efficiency

The Evaluation mission sought to examine the efficiency and operational aspects of the project with the goal of understanding how the project formulation and preparations impacted the later implementation of project activities. It also sought to review the operational and managerial structures for the project, as related to both achieving the desired output (and secondary outputs) and the overall duration

of the project as actually experienced. Finally the review included the selection of inputs, the use of ITTO funds and reporting activities.

(b) Effectiveness

A key consideration of the Ex-Post Evaluation mission was to assess the overall effectiveness of the Project in achieving the Development Objective to assist Sarawak in the planning for sustainable forest industry based on a comprehensive assessment of the forest resource base for timber production and a detailed assessment of demand and supply for forest products likely to prevail in the longer- term. Coordination of the project with other interested government, sector and external groups, the adjustments required due to unanticipated developments in scheduling and workplan activities, and the communication of the Project outcomes to government authorities for possible regulatory and policy considerations was also emphasized. Dissemination of the Project results more broadly within the Sarawak forestry community was also reviewed.

(c) Impacts and Effects

Given the urgency expressed by the pre-project ITTO Case Study Mission to Sarawak in its report (1990), a timely completion of the Project was envisioned to assist the Forest Department and the Sarawak Forest Industry Development Corporation (Implementing Agencies) in development and implementation of new strategies consistent with the dual outlook for production timber resources under sustainable forest management and the dynamics of future market (demand and supply) for forest products. Expectations for a forest industry 'development plan' were not clearly articulated in the Project Document but nevertheless suggested that changes were likely necessary at the planning and policy levels in order to achieve sustainable forest industry. The nearly decade-long experience following the first consideration of the Project provided an unusual opportunity to assess the impacts and effects of such changes.

(d) Other Evaluation Mission considerations:

The Evaluation Mission also sought to review the dynamics of the forestry sector and the forest industry in Sarawak over the extended period 1990 to 2000. Since the period initially contemplated in the project document was greatly exceeded, this longer timeframe afforded the opportunity to review the project outcomes within the context of the changes that have actually taken place in Sarawak since 1990. This review also permitted the general assessment of the overall changes and success of Sarawak towards achieving a more stable and sustainable forest industry.

4. Findings

(a) Efficiency and Operational Aspects:

i. Project Formulation and Preparations

An examination of project records and documents did not clearly reveal the processes used to formulate the project from inception in the ITTO Mission report to the officially signed Project Document. However, it is clear that the time period was very limited. Also, both ITTO and the Government of Sarawak were, during the two-year period prior to approval of the project, relatively 'new' at project formulation. The formal ITTO formulation guidelines were not yet published. Given the urgency recommended by the ITTO Mission, the Project Document is brief, general, and thus provided only a basic understanding of the project goals, objective, activities, and output. Much of the workplan was left for subsequent development. Only a single output (the Sector Plan) was envisioned. This nature of the Project Document was recognized throughout the study, and 'flexibility' was stressed. Nevertheless, the Project Document did not provide detailed guidance for either project implementation or monitoring. A lack of consensus on the nature of the output (Plan) appears to have led to greatly varying expectations and subsequent frustrations as to the level of success achieved.

ii. Project Scope and Complexity

The ITTO Mission identified important and significant issues confronting the achievement of sustainable forest resource management in Sarawak, and urged quick actions to strengthen the performance of the sector. Included in those recommendations was the recognition of the forest products industry to adapt to two major factors: 1) a reduction in sustainable timber harvests and 2) restructuring of export and domestic capacity and product mix in light of trends in timber supply. The role of the Sarawak government, through the Forest Department (FD) and the Sarawak Timber Industry Development Corporation (STIDC) was seen as central to this dynamic adjustment process.

In hindsight, it appears that the scope of sectoral reform and the complexity of the sector and the national macroeconomic policies and goals were seriously underestimated. This includes the breadth of the study in terms of multi-sectoral participation and linkages to other government institutions beyond forestry, the role of the private sector in capital formation and investment, trade policy, and the national economic base. The concept of a sector development plan for forest industries was non-specific, as the need for broad discussion and consensus at the political and intragovernmental levels. Likewise, the existing political and policy framework for the forest industry was not well articulated (nor reviewed) as a precursor for the Project. The initial time frame for the study was unrealistically short, and the level of resource inputs was marginal to meet the requirements of a comprehensive Sector Plan if the expectations were for a plan fully encompassing the context of policy analysis, recommendations for revision of administrative rules, operational guidelines, national and state legislation reforms, and development of a forest sector and non-governmental consensus.

iii. Project Implementation ⁵

The project implementation was, overall, good and closely followed the intent of the original project document. However, the Project experienced considerable delay, both in terms of implementation following the signing of the Project document and throughout the execution. However, there were some notable shortcomings in implementation.

The Project Document contained only a rudimentary workplan. The first phase of the project was stated to be the organization of the project and development of the workplan. This was completed in September 1993, almost 4½ months following initiation of the project (keeping in mind a 13 month planned project period). The envisioned Advisory Committee, specified to provide multi-agency and industry inputs, was not implemented. Alternatively, a project steering committee was established early in the project implementation, consisting of the relevant Implementing Agencies, ITTO, and the forest industry through the Sarawak Timber Association (STA). Examination of the records did not reveal either the Terms of Reference for the Steering Committee or the specification of membership. Records are minimal for meetings, recommendations, and are virtually missing after mid-1995.

Although there was a specification (and budgeting) for a project evaluation, this did not take place during the term of the project. The phase of the workplan for 'consultation' (political review of the recommended Plan) also appears to have been minimal in terms of scheduled activities, and no recorded minutes or summary of activities or results were available for review.

The details of the technical completion of the project are confusing. The draft Report (Plan) was submitted by the Planning Consultant in 1994 and finalized (as a draft) in 1995 following the departure of the consultant from the project. A Project Completion Report was submitted in March 1996. However, ITTO noted that new activities agreed to by the Steering Committee in July 1995 had not been undertaken (secondary forest products market study and sector workshop). Hence the project was not closed in 1996. The project submitted a second Project Completion Report in March 1999, following the January 1999 project workshop. ITTO reported on the completion in April 1999 at the 24th Session of the Committee on Forest Industry, and

⁵ During the Ex-Post Evaluation, the consultant developed a Project Timeline in an effort to document important stages of the project implementation and management. It is recognized that this Timeline is incomplete, and reflects only those aspects of the project actually documented in the files examined at ITTO or the Forest Department. For example, TOR's for international consultants, DF and STIDC counterparts, minutes of meetings, Progress Reports, and other project documentation may exist, they were not located during the Ex-Post Evaluation mission and thus are left out of the recorded Project

Timeline. See Annex V.

⁶ In 1991 ITTC adopted a decision relating to the establishment and function of a Project Steering Committee, which should apply to all ITTO projects. The absence of any specific reference to the role of this committee in the Project Document, however, appears to have minimized its role and functions. ⁷ The Project Document simply specifies a "Project Evaluation" without reference to the timing, but only that it should be in accordance with ITTO and State of Sarawak policies and procedures. However, in a "Note for the Files" from a project monitoring meeting held on 14 September 1993, the participants (ITTO, Project Coordinator, Forest Planning Expert) agreed that "A more comprehensive mid-term review meeting, with participation of a representative of ITTO, was tentatively scheduled in January 1994." The current Ex-Post Evaluation Mission appears to be the only formal external evaluation.

administratively closed the project in November 2000. The record indicates that the project received two 'extensions', the first for one month administratively upon the progress report submitted, and a second six-month extension acknowledged by the Steering Committee upon agreement of the added project activities. Based on the biannual progress reports to the ITTO, the Committee on Forest Industry accepted the project extensions.

iv. Operational and Managerial Structure

The operational and managerial aspects of the Project were carried out through a Project Director (half time) assigned by the Forest Department. In practice, the Sector Planning Consultant assumed the role of "Project Co-Leader" or "Project Leader". The Planning Consultant assumed much of the operational and management responsibility. The consultant also assumed the direction of the project workplan and activities related to scheduling of tasks and activities, coordination, and reporting as well as the specific tasks allocated for the consultancy.

The Project Document implies considerable participation by international consultants, including a sub-contract with a consulting company for compilation of data. A Sector Plan Consultant was identified in November 1992 and a pre-implementation meeting was scheduled in Kuching in mid-December 1992. Due to scheduling complications, the Consultant was not able to arrive to begin work on the project until early April 1993. A review of the files (ITTO) included CV's for four subsequent consultants, but not for the Sector Planning Consultant. Correspondence and periodic Progress Reports indicate a continuing difficulty with the identification, recruitment and timely initiation of consultant contracts. Inexperience in identifying appropriate consultants and the lead time required for recruitment and activation of personal services contracts contributed significantly to project delays.

Review of project files at both ITTO and the Forest Department (ITTO Coordination Office) failed to reveal written Terms of Reference (TORs) for both the international consultants and the Sarawak counterparts. Thus the level of effort and expectations of the consultants cannot be verified, nor can the expectations for the counterparts be documented. Indications from discussions held with Forestry Department staff members, including one counterpart officer, suggest that there was only weak collaboration throughout much of the project, with the counterparts serving to assist in data collection, etc, but not significantly involved in analysis or formulation of options and alternatives or strategies and recommendations. In this sense, the 'ownership' of the Project largely shifted to the ITTO; with less direct incentive for the FD. The STIDC and the STA were largely involved through occasional 'advisory' discussions and in responding to requests for data. Neither organization indicated a strong role in shaping or guiding the project.

The operational structure was also adversely impacted by the part time role of the Project Coordinator and the Sarawak staff counterparts, where other job responsibilities detracted from Project efforts. The FD saw this as a serious weakness in structure, but resources did not permit a change in the assignments during the project period. The Project was administratively managed separately within the FD through an ITTO Coordination office, without close coordination or interaction with the ongoing functions of policy analysis or planning. In this regard, there appears to

have been two separate and parallel planning efforts: the ongoing operational planning and incremental policy adjustments within FD and the Project efforts towards the Sector Plan.

The placement of the Project administratively was also important with respect to the emphasis of the FD on the resource management and sustainability issues of achieving sustainable cutting levels under the concessions, while the explicit emphasis of the Project was on a sustainable Forest Industry. While the strong linkage between sustainable resources and sustainable industry is well documented in the ITTO Mission Report and certainly highlighted in the Project Document, the expertise of the FD relative to forest industry, markets and trade was less extensive. The role of the STIDC in industry development might suggest a stronger, and potentially lead role, in industry-oriented projects such as PD 107/90 (I).

The Project submitted the required progress reports largely as scheduled, including financial and budget updates. This function appears to have been well handled. Not all progress reports could be located in the files, but gaps are minor and the evidence is that all reports were received. Given the nature of the progress reports, much information was simply repeated from period to period, while the substantive documentation of actual progress and objective analysis of problems, issues, and other administrative details were minimal.

v. Use of ITTO Inputs

The project resources appear to have been well utilized according to the formulated budget. Some discrepancies exist in the records, with differing budget figures reported for the ITTO inputs. The Draft Project Document⁸ indicates a total funding of \$497,371 on the document cover. The attached budget in this amount has been considered at the actual budget. Different figures occasionally appear in the periodic Progress Reports or financial statements.

The majority of ITTO inputs was allocated to international consultants, and was utilized for this purpose. A review of CV's for four consultants indicated that the individuals selected were well qualified on the basis of training and experience e. Advance personal obligations contributed in a small way to delays in implementation of consultant contracts. However, discussions during the Ex-Post Evaluation Mission indicated a significant level of concern about the working relationships established between the project consultants, FD staff and counterparts, and other organizations including the STIDC and the STA. Personalities, strongly-held viewpoints, working relationships and 'professional style' resulted in a somewhat strained climate for the consultant work. The apparent absence of clear TOR also led to uncertainty regarding roles and responsibilities.

International travel for consultants was fully utilized. Funds were budgeted for ITTO Monitoring, Review and Evaluation, and appear consistent with ITTO representative travel for consultation (and steering committee meetings?). A large sum was

⁸ The draft project document was obtained from both ITTO and Department of Forests files. No signed copy of the Project Agreement or a "final" project document were located.

allocated for reports and translation (US\$ 40,050) but does not appear to be used for this purpose. A comparison with the last available financial statement (March 1998) indicated expenditures of only US\$ 11,114 in this category. It is expected, but not documented, that much of the balance was utilized in connection with the Project Workshop held in January 1999 and for the added international consultant on secondary forest products markets. As noted, the extensions of the project were 'nocost' extensions.

Upon the first 'closing' of the project in 1996, significant funds remained unexpended and hence the Steering Committee urged the additional activities (Secondary Product Market Assessment, Forest Industry Workshop) as a means of effectively utilizing the full budget resources. Although considerable delays were yet experienced, these activities were undertaken, resulting in nearly complete utilization of the budgeted resources. The Project subsequently returned to ITTO an amount of US\$ 12,763 upon project closing as unspent.

vi. Reporting and Monitoring

The main elements of reporting for the Project were the periodic Progress Reports as required by ITTO. This report included information describing the work implemented during the period and outputs achieved. Only brief discussion was typically included under "Critical analysis of Project progress". In brief, such discussion normally revolved around the data collection efforts (early in the project) and delays in consultancies and recruitment (throughout).

Although there was a Steering Committee established for the Project, documentation of the committee TOR and reporting (Minutes) are sparse and brief. Only limited documentation as to the functioning and recommendations of this Committee were located in the Project Files. Supplemental to the Steering Committee, Dr. Sobral provided ITTO monitoring linkage and advised to the project, visited the project for consultation, and attended the Steering Committee as evidenced in the records. He also summarized information from such activities through notes to the file (ITTO), which proved helpful in documentation.

A Project Evaluation Mission was not fielded during the active project period. Note of delays in the evaluation pending the holding of a Workshop (first suggested in 1995) was made, but no subsequent scheduling was recorded.

The Project submitted two Project Completion Reports (1996, 1999) per ITTO guidelines.

(b) Effectiveness:

Due to the unanticipated delays in project implementation and completion of all activities, including the added consultancy on Secondary Forest Product Markets and the completion of the Project Workshop, it is difficult to evaluate the overall effectiveness of the project in terms of output. The issue of divergent expectations as to the nature of the sole Output (the "Plan"), the subsequent use of the "Plan" in terms of formal Government actions, and the lapses in the timeliness of availability of the report all greatly cloud the normal measures of effectiveness.

i. Development Objective - Project Output

The sole output of the project was identified as "sector plan for the forest industries of Sarawak". The project report was submitted in draft format in April 1994 and again submitted as the 'final report' on March 10, 1995. The report carries the title "The Sector Plan", and refers by Annex to the five reports prepared by the Project Consultants.

The results of the Ex-Post Evaluation mission clearly demonstrated that none of the parties to the Project now view the report as a true comprehensive "Sector Plan" – at least in the sense of either a complete and logical framework for implementation as State policy or practical administrative, or as new, comprehensive regulatory guidelines for the Forest Department. Within this context, the Report failed to meet the Project Objective. The report does not provide a concise, reasoned set of preferred or recommended sector strategies, operational structures, policy guidelines, recommendations for policy or legislative changes, or most importantly for industry development goals and priorities. Several components of the report were viewed by the Forest Department and forest industry as unsupported by clear analysis or documentation. Further, the non-conformance with existing policy and/or the absence of explicit recommendations for clear modification of policies (e.g. industrialization policy for locating industry) resulted in both confusion and disagreement with the report. In short, considerable disappointment was evident regarding the usefulness of the Report as a "Sector Plan".

The Sector Plan was to be based on two fundamental prerequisites. First, the plan was to be based on "a reliable assessment of the forest resources in the State, and secondly, on "the long-term demand and supply outlook for forest products."

As with the Report (Plan) itself, considerable differences in viewpoints were expressed about achieving these two fundamental prerequisites. The Project undertook a review of the forest resources (Study Annex Report 1) which sought to identify alternative options or scenarios for timber output for eight defined regions reflecting alternative assumptions about the rate of harvesting of remaining Old Growth timber, the land base, cutting cycles, and improved harvesting (RIL). The study noted, but did not explicitly evaluate, changes in cutting diameters. This study was viewed as helpful but not definitive in terms of "a comprehensive assessment of forest resources."

The intermediate outputs of the Project also included two separate Consultant marketing studies. A review of export markets (Annex II to Study Report) compiled global and Sarawak data and briefly addressed Sarawak options for logs, primary products and secondary (downstream) production. A second, added international consultant study (Annex V) was completed in the spring of 1998 after considerable delay. The report was suggested as an additional activity by the Steering Committee in July 1995 but not initiated until July 1997. Both studies were primarily descriptive, with little analysis of 'the long-term demand and supply outlook for forest products." The Project basically adopted simple linear extrapolations of demand (consumption)

⁹ See "Materials Reviewed", Annex III to this Ex-Post Evaluation Report.

and simply assumed that there was sufficient demand for all products Sarawak would potentially produce in the future.

On a different level the project, and implicitly the Report and related consultant studies, are viewed positively as a catalyst for incremental policy actions and industry changes and adjustment to the dynamic conditions of the forest resources and the international marketplace. Project delays resulted in late completion of the Plan and in reporting recommendations and dissemination of findings. The Forest Department indicated the practical reality of their need to take incremental actions and otherwise continue the process of adjusting policy for both sustainable forest management and restructuring of the forest industry. In light of changing timber supplies, government priorities (revenues) and the changes in markets, the Forest Department indirectly drew upon the work of the project (and other analytical inputs) to continue the processes of making dynamic adjustments towards sustainable forest management which had begun several years prior to the ITTO Mission report. Time and change had, in effect, passed the Project by in terms of a 'Plan'.

The catalyst contributions of the Project were several:

- Ongoing adjustments and reductions in Sustained Yields from the Permanent Forest Estate (PFE) and further allocation of State Forestlands to permanent forest production status. DF 'adopted' the ITTO Mission estimate of Sustainable Yield of 9.5 million cubic meters and imposed annual reductions of 1.5 million cubic meters in 1992 over two years to meet that level from the prior level of 12.5 million cubic meters.
- Establishment of Export Quotas for balancing export and domestic processing phasing downward the share exported while concurrently increasing the share reserved for domestic production (currently 60%-40%). This policy is ongoing, reflecting a gradual goal of encouraging primary and downstream processing while continuing necessary balanced exports.
- Refinement of industrial processing licensing based on timber supply considerations
- Establishing Industrial Estates for locating processing facilities to encourage efficiency and economical utilization of infrastructure per the Sarawak Industrialization Policy¹⁰
- Reevaluation of current Forest Management schemes and timber utilization
- Explicit recognition of a more open log market between concessionaires and timber processors to permit efficient allocation of available timber by species, grade, etc.
- Recognition of sawn square imports (from Indonesia) as a supplemental source of lower valued raw material for small independent processors without official concessions.

¹⁰ This action largely conflicts with the recommendation of the Report for relocating primary processing into inland remote areas – a position not held by the Sarawak Government nor significantly endorsed by the Forest Products industry.

• Endorsement of private sector commercial forest plantations for both industrial timber supply and potential pulpwood (future development).

These and other positive steps taken by the Forest Department support and are consistent with the ultimate objectives of the Project and the broad outlines of the suggested "Sector Plan". While being more indirect than the ultimate adoption of a formal "Plan based on a comprehensive sector 'blueprint', such Project impacts are positive and are reflected in the trends of the sector and forest industry over the past decade. ¹¹ The FD expressed the continual need to move ahead during the Project period, the desire to have policy reform processes to remain flexible (situational) and to keep open the option for log exports in the future.

ii. Project Coordination and Sector Linkages

As Noted, the Project Document identifies an Advisory Committee to provide broad input regarding the study. The TOR for the Committee and the makeup are not specified in the Project Document. No such committee was established, with reliance on an alternative "Steering Committee" to help oversee the implementation of the project. The absence of a true Advisory Committee seriously limited the input of viewpoints and ideas from those groups (industry, NGO's, public, other Agencies) other than those directly participating in the study. To some extent, persons contacted in the Ex-Post Evaluation mission expressed the regret that the Project operated in "isolation" or a "vacuum" and reflected inexperience with dealing with the breadth of issues implicit in a true development plan.

iii. Workplan Adjustments and Scheduling

The Project Document contained only briefly defined activities and timelines for the completion of the project. A revised workplan was subsequently developed, with a strong focus on data collection. In March 1994 the Planning Consultant suggested a one-month extension of the project (to 14 Months, end of May 1994). Subsequently, the Steering Committee suggested and approved an extension of six months in order to accommodate two additional activities: an additional study of Secondary Wood Product Markets and a industry workshop to disseminate project results. Both extensions were no-cost extensions. Due to further delays in implementation of the Secondary Market review, and postponement of the workshop, the project was 'unofficially' extended for almost two years, concluding with the Workshop held in January 1999. The timeliness of the project, the reports and the recommended component activities was compromised by these delays. As noted, the primary delay was attributed to problems in the identification and recruitment of a consultant for the secondary product market review and the completion of that report. This report was not received until January 1998, well after the preparation of the "Sector Plan" in 1994-95.

¹¹ See discussion under following section "Other Evaluation Mission considerations".

¹² The specification of an Advisory Committee, and the indeterminate status of a Steering Committee made documentation of actual activities difficult. Two documents (3/17/94 and 4/19/94) are titled "Advisory Committee". However, the context is much more indicative of a "Steering Committee" rather than the broader role of an advisory committee composed of additional independent organizations and sector representatives, NGO's, additional government organizations, etc.

iv. Dissemination of Outputs and Consensus

The absence of the Advisory Committee specified in the Project Document limited the input of viewpoints and issues during the active period of the Project. Further, the 'phase' of the study identified as "Dialog" period was not clearly identified or implemented. The Project Report identified this need, particularly the need for political consensus, but largely dismissed this as outside the 'objective' framework of the study itself. To the knowledge of the FD, the individual consultant reports were not distributed (except few copies) beyond the small circle of individuals and organizations involved in project implementation. Further, the plans noted in the Project Document for printing of multiple copies of the Report for distribution was not implemented. The draft 1994 report was expanded modestly, and reissued as a draft report in 1995. According to the FD ITTO Coordination Office, a handful of copies were printed in 1996 (same as 1995 draft report) for internal use only.

In 1995, ITTO consultations by Dr. Sobral resulted in discussions of workplan adjustments and the desirability of the workshop "to lay the foundation for government decisions and to adopt strategies", suggesting the workshop at the end of 1995 'after the results of the Market study are available." Instead, the Workshop was ultimately held in January 1999, consisting of a half-day session with an overview presentation of the Project Report (Plan) and brief discussion. Proceedings of the workshop were prepared, although no firm information was available during the Ex-Post Evaluation Mission relative to distribution. The Forest Department, in its role as the Implementing Agency, envisioned no further formal review of the Study Report or the Workshop Proceedings.

c. Impacts and Effects:

Directly, the Project has had limited <u>direct</u> impact on the processes of policy formulation for achieving sustainable forest management or the framework for sustainable forest industry in Sarawak. As previously noted, there has been a substantial but indirect catalytic impact on the ongoing Forest Department actions taken in the regular exercise of its responsibilities for the forest sector. Many of these catalytic impacts were noted above. <u>Thus the primary impact of the Project has been cumulative and incremental, through contributing to the ongoing processes of policy adjustment, rather than through the direct impact of a formal development plan.</u>

i. Urgency of Action and Project Completion

The FD expectations encompassed through the Project were for 'advising the State' on needs and adjustments, recognizing that the department had in the early 1970's initiated planning and modifications for sustainable forest management. The unexpected delays in project implementation and completion resulted in a perception that the Project was essentially 'passed over by time' and the ongoing needs of the State to take positive steps to improve sustainable management and to restructure the forest products industy.

¹⁴ Sobral Note to the Files, July 28, 1995.

¹³ See summary presentation and discussion contained in the January 1999 Workshop Proceedings.

ii. The Sector "Plan"

In the view of FD, the report was 'not clear' in the context of presenting a comprehensive, well-documented and articulated 'plan', and that the report was not formatted as a legislative or policy document that could support major policy reforms. The lack of compatibility with the existing policy framework for achieving sustainability and a stable industry was viewed as a major weakness. 15 Suggestions of relocating industry capacity into less developed inland regions were deemed "illogical" and inconsistent with established policy. The lack of documentation of the solutions developed by use of linear programming methodology and the apparent dominant focus of assumed transport costs relative to profitability to the exclusion of other serious potential disadvantages and higher costs made the recommendations suspect. Further, the treatment of employment impacts and offsetting gains in processing compared to declines in logging raised substantial doubt about the understanding of the sector. Much of the labor in processing is foreign labor (from Indonesia) while the ability to attract workers (domestic) to rural regions was viewed as impractical given the lifestyle demands and low wages prevalent in the forest sector. Both Government and private industry generally viewed these recommendations as "ignoring the realities" of the Sarawak situation. 16

iii. Government Strategy and Policy Development

The Government of Sarawak, through the Forest Department, has chosen a conservative course of incremental reforms and flexible policy adjustment for both timber harvest reductions and industry structural adjustments. In large measure, the operational and investment adjustments for the forest products industry are perceived to be fundamental business decisions reflecting markets and correctly within the scope of the private sector. The State role, while influencing the expansion and adaptation of the industry, is more regulatory based on broad considerations of timber supply and the provision of public services and infrastructure (favoring industry location in coastal or lowland Industrial Estates) as well as encouraging greater integrated industry and timber utilization. The role of the State was largely framed as providing industry 'guidance' and incentives relative to location, mix of products, domestic processing and exports. The FD is concurrently examining issues of forest royalties and alternative sustainable management schemes (options to single tree selection) through other avenues, including ITTO supported projects.

(d) Other Evaluation Mission considerations – The Sector Setting of the 1980's:

The Ex-Post Project Evaluation had the advantage of considering the project within the context of both the late 1980's at the time of the ITTO Case Study Mission to Sarawak but also the experiences of the past decade. This allowed for a clearer

The Project Workshop led to discussions of the Sarawak Industrialization Policy relative to recommendations for locating industry in inland remote regions. The Project Co-Director/Planning Consultant indicated that simulation of alternatives to existing policy were necessary and hence such existing policy was not viewed as a constraint on the Project. See Workshop Proceedings.

¹⁶ This viewpoint, as summarized here, is based on extended discussions with Mr. Barney Chan, General Manager, STA on 3/22/2001 and Mr. Cheong Ek Choon, Director, FD on 3/21/2001 and 3/29/2001. The characterization of these discussions here is by the Consultant and is not intended as a direct quote from any individual.

understanding of both the dynamic factors shaping forestry and forest industries in Sarawak, and the overall assessment of achievement of ITTO 2000 objectives and the resultant changes in the performance and structure of the Sarawak Forest Industries.

The 1989-1990 ITTO Mission to Sarawak included a modest section of its report dealing with the economic, as contrasted with the biological and physical, aspects of sustainable forest industry.¹⁷ While the Mission did not include a detailed economic analysis, the findings clearly indicate the fundamental role of prices, costs and markets in shaping utilization decisions for timber under sustainable management, the role of export markets for Sarawak timber, and the dynamics of comparative advantage and international competition. In the Project Report, these issues were largely ignored with the exception of using a linear program approach to measuring 'net profit' under limiting market assumptions and incomplete cost analysis. In contrast, the decade of the 1990's provide ample evidence of the impacts of markets, costs and competition.

In order to provide a clearer perspective of the economic climate, a limited review of the trends and external market factors was developed both as a guide for discussions during the Ex-Post Evaluation Mission and to assess the dimensions of actual adjustments. This covered the period before the ITTO Mission, during the project period, and concluding with the status of the industry in 2000. Without ascribing cause-effect to these trends, it is evident that Sarawak has made important adjustments in timber harvest, utilization patterns, and the development of primary and secondary processing. While much remains to be accomplished, these developments are supportive of both the ITTO 2000 goals and the broad goals for the subject Project. A limited database is provided in Annex VI to this report. ¹⁸

i. Dynamics of Log Production

The ITTO Mission took place in the setting of the late 1980's. In part, the Mission reflected both the interest of the International community to perceived developments in (non-sustainable) harvesting in Sarawak's natural forests, as well as in the desire of Sarawak to establish a much-needed understanding and dialog on the actual forest situation as well as State plans and needs. It is instructive therefore, to briefly review the 1980 situation in the Asia-Pacific region and regional markets in order to achieve a more complete understanding of the 'evidence' confronting the ITTO Mission.

The 1980's were a turbulent period in the major timber markets of Asia-Pacific. In part, these reflected relatively weak markets in the early 1980's, followed by strong growth during the decade, peaking in 1989-90. At the same time, there were significant structural changes in timber supply, primarily stimulated by decisions made by Indonesia related to banning of all log exports over a five-year period ending in 1985 and favoring establishment of a dominant export-oriented plywood industry in that country. During the 1981-83 period, Sarawak harvested about 10 million cubic meters of timber, exported around 8 million cubic meters, and processed a bit under 2

 ¹⁷ See ITTO Mission Report, Section VIII, "Findings – Economic Sustainability" pp. 55-60.
 ¹⁸ An illustrated and graphical supplement will be developed for presentation to the ITTO Forest Industries Committee at the Thirtieth Session scheduled for Yaounde', Cameroon 28 May-2 June 2001.n

million cubic meters. At this time, Indonesia was a significant exporter of logs, primarily to major primary processing industries in Japan, South Korea and Taiwan.

By the period 1989-91, Sarawak timber harvest had increased significantly, to an average of about 18.5 million cubic meters annually, with exports of approximately 15.5 million cubic meters, leaving about 3 million cubic meters for in-State processing. As the regional markets of Asia-Pacific recovered during the decade, and as Indonesia withdrew from the log export markets, a vacuum in log supply was created, greatly favoring the expansion of market presence by Sarawak.

Government royalties from timber harvests also increased during the decade. Royalties were approximately RM 150 million in 1981-82, but increased to over RM 600 million by 1989. These revenues became a significant source of Sarawak government funds during this period.

At the time, the domestic capacity was limited, yet processing did grow also, but some 1 million cubic meters. Strong regional markets and growing demand led to increasing prices, favoring opening of new forests for harvesting. Many of these forests were "old growth" or virgin forests, harvested for the first time. These forests generally held high volumes, exceeding the expected 'sustainable yield' under future management. The visible symptoms of this situation was a clear increase in harvesting of old growth timber, at rates above sustainable levels, fueling significant increases in export volumes and growth of government revenues for Sarawak. International environmental interests, and others, viewed this rapid change with alarm, resulting in calls for changes in policy and forest management towards long term sustainable management. The ITTO Mission was one response to these observed symptoms.

ii. Dynamics of Export of Logs and Primary Products

In the early 1980's, Sarawak exports were primarily logs, reflecting the small domestic market for timber and the lack of primary processing capacity, which at the time was primarily located in West Malaysia. The growth in demand, and the vacuum created by the Indonesian withdrawal for log markets, favored continued export of 'replacement logs' whenever to sustain the productive capacity in Japan, South Korea and Taiwan that had been developed on the basis on Indonesian imports. The domestic market in Sarawak had not increased significantly as a support base for primary processing. Log export volume grew from about 9 million cubic meters in 1981-82 to some 15 million cubic meters by 1989-90.

Export markets for products other than logs (for sawnwood and plywood) were recovering but much more modest. As noted, domestic processing did grow by about 1 million cubic meters during the 1980's, but not in proportion to the increase in harvest or export of logs. Sawnwood was the major commodity product during the 1980's. The large majority of the domestic raw material was judged of too low quality for log exports, and was alternatively used for sawnwood for both domestic use and for export. The volume and value of sawnwood exports did increase moderately during the decade, with export sawnwood volume growing from about 160 thousand cubic meters in 1981-83 to about 280 thousand cubic meters in 1989. Export value also grew, from under MR 100 thousand to about MR 200 thousand.

iv. Dynamics of Secondary and "Downstream" Processing

The immature domestic market in Sarawak at the early 1980's did not justify significant investment in secondary or "value added" products. Domestic utilization increased only modestly, from about 2 million cubic meters at the beginning of the 1980's to about 3 million cubic meters by 1991. In addition to the production of sawnwood, the domestic utilization included plywood, mouldings, dowels, laminated board, and woodchips. In combination, the value of these secondary products in export markets was about RM 70 thousand in 1981-82, to about MR 140 thousand in 1989.

v. Location of Forest Products Industry

The domestic industry was scattered, but primarily located in or near the major coastal cities of Sarawak, including Kuching, Sarikei-Sibu, Bintulu, Sebauh and Miri-K. Baram. While much of the logging operations were located in the remote interior (Hill Forests), logs were transferred by both river and road transport to mills or export facilities. Rural areas were generally lacking in social infrastructure, housing, health care, and other amenities. Domestic workers were engaged in logging at low salaries. Primary and Secondary facilities were typically independent and scattered, providing many diseconomies in wood handling and poor utilization. Woods and mill wastes were typically unutilized, with mill wastes primarily disposed of by burning or landfill. By the late 1980's, however, the Sarawak Government had developed an Industrialization Development Policy favoring grouping of industrial activities, including forest products, in Industrial Estates or specialized concentrated areas reserved for industrial development. Provision of infrastructure and services was viewed as more efficient and cost effective with such planning. The proximity of industry capacity also made the consideration of byproduct utilization more attractive.

The Project Report suggested a reversal of this approach, with government initiatives and subsidies to encourage industrial capacity location in the remote areas, in large part motivated by assumptions regarding off-setting declining logging employment through primary and secondary processing. No comprehensive analysis of total cost implications or labor markets were provided, with both government and private industry reactions that such a location policy was unrealistic and economically undesirable.

vi. Concessions, Marketing of Logs and Domestic Timber Supply

The forest resources of Sarawak are State resources, administered by the Forest Department. Tenures for forest utilization are primarily through negotiated concessions, providing for cutting quotas and forest management by the concession holders. While early 1980's policy resulted in approximately 80 percent of harvest being exported (under strong Asian-Pacific market developments), with this share reaching 92.5 percent in 1987 before declining again to about 85 percent in 1989-90 at the time of the ITTO Mission. As discussed below, concession holders have been subject to Government guidelines on the proportion of harvest subject to export from about 1992, with the policies incrementally adjusted up to 2000 by government administrative actions. The current policy is for approximately 40 percent of volume subject to export, with 60 percent targeted for domestic supply.

vii. Revenue Earnings

The Sarawak government earns substantial revenues from forest concession royalties. With the rapid increase in harvests during the 1980's, revenues also increased concurrently, boosted by increasing world prices for logs during the decade. Total forest royalties were approximately MR 150 million in 1981-82, increasing to about MR 620 million in 1989-90. This revenue became a significant proportion of total State revenues, creating a dependency on the forests (and harvesting) for continued support of State budgets.

viii. Post-1990 Industry Adjustments and Achievements towards Sustainability

The above brief description of the Sarawak industrial and market climate of the 1980's provided the disturbing setting for the ITTO Mission and subsequent development of the project. A rapid recovery of markets, the vacuum in log supply attributable to the withdrawal of Indonesia as an export log supplier, the rapid growth in Sarawak harvests and growth in State income, and the lack of extensive domestic markets and domestic processing for export came together to frame the perceptions of a near-crisis situation by many international organizations, NGO's, and within Sarawak itself.

With the formulation and implementation of the Project, this pre-existing setting strongly influenced individual viewpoints and perceptions of resource use, trade and market patterns, long-term sustainability consequences, and the potential policy changes and desired industry restructuring thought necessary to address these conditions.

In large part, much of the subsequent development was either the result of Forest Department initiatives, policy changes, or regulatory adjustments related to sustainable forest management together with private sector responses to economic forces and international markets. Changes in harvest levels, utilization for domestic processing, lowering of log export quotas, and changes in industry structure are evident in the subsequent decade. These actions also reflect an indirect impact of the Project through the various consultant studies, data analysis, and internal dialog.

A brief review of the 1990's provides an encouraging view of progress, even though considerable adjustment undoubtedly remains. In brief:

- Timber harvest has declined from over 19 million cubic meters (1989-91) to about 13.5 million cubic meters (1999-2000), a reduction of about 30 percent.
- Export of logs declined from over 15 million cubic meters (1989-90) to about 6 million cubic meters (1999-2000), a decline of 60 percent.
- Sawnwood exports have increased, from about 270 thousand cubic meters (1989-90) to over 1.2 million cubic meters (2000).
- Total export value for logs and sawnwood have remained fairly constant at about RM 3.5 billion over the decade.

- Domestic processing of timber has increased from about 3 million cubic meters (89-90) to over 8.1 million cubic meters (2000), with the share domestically utilized increasing to about 55-58 percent.
- Plywood exports have increased from about 100 thousand square meters (1989-90) to about 2.5 million square meters (1999-2000).
- Export value for plywood and other secondary products have increased from MR 200 thousand (1990) to almost MR 3 million (1998-2000), nearly equal to the export of logs and primary processing (sawnwood).
- Value of log exports has declined to about 40 percent of total forest products exports, sawnwood has increased to about 16 percent, and plywood has grown to over 40 percent. Secondary products account for only about 1.5-2.0 percent.
- Total forest products exports have continued to grow, from about MR 3 million in 1989 to over MR 6 million in 1999-2000.

These achievements by the forest sector and forest industry provide a significant contrast to the sector performance and 'symptoms' prevalent in the late 1989. Tey also reflect the strong efforts of the FD and the private forest industry sector to adjust and adapt to both the changing forest resource conditions, international environmental and sustainability concerns, and the new realities of the increasingly global marketplace. The Project was actively engaged during the early half of the decade of the 1990's. Although a specific blueprint, or comprehensive Sector Plan was not forthcoming, the Project stimulated awareness and contributed importantly to the government and pubic policy dialog. The catalytic impacts and incremental policy changes noted previously that were undertaken were in part guided by the Project activities.

Part III. Conclusions and Recommendations

1. Conclusions

The conclusions of the Ex-Post Evaluation are mixed. First, the ITTO and the Sarawak implementing agency and cooperators are complimented on the identification of a critical policy issue which is important to both the State of Sarawak and the international community vitally interested in both sustainable forest resource management as well as the requirements for sustainable forest industry and, ultimately, the level of consumption of tropical timbers in international markets. A unique set of conditions came together in the last half of the 1980's to trigger significant changes in the levels of harvest of timber from the natural forests of Sarawak. These factors were both external as indicated by the dynamics of change in the Asian and global timber markets, as well as changes within Sarawak as it was facing a transition from natural Old Growth forests (a stock resource) towards a sustainable production of wood as a strategic investment. The ITTO Mission to Sarawak, and Project PD 107/90 (I) were responses to both local and international concerns about the future of forestry and forest industry in Sarawak.

The Forest Department as the Implementing Agency is complemented for a responsible and careful implementation of the project, given the operational uncertainties of both the project formulation and the status early and incomplete status of ITTO Project Formulation and project implementation guidelines. The Project encouraged and supported participation by STIDC, the companion Sarawak institution charged with forest industry development, and sought cooperation with the private sector through the Sarawak Timber Association. Although the results were not as strong and integrative as potentially possible, a good basis for communication and exchange of frank viewpoints on critical development issues was established.

Summary conclusions include the following:

- A. The formulation of the Project was undertaken during a period of some urgency, following the ITTO Mission to Sarawak. The formulation did not benefit from the specification of Formulation Guidelines as now provided in the ITTO Manual for Project Formulation (Second Edition, 1999). The resultant Project Document was brief, quite general, and lacking in specific understanding of the desired Output (Sector Plan) and the scope and extent of detail anticipated, the forms of analysis and methodology to be used, and the intended impact or use of the results. The premise that the study could be accomplished on the basis of existing data and that relatively short consultation with government and industry could reach political consensus was optimistic. The complexity of macroeconomic structural adjustment involves more than the forestry sector-forest industry, a complexity not fully acknowledged in the Project Formulation.
- B. The Implementation of the Project was hindered by problems of staffing, including part-time Forest Department assignments (Project Director, and national staff counterparts) and the difficulties of identifying, recruiting, and

- fielding international consultants. Slippages in the workplan were evident, resulting in much longer than anticipated completion. Workplan modifications were required, both for clarification of activities as well as to (subsequently) fully utilize the available funding through the addition of an additional consultant study and a concluding Project workshop.
- C. <u>The consultants selected for the project were well qualified as indicated by their individual training and experience</u>. The apparent lack of written Terms of Reference for the consultancies resulted in variable expectations as to intermediate outputs. Delays also contributed to staggered inputs, and the late addition of a study of Secondary Forest Product Markets was accomplished almost three years following the drafting of the main Project Report (Sector Plan). <u>Personality conflicts and other working relationships hindered the accomplishment of the consultant activities, and appear to have limited the overall effectiveness of their collective inputs.</u>
- D. The resultant Project Report (Sector Plan) was widely viewed as inadequate in the context of a comprehensive policy document and clear legislative or policy recommendations. Lack of a clearly presented, logically structured, and well-documented set of recommendations resulted in a stalemate regarding use of the final Output. The Report (Sector Plan) was not widely disseminated or discussed, and was only formally presented at the concluding Project Workshop in January 1999, almost four years following formal completion of the document. No formal action has been taken by the Implementing Agency (Forest Department) to either 'accept' the Report or to take follow-up actions.
- E. The passage of time and the necessity for action by the Forest Department to move ahead with important decisions resulted in a series of incremental, ongoing policy reforms and changes related to both sustainable forest management and the reduction of timber harvests. The Department also implemented new administrative guidelines regarding the proportion of harvests subject to export as logs, and steps were taken to encourage more downstream processing.
- F. The various component intermediate outputs from the Project (largely the individual consultant studies) provided a collection of data and analysis on the forest resource conditions and capacity, the then-current domestic and export markets, transportation and harvesting costs, the structure of the existing industry and outlook, and finally a review of major international markets for secondary wood products from Sarawak. It was unclear from the Ex-Post Evaluation whether and to what extent these intermediate outputs were widely reviewed and discussed, modified or edited, or how they were utilized in the ongoing policy and planning processes of either the Forest Department or private industry.
- G. <u>During the decade of the 1990s, Sarawak experienced a number of significant changes within the forestry sector consistent with the Project Objectives including:</u>
 - 1) Reduction of timber harvest and export of logs,

- 2) Increase in domestic processing of both primary and secondary products,
- 3) Implemented administrative guidelines controlling the proportion of harvest subject to export.
- 4) Established guidelines for the encouragement of private sector plantations,
- 5) Established Industrial Estates to encourage grouping of industrial establishments in integrated zones to improve efficiency of services and infrastructure,
- 6) Provided additional flexibility in the 'marketing' of timber from timber concessions between and among forest industry based on species and quality requirements and product mix,
- 7) Encouraged continued improvements in forest management schemes (under other ITTO projects), and
- 8) Maintained government oversight and licensing of new industrial location and capacity consistent with the Sarawak Industrialization policies.

The ITTO Project undoubtedly had an important catalytic impact on these incremental developments. While a formal Sector Plan was not accomplished, the Project can be judged as making a significant contribution to the ongoing adjustments within the Forest Sector and the Forest Products Industry.

- H. The process of adjustment, both to sustainable management and for sustainable industry, is a yet-unfinished task. Continued cooperation and dialog will be required within Sarawak by the involved parties to further achieve the desired goals. A more comprehensive forest assessment will be required to fully evaluate the long run sustainable capacity of the Permanent Forest Estate. The forest industry must continue to evaluate and implement sound business decisions based on dynamic international markets and the constraints of financial feasibility and competitiveness.
- I. A more comprehensive understanding and appreciation of the macroeconomic environment and the conditions of rapidly changing international markets will be required to guide both government and private industry decisions. It is simply not sufficient to base policy on technical and biological factors alone.

 A highly competitive market structure will continue to be dynamic and uncertain, requiring adaptive and flexible policies at both the forest and industry levels.
- J. Improvements in project identification, pre-formulation, formulation and implementation can result from the experience of Project PD 107/90 (I). Sound formulation will be required to assure better implementation and achievement of desired Outputs. This project was an 'early transitional' project for both ITTO and Sarawak. Subsequent experience in Sarawak and elsewhere has resulted in specification and refinement of guidelines for project identification and formulation, employment of consultants, and project monitoring and evaluation. Many of the difficulties in the Sarawak project will be more easily resolved in light of the present guidelines.
- K. Enhanced cooperation and dialog in project implementation between all parties is required to assure smoother implementation, successful and timely

completion of project activities and tasks, and the effective dissemination of results.

2. Lessons Learned through Project PD 107/90 (I) and Recommendations

The Ex-Post Evaluation Mission suggests several important lessons regarding technical assistance for forest policy and industrial development objectives within a dynamic and changing socio-political environment. Many of these lessons are captured in the discussion of the findings of the Project Evaluation detailed in the previous sections. In summary, the major recommendations are presented here.

• Project Formulation:

The process of Project Formulation and preparation of the Project Document is critical to overall project success. In 1990-91, this process was significantly less formalized within ITTO and Sarawak was less experienced in this arena. The Project formulation was completed in a very brief period with an urgency to provide input for ITTO Council consideration. Many details were missing, and the framework for implementation poorly defined. Much was left for subsequent development in terms of the scope of work, activities, and analysis. Future projects within the area of forest industry strategy and development will benefit from the subsequent (1992, 1999) development of Guidelines for Project Formulation.

It is recommended that careful attention be paid to project formulation, including in-depth pre-formulation consultations, and that clear understandings be reached regarding project Objective(s), Immediate Objectives, Outputs, scheduling, resource requirements (including International consultants), project duration, and scope. Realistic and measurable objectives, linked to activities and outputs, will greatly facilitate consensus and understanding of mutual interests and project expectations.

• Project Implementation:

The present Project experience highlights some of the difficulties encountered in project initiation and implementation. Terms of Reference should be prepared well in advance for all Project Staff, including consultants. The TOR should guide the work of staff and consultants, and changes or deviations should be documented and approved by the appropriate project authorities.

It is recommended that a detailed workplan specifying activities, immediate objectives and outputs, complimented by realistic timelines and linkages, be developed in the Project Formulation and reconfirmed early in project implementation.

Project Staffing and Management:

Full attention should be directed to both the project administration and management, but more importantly, to the operational aspects of the workplan activities and substantive issues arising in coordination and linkages to project objectives. While assigning a senior officer as Project Director, the staff capacity of FD did not permit full time staffing for either the Director or the counterpart officers. While committed to the project, the part time staff were not capable of giving continuous and attentive effort. All local and international staff should be accountable to the Project Director in accordance with agreed-upon TOR.

Where project implementation is to be undertaken by National authorities, it is strongly recommended that a relatively senior, experienced staff be assigned as a full time Project Director, freed from other ongoing assignments.

• Administrative Placement of Project

The project was administered within the ITTO coordination office of the Forest Department. This provided for relatively continuous and good coordination with ITTO, but removed the project from direct line involvement with ongoing Policy and Planning required as a part of the regular Forest Department responsibilities. Thus while the Project was active, separate ongoing decisions and reviews were being implemented by the Forest Department.

It is recommended that the location of the Project for administration should be placed at a high level within the Implementing Agency, assuring close linkage with ongoing programs, policies, and analysis.

• Monitoring and Evaluation:

Formulation of both Project Steering Committees (for project administration) and Advisory Committees (technical, substantive) should be accompanied by written, agreed-upon TOR, indicating membership, responsibilities and roles, and expected contributions from participants. Written minutes or documentation of decisions, recommendations, or other actions should be maintained, and referenced in terms of periodic progress reviews and reports.

It is recommended that a schedule of monitoring and evaluation activities be developed as a priority in project implementation.

Formal Evaluations:

It is recommended that projects with an expected duration of 18 months or longer be subject to an external and independent mid-project evaluation, designed to assist in project modification at the midpoint or before, while necessary changes can still be implemented prior to project completion.

At least two professional evaluators, jointly selected by ITTO and the Implementing Agency, should conduct the evaluation and promptly report on findings and recommendations.

• Guidelines for Consultants:

Consultation on recruitment, TOR and related matters of employment should be provided within the limitations of ITTO staffing and timing. Sufficient lead-time should be anticipated for securing the timely services of consultants. TOR should specify reporting expectations, including draft and final reporting, debriefings, etc. Consultant outputs, including reports, should be subject to clearance and acceptance by the Implementing Agency as specified in Consultant Contracts. Timely performance of services should be of high priority, and modifications of work schedules should be confirmed and approved in writing by the Project Director in advance.

It is recommended that the ITTO guidelines for employment of consultants should be explicitly utilized in securing participation of qualified professional consultants as specified during Project formulation and workplans.

• Output Dissemination:

The value of technical assistance projects is ultimately based on the Output(s) specified in the Project Document and workplan. To the extent possible, project materials should be openly available to government agencies, industry, NGO's, and other interested parties in a timely manner. Where appropriate, formal procedures should be specified for comment or feedback periods to assure that external views and information can be considered and integrated as appropriate into ongoing project activities.

It is recommended that an administrative Dissemination Plan should be developed indicating the nature and timing of dissemination activities designed to make maximum opportunities for the review and discussion of draft documents, findings and recommendations, and formal reports.

3. Future Actions and Potentials

The Ex-Post Evaluation Mission included wide-ranging discussions of future actions and the potential for subsequent assistance to Sarawak in the ongoing processes of Forest Industry adjustment to Sustainable forest management and dynamic export-based markets. These potential areas of interest should be further discussed with appropriate Sarawak forest and forest industry representatives, including the private sector, with the goal of further clarification and refinement that could potentially lead to pre-formulation activities. If appropriate, formal Project Formulation activities could be initiated on a priority basis.

• <u>Criteria and Institutional Arrangements for Benefit and Cost Sharing under Sustainable Forest Management.</u>

The implementation of sustainable forest management is expected to generate a wide range of public values and benefits, many of which are presently intangible and not easily captured in forest product output values. Costs of achieving SFM are not easily passed forward into product markets, especially export markets that are highly competitive and where individual supplier countries are price-takers and cannot unilaterally determine prices for products. Further, countries practicing SFM can be expected to operate at a competitive cost disadvantage relative to other potential market suppliers. Market mechanisms and funding arrangements to reflect both private (market) and public (intangible) values of sustainable forest resource management need to be identified, evaluated, and implemented. A case study of the problems and issues, estimates of the nature and level (significance) of costs, and the market distortions based on Sarawak experience could assist in developing broader regional and international guidelines and to minimize production and market distortions.

• Certification of Sustainable Forest Products

It is well recognized that the international certification of forest products in terms of deriving from sustainable forests is growing and will likely become a major obligation for international suppliers in the future. At present, it is not widely evident that consumer markets yet distinguish between certified and non-certified products to the extent that price premiums (if any) adequately compensate producers for the incremental costs incurred. Further, compliance with SFM and certification can place producers at a cost disadvantage in highly competitive markets when competitors do not face the same cost requirements. Equitable market mechanisms, based on the realities of competitive market pressures, can potentially assist forest industry in supplier countries to be responsive to sustainable forest management yet maintain and sustain economically viable operations. Strategies for incorporating certification into industry practices and operations in a major producer region such as Sarawak can document and highlight the complex issues surrounding the market implications of such practices.

Integrated Byproduct Utilization

Increasing, concerns regarding the more complete utilization of harvested timber will be required to maintain adequate economic margins and to meet environmental standards. Movement to integrated wood utilization has been encouraged in Sarawak through the establishment of Industrial Estates and other measures permitting more complete utilization of mill residues. Current log recovery rates are still low, ranging from 45-60 percent depending on product type, technology, and markets. In primary manufacturing, recovery was estimated to be about 45 percent for sawmills (without secondary processing) and about 50-60 percent for plywood facilities. Further, harvesting wastes are also high, where harvesting recovery was estimated to

be no higher (on average) than 60 percent of tree volume. Where economical methods to increase recovery and utilization can be developed, gains in recovery can potentially extend wood supply and promote secondary products such as composite panels or other fiber-based products less demanding in terms of species, diameters, or wood characteristics. Feasibility analysis and testing of new product innovations and/or new processing technologies for low valued timber and/or byproducts and waste could yield significant results for Sarawak and can help in maintaining economically efficient integrated processing.

• Training for Reduced Impact Logging (RIL)

In recent years, considerable attention has been given to new technologies. management methods, and logging methods that can potentially reduce the negative impacts of conventional forest management and harvesting techniques. Such techniques involve additional costs, and the potential for improved efficiency to offset costs remains an unsettled issue. Many organizations and individual forest products enterprises are evaluating such methods. However, there is a substantial need for technical training to move RIL from the experimental and exploratory stage to operational practice. Many forest workers are semi-skilled, often based on on-the-job training. Forest Industries routinely provide worker training within the processing sectors. Extending similar training to forest operations can instill new work practices that can achieve economies in terms of costs as well as greater assurance of environmental and resource sustainability benefits. Cooperative efforts between appropriate government and private sector organizations can potentially make such training more comprehensive, more efficient, and deliverable at reasonable costs. A regionally based program of training would also permit the pooling of knowledge and expertise within the SE Asian tropical region relevant to the unique needs and conditions of the region.

• Market Uncertainty and Distortions from Illegal Felling and Undocumented Trade

Sarawak is increasingly facing growing competition in international markets, both for logs and commodity products but also for secondary or value added products as a result of growing domestic production. However, the international markets are subject to high levels of uncertainty due to the dynamics of rapidly changing markets. In addition, growing indications of illegal logging and trade suggest potential erosion of markets reducing the competitiveness of producers involved in sustainable forest products production (and potential certification). An investigation of the issues involved, potential levels of significance, and possible market structures and interventions (including more effective policy and regulatory enforcement) on a multi-national level could assist in more stable planning and production for the Sarawak timber industry.

Annex I. Terms of Reference

Ex-Post Evaluation ofITTO Project PD 107/90 (I) Strategies for Sustainable Wood Industries in Sarawak

I. Background

The Forest Industry Committee, at its Twenty-sixth Session in May 2000, decided that an ex-post evaluation of PD 107/90 should be carried out to establish how well the project served its purposes and to draw up recommendations for future action.

This project studied the current situation of the forest industry sector in Sarawak with a view to developing a basic plan for the development of sustainable forest industries in Sarawak, based on assessments of the forest resources of the State and of the long-term market outlook for forest products. The project reviewed a number of forest resources utilization scenarios for the development of the forest industry sector. The project was implemented by the Forest Department, State Government of Sarawak, Malaysia with the cooperation of the Sarawak Timber Industry Development Corporation.

The project was designed to attain the following specific objectives:

- 6. Review and update the existing market studies previously carried out for the State Government of Sarawak.
- 7. Determine the current capacity of the wood processing industry.
- 8. Determine locations of sustainable forest management units and assess their production potential and the quality of the timber.
- 9. Determine the product mix that will optimize the economic return to the country and to the State.
- 10. Recommend changes to enable the forest sector to produce the optimum product mix.

Technical reports produced by the project include:

- 1. Strategies for sustainable wood industries in Sarawak (the main project technical report);
- 2. Forest resources status and timber supply planning for the future;
- 3. A review of trends in the export markets of Sarawak's timber products;
- 4. Wood processing industries;
- 5. Harvesting and transportation costs:

- 6. Market study on finished wood products from Sarawak and
- 7. Workshop proceedings (27-29 January 1999 in Kuching, Sarawak)

The project results were presented to the forest sector and timber industries in a workshop from 27-29 January 1999 in Kuching, Sarawak. The workshop provided the opportunity for the discussion of issues relating to the promotion of the development of the forest industry under various resource availability scenarios.

The implementation of the project was very much longer than planned in the project work schedule. This was attributed to a lengthy consultation among interested parties, selection of international consultants and delays in the completion of the market study on finished wood products from Sarawak.

II. Terms of Reference for Ex-Post Evaluation

- i. To assess the project contribution to the achievement of its development objective: to prepare a basic plan for the sustainable development of Sarawak's forest industries, based on a reliable assessment of the forest resources in the State and of the Long-term demand and supply outlook for forest product.
- ii. To assess achievement of the project's outputs and specific objectives.
- iii. To assess the relevance and appropriateness of the activities
- iv. To evaluate the impact and relevance of the project.
- v. To determine the effectiveness of information dissemination.
- vi. To assess the overall post-project situation for the project.
- vii. To define and assess unexpected effects and impacts, either harmful or beneficial, and present the reasons for their occurrences.
- viii. To analyze and assess implementation efficiency, including the technical, financial and managerial aspects.
- ix. To recommend follow-up actions in order to enhance the use of the project results for the development of sustainable wood industries in Sarawak.
- Taking into account the results of the evaluation, make an overall assessment of the project's relative success or failure to summarize the key lessons learnt; and identify any issues or

problems that should be taken into account in designing and implementing similar projects in future.

- xi. To prepare the evaluation report in accordance with the references for the Project Evaluation Report, as contained in the ITTO Manual for Project Monitoring, Review and Evaluation.
- xii. To assess the project contribution to the relevant ITTA objectives (1987, 1994) and relevant ITTO Action Plans.
- xiii. To 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 of the ex-post evaluation work, including a summary of the lessons learned from the evaluation work. Appropriate photographs should be provided, if necessary.

The evaluation work shall be conducted in such way as to answer the questions identified in the ex-post evaluation checklist provided in the ITTO Manual for Project Monitoring, Review and Evaluation (page 29).

III. Proposed Work Schedule

9 March 2001

Receipt of the following documents supporting for the evaluation work:

- (i) ITTO Manual for Project Monitoring, Review and Evaluation
- (ii) Project document PD 107/90 (I) and project agreement
- (iii) Project progress and completion reports
- (iv) Technical reports mentioned in Section I "Background"
- (v) Financial report.

19 March 2001

Visit to ITTO for briefing on the project objectives and outputs as well as preparing the work plan. (The exact dates for visits to ITTO and to Sarawak will be determined in consultation with ITTO, the implementing agency and the consultant.)

21- 29 March

Meeting of the consultant and project personnel in the Forest

Department, Sarawak, Malaysia for briefing and comprehensive discussions on and analysis of project implementation and results, as well as discussions with relevant stakeholders in promoting sustainable wood industries in Sarawak.

2 – 3 April

Visit to ITTO for debriefing on the project achievements and drafting report.

7 April 2001 Submission of draft report, including an executive

summary, to both ITTO and the Implementing Agency for

comments and suggestions.

20 April 2001 Finalization of report and submission of the final report and the article for TFU to ITTO.

28 May - 2 June Presentation of the report at the Twenty-eighth session of

the ITTO Committee on Forest Industry (Yaoundé,

Cameroon).

ANNEX II, List of Persons Contacted

ITTO Post-Project Evaluation: Strategies for Sustainable Wood Industries in Sarawak

PD 107/90 (I)

List of Persons Contacted

ITTO Yokohama, Japan

Dr. Manoel Sobral Filho, Executive Director

Mr. Emmanuel Ze Meka, Assistant Director, Forest Industry

Dr. Hwan Ok Ma, Projects Manager, Forest Industry

Sarawak, Malaysia

Kuching

Sarawak Forest Department

Mr. Cheong Ek Choon, Director

Mr. Penguang Manggil, Sr. Asst. Director/ITTO Project Coordinator

Mr. Kho Seng Yaw, Technical Officer, Operations Branch, ITTO Coordination Office

Mr. Nigel Lim, Wood Chemistry, Timber Research & Technical Training Center

Mr. Ali B. Yusop, Operations Branch

Ms. Chiang Moi Sien, Secretary, ITTO Coordination Office

Division of Wood Technology and Industrial Development (Forest

Department)

Mr. Ling Wang Choon, Sr. Assistant Director,

Mr. Wong Tiag Chung, Engineer

Mr. Ting Kinh Bom, Engineer

KTS Timber Industries, BHD

Mr. Ngu Leong Chie, Production Manager

Mr. Roland Lau, Factory Sr. Manager, Plywood Divisiion

Sarawak Timber Industry Development Corporation

Mr. Edmund Daging Mangku

Mr. Nicholas Andrew Lissem, Engineer

Ms. Sharifah Norolah Wan Ahmad

Sarawak Timber Association

Mr. Barney Chan, General Manager

Dr. Peter C.S. Kho, Manager, Technical and Research

Modern Woodworks Factory Sdn Bhd

Mr. Wong Nyuk Choi, Managing Director

Lee Ling Timber Products Sdn. Bhd.

Mr. Tang Sing Wu, Marketing Manager

R. J. Timur Sdn. Bhd. Sawmill

Mr. Henry Sim, Assistant Accountant

Miri

Regional Forest Office, Sarawak Forest Department

Mr. Elbson Marajan, Director (also formerly ITTO Project Counterpart)

Mr. Dennis M. Long, Forester

Syarikat Samling Timber Sdn Bhd

Mr. Chan Siew Khoon, Advisor (Planning and Certification)

Mr. Ngu Chin Sun, Communications Manager

Yong Nyam Siong

K.C. Ling

Samling Plywood (Miri) Sdn Bhd & Samling Housing Products Sdn Bhd

Mr. Yoshimasa Nakajima, Director and General Manager

Mr. Yoshinori Shibata, Marketing Manager

Shin Yang Plywood Sdn. Bhd.

Mr. Wong Kai Song, Executive Director

Ir. Gary Y. H. Tan, Project & Business Division, General Manager

ANNEX III. Materials Reviewed

ITTO Post-Project Evaluation: Strategies for Sustainable Wood Industries in Sarawak

PD 107/90 (I)

Materials Reviewed

Project Documents

- ITTO Draft Project Document, PD 107/90 (I) Strategies for Sustainable Wood Industries in Sarawak. n.d. 8 pp.
- ITTO, 1990. The Promotion of Sustainable Forest Management: A Case Study in Sarawak, Malaysia. Decision 3(IX), Ninth Session, ITTO Council, Yokohama, 16-23 November. 2 pp.
- ITTO, 1990. Decision 3 (VIII). Eighth Session, ITTO Council, Denspar, Bali, Indonesia. 16-23 May. 1p.
- ITTO, 1992. Letter of Notification of ITTO Council approval and funding of Project PD 107/90 (I) with Draft Agreement, July 24
- Anon. 1993. Work Plan, Strategies for Sustainable Wood Industries in Sarawak.. Sept. 16. 29 pp
- Forest Department, 1993-95. Project Progress Reports and Financial Status Reports 2 March 1993
 - 1 April 1993 31 September 1993
 - 1 Sept. 1993 28 February 1994
 - 2 Dec. 1995 (Financial Statement Only
 - 1 May 1996 31 Sept. 1996
 - 1 Oct 1996 31 January 1997
 - 1 Feb 1997 31 July 1997
 - 1 March 1998 (Financial Statement Only)
 - 31 Jan 1998 31 August 1998
- ITTO, 1993. "Note for the File", Monitoring Meeting on Project PD 107/90 (I), 14 Sept. M. Sobral Filho, James D. Mamit and Nils Svanqvist
- ITTO, 1995. "Note for the File", Monitoring Visit to Project PD 107/90 (I). M. Sobral Filho, 28 July.
- ITTO, 1999. Report on Comploeted Projects and Pre-Project PD 107/90 (I). Twenty-Fourth Session, Committee on Forest Industry, Chiang Mai, Thailand. Pp. 1-2.
- Forest Department, 1996. Project Completion Report, March 25. 14 pp.
- Forest Department, 1999. Project Completion Report, PD 107/90 (I), 1 March. 9 pp.

Project Advisory Committee (Steering Committee)

Notice of Advisory Committee Meeting for Project PD 107/90 (I) 12 April 1994 Record of the Advisory Committee Meeting, 19 April 1994

Project Outputs

- Svanquist, Nils H. H. 1995. "The Sector Plan", Project Report, ITTO Project PD 107/90 (I), Strategies for Sustainable Wood Industries in Sarawak. 74 pp. (Draft Report 30 Sept. 994)
- Blakeney, Jay. 1995. Forest Resources Status and Timber Supply Planning for the Future, Consultant Report, Annex 1, Project PD 107/90 (I), 64 pp.
- Svanqvist, Nils H. H. 1995. A Review of Trends in the Export Markets of Sarawak's Timber Products. Consultant Report. Annex 2, Project PD 107/90 (I), 24 pp.
- Bostrom, Kurt. 1995. Harvesting and Transportation Costs, Consultant Report. Annex 3, Project PD 107/90 (I). 15 pp. (Draft Report 28 March 1994)
- Pickles, Gordon 1995. Wood Processing Industries, Annex 4, ITTO Project PD 107/90 (I), 35 pp. (Draft Report April 1994)
- Rayner, Peter J. 1998. A Market Study of Finished Wood Products. Consultant Report, ITTO Project PD 107/90 (I). 95 pp + appendices. Spring. (Draft Report 16 Jan. 1998)
- Sarawak Forest Department, 1999. ITTO Workshop Proceedings on Strategies for Sustainable Wood Industries in Sarawak, Kuching, Sarawak. 28 January. 39 pp.

ITTO and Sarawak - Other

- Malaysia Delegation to ITTO Council, 1990. Statement of the State Government of Sarawak, Malaysia, Eleventh Session, 28 Nov 4 Dec 1991, Yokohama, Japan (Statement on Sustainable Forest Management). 2 December.
- ITTO Mission to Sarawak, 1990. Report Submitted to the ITTAO Council by Mission Established pursuant to Resolution I (VI) "The Promotion of Sustainable Forest Management: A Case Study in Sarawak, Malaysia", Eighth Session, Denpasar, Bali, Indonesia 16-23 May 1990, 208 pp. 7 May.
- ITTO, 1999. ITTO Manual for Project Formulation (Second Edition), 86 pp. May. (First Edition 1992).
- ITTO, 1999. ITTO Manual for Project Monitoring, Review and Evaluation (Second Edition), 34 pp. May. (First Edition 1992)
- ITTO, 1998. ITTO Libreville Action Plan 1998-2001. ITTO Policy Development Series No. 8. 17 pp.
- ITTO, 1993. Guidelines for the Selection and Employment of Consultants and Guidelines for the Procurement and Payment of Goods and Services Financed from the Special Account, 17 pp. June.
- United Nations, 1994. International Tropical Timber Agreement, 1994. TD/Timber 2/16, United Nations Conference on Trade and Development, Geneva. 46 pp.

ANNEX IV. Post-Evaluation Mission Schedule

ITTO Post-Project Evaluation: Strategies for Sustainable Wood Industries in Sarawak PD 107/90 (I)

Consultant: Dr. Thomas R. Waggener, IFSA International Consulting, USA

Post-Evaluation Mission Schedule

<u>Date</u>	Activity
3/16/01	1300 Depart Seattle Washington for Yokohama, Japan via Tokyo
3/17/01	1945 Arrive Yokohama, Japan, Navous Hotel
3/18/01	Sunday: Hotel - Review of Project Documents
3/19/01 Review	0930 ITTO Headquarters - Project Discussions and Document
Review	Project Files Dr. Hwan Ok Ma
3/20/01	0715 Depart Yokohama for Kuching, Sarawak, Malaysia via Tokyo and
	Singapore Arrive Kuching 2030, Hilton Hotel
3/21/01	0930 Sarawak Forestry Department, Kuching - Project Overview and
	Briefing
	1400 Industry Visit – KTS Timber Industries BHD, Kuching
	1700 Dinner hosted by Forest Department
3/22/01	O900 Sarawak Forest Industry Development Corporation, Kuching Project Review and Forest Industries Development Discussion
	1400 Sarawak Timber Association, Kuching Project Review and Forest Industries Discussions
3/23/01	 Depart for Miri, Sarawak Arrive Miri – Holiday Inn Hotel Sarawak Forest Department Miri Regional Headquarters Discussions of Project (Counterpart Officer)
	Overview of Miri Region forests and Industry 1400 Industry Visit - Samling Strategic Corporation Sdn. Bhd. And Samling Plywood and Wood Industries, Kuala Baram

		er en
3/24/01	0900	Forest Department Miri Region Headquarters
	1100	Industry Visit – Shin Yang Sdn. Bhd. And Shin Yang Wood Industries, Miri
	1500	Forest Department – River Tour, Log transport and distribution (Domestic processing and Export)
	1745 18:30	Depart Miri for Kuching, Sarawak Arrive Kuching – Hilton Hotel
3/25/01	(Sund Activi	ay) ties at Hotel Preparation of evaluation notes, Miri visit Preliminary Evaluation Report materials
3/26/01		Holiday) ties at Hotel Review of Project Documents and Reports Preparation of Project Activity Timeline
3/27/01	0900	Sarawak Timber Association - Building Opening Ceremonies
	1400	Mill Visit: Modern Woodworks Factory, Sdn. Bhd.
	1530	Mill Visit: Lee Ling Timber Products
	1630	Mill Visit: R.J. Timur Sawmill Sdn. Bhd.
3/28/01	0830	Wood Technology and Industrial Development Division,
Sarawak		Forest Department Industry Development Strategies & Policies
	1000	STA Industry and Trade Seminar
	1400	ITTO Coordination Office, Forest Department Project Documents Review
3/29/01	0900	Forest Department Mission Debriefing
3/30/01	0700 2100	Depart for Yokohama via Kuala Lumpur and Tokyo Arrive Yokohama (Navios Hotel)
3/31/01	Saturda	ay - Work at Hotel
4/01/01	Sunday	v - Work at Hotel

4/02/01	0930 ITTO Headquarters
4/03/01	0930 ITTO Headquarters
4/04/01	1000 Depart Yokohama for Tokyo Narita Airport
	1540 Depart Tokyo Narita Northwest Flight #0080820 Arrive Seattle, WA. USA

Annex V. Project Timeline

ITTO PROJECT PD 107/90 (I)

May 1990

Date by Month

	Date Event Name	Event Description	Notes
	5/7/90 ITTO Mission Report	Report to ITTC by Mission to Sarawak	"Mission on the Promotion of Sustainable Forest Management: A Case Study in Sarawak, Malaysia"
	5/23/90 ITTC Decision 3 (VIII)	Decision to consider Report at 9th Session	
Date by Month	November 1990		
	Date Event Name	Event Description	Notes
	11/23/90 ITTC Decision 3(IX)	Promote SFM: Case Study in Sarawak, Malaysis	Council Decision, welcomes action plans and proposals; accept findings of Sarawak Report
Date by Month	December 1991		

Statement to 11th Session ITTC, Yokohama 4 Dec 91 Notes 12/2/91 Sarawak Address to ITTC Policy Statement on Sustainable Forestry **Event Description** 6/ 1/92 ITTO Manual for Project 1st Edition Date Event Name Junc 1992 Date by Month

Notes

Event Description

Date Event Name

Letter Sobral to Baharuddin, Draft Agreement Notes 7/24/92 Notification of Approval Letter ITTO re Project Approval & Funding **Event Description** Date Event Name

July 1992

Date by Month

Date by Month	September 1992		
	Date Event Name 9/18/92 Project Document Signed	Event Description Signed by ITTO & Gov Malaysia	Notes Team Leader identified, begin work March 1993
Date by Month	October 1992		
	Date Event Name	Event Description	Notes
	10/18/92 Draft Project Document	Draft Project Document (Unsigned)	
	10/18/92 Agreement-Signed	Agreement on Project signed by ITTO and Min. Primary Industries, Malaysian government	
Date by Month	November 1992		
	Date Event Name	Event Description	Notes
	11/24/92 Project Leader	Notify ITTO selection of N. Svanqvist	Working Meeting to be held Decv. 15-21 1992
Date by Month	February 1993		
	Date Event Name	Event Description	Notes
	2/8/93 Disbursement of Funds	1st Installment of Funds Disbursed	
Date by Month	March 1993		
	Date Event Name	Event Description	Notes
	3/2/93 Progress Report	Work to begin in March 1993, Team Leader Selected James Mamit	d James Mamit
Date by Month	April 1993		
	Date Event Name	Event Description	Notes
	4/2/93 Project Initiation	Notice to ITFO - Project Operational	Project Director to Sarawak, 2 Consultants (Blakeney, Pickles)

Date by Month	May 1993		
	Date Event Name 5/27/93 Consultants Identified	Event Description Jay Blakeney - Forest Resources Gordon P.ickles - Wood Products Industry	Notice to ITTO
Date by Month	June 1993		
	Date Event Name	Event Description	Notes
	6/ 1/93 ITTO Guidelines for	Guidelines for Selection and Employment of Consultants	
	6/15/93 Advisory Committee	Meeting on Data Identification	
Date by Month	September 1993		
	Date Event Name	Event Description	Notes
	9/14/93 Note for the File	Summary of Discussions	Sobral: Coord provided Revised Work Plan; implementation progressing; planning completed; data collection. Expect complete resource analysis by 10/31; Proj. completion by 5/94; DF personnel split duties; realistic completion June/July 94; 2nd Steering Committee Oct 93; tentative mid-term review Jan 94
	9/16/93 Project Work Plan	Project Work Plan & Time Schedule	Not dated (hand dated)
	9/16/93 Progress Report #1	1 April 93 to 31 Sept 93	Svanqvist, Budget, Work Plan Progress
Date by Month	October 1993		
	Date Event Name	Event Description	Notes
	10/24/93 Advisory Committee	Meeting on Data Collection	
Date by Month	February 1994		
	Date Event Name	Event Description	Notes
	2/ 4/94 Consultant Selected -	Consultant Identified - Kurt Bostrum	Expect Report Completed May 1994
	2/16/94 Disbursement of Funds	Second Disbursement	\$115,550

Date by Month	March 1994		
	Date Event Name	Event Description	Notes
	3/ 1/94 Progress Report #2	1 Sept 93 - 28 Feb 94	Svanqvist, Budget, Progress on Workplan: 1-Mo Extension Indicated (May 1994)
	3/17/94 Letter to ITTO	Advisory Committee Meeting	Anal of Data completed; proposal of models; model selection. Meeting 12 April 94
	3/28/94 Consultant Report	Report by Kurt Bostrom	
Date by Month	April 1994		
	Date Event Name	Event Description	Notes
	4/ 1/94 Consultant Report - Wood Gordon Pickles	d Gordon Pickles	
	4/10/94 Draft Project Report	Project Report	Copy Not Obtained - File Copy Kuching
	4/19/94 Advisory Committee	Advisory Committee Meeting	More work, market study; internalize costs of logging in guidelines & criteria of SFM(ITTO); extend project six months
Date by Month	March 1995		
	Date Event Name	Event Description	Notes
	3/10/95 Draft Project Report	Draft Report to ITTO & Transmittal Letter	Ref. Sobral meeting 28 July re downstream products and Workshop: ref \$100,000; financial statement 13 Sept 95; Project now complete. Report being perused and vetted by relevant government Agencies and wood industry Workshop this year, prefer tabling study Nov. 95 ITTC 19 th Session.
Date by Month	July 1995		
	Date Event Name 7/28/95 Note for the File	Event Description Meetings 12-15 July 1995	Notes Sobral: Consult with proj coord (Mamit); project under new Nat Resources & Environment Board; Draft Final Report 03/95; downstream market study not implemented; Mamit to identify consultant & submit resume; workshop lay foundation for govt decisions and adopt strategies; workshop

			end of 1995 (Nov/Dec) when results of Market study available: Chief tech Adv completed term in 1994; engage for workshop; plantations analysis agreed to and Mamit to prepare work plan.
Date by Month	October 1995		
	Date Event Name	Event Description	Notes
	10/16/95 Disbursement of Funds	Third Disbursement	\$100,000 (Final Disbursement) re Market Study and Workshop
Date by Month	December 1995		
	Date Event Name	Event Description	Notes
	12/ 2/95 Financial Statement	Period Ending 2 Dec 1995	
Date by Month	March 1996		
	Date Event Name	Event Description	Notes
	3/25/96 Project Completion	Project Completion Report	Submitted by James Mamit Project Co-Leader (16 pp), financial statement to 29 Feb 1996
Date by Month	October 1996		
	Date Event Name	Event Description	Notes
	10/ 1/96 Progress Report	1 May 96 - 31 Sept 96	3 Assumptions Gov. Policy to 2020; all activities 100%, market consultant and seminar pending; Financial
Date by Month	February 1997		
	Date Event Name 2/12/97 Sarawak Government	Event Description The Forests Ordinance - The Forests (Planted Forests) Rules, 1997	Notes Vol LII, No. 4
Date by Month	March 1997		
	Date Event Name	Event Description	Notes
	3/ 5/97 Progress Report	1 Oct 96 - 31 Jan 97	Assumptions, Assessment, Actions; Work plan review; market study, workshop pending; financial statement

Date by Month	July 1997		
	Date Event Name	Event Description	Notes
	7/24/97 TOR: Market Consultant	TOR "Finished Wood Products"	Self-prepared (?)
Date by Month	October 1997		
	Date Event Name	Event Description	Notes
	10/6/97 Progress Report	1 Feb 97 - 31 July 97	Mamit: Activities, Financial; Status Market Study
Date by Month	January 1998		
	Date Event Name	Event Description	Notes
	1/16/98 Consultant Report -	Report Received	
Date by Month	March 1998		
	Date Event Name	Event Description	Notes
	3/31/98 Financial Statement	Period Ending 31 March 1998	
Date by Month	September 1998		
	Date Event Name	Event Description	Notes
	9/3/98 Progress Report	31 Jan 98 - 31 Aug 98	Mamit: Market Study Completed, Consultant arranging to
Date by Month	January 1999		schu ulan imal report, Financial Statement
	Date Event Name	Event Description	Notes
	1/28/99 ITTO Workshop	Proceedings of Workshop (27-29 January 1999)	Received ITTO 31 May 1999
Date by Month	March 1999		
	Date Event Name	Event Description	Notes
	3/ 1/99 Project Completion	Project Completion Report	Manggil
Date by Month	April 1999		

	Date Event Name	Event Description	Notes
	4/16/99 ITTO Report on	24th Session, Committee on Forest Industry	Report on PD 107/90 (I): summary completion report
Date by Month	May 1999		
	Date Event Name	Event Description	Notes
	5/ 1/99 1TTO Project Formulation 2nd Edition	1 2nd Edition	
Date by Month	November 2000		
	Date Event Name	Event Description	Notes
	11/17/00 ITTO Recommendation	11/17/00 ITTO Recommendation Recommendation for project closure	return of unexpended funds (\$12-763-03)

ANNEX VI. Statistical Materials

Table 1.1 Production of Logs and Royalty Receipts 1981-2000

Table 2. Export of Logs and Sawn Timber 1981-2000

Table 2.5 Export of Timber Products 1981-2000

Sarawak Forestry Statistics

Table 1.1 Production of Logs and Royalty Receipts 1981-2000

Royalty (RM'000) Volume (Cubic Meters)

					Volume (Cubic Meters)	Meters)		
rear	l otal		wamp	Species	SIIIH	Hill Species	Domestic Use	Export
	Vol (CM)	Royalty	Vol (CIVI)	Royalty	Vol (CM)	Royalty	Volume	Share (%)
	Production						Domestic	
1981	8,697,359	124,731	2,847,665	27,859	5,849,694	96,872	1.774.184	79.6%
1982	11,243,177	165,866	3,254,780	32,668	7,988,397	133,198	2,037,967	81.9%
1983	10,564,528	187,545	2,614,565	27,880	·	159,665	1,393,663	86.8%
1984	11,401,828	197,222	3,158,602	32,475	8,243,226	164,747	2,420,604	78.8%
1985	12,285,328	221,495	2,822,727	29,162	9,462,601	192,333	799,337	93.5%
1986	11,470,689	196,678	2,932,790	25,500	8,537,899	171,178	1,207,834	89.5%
1987	13,655,190	233,479	3,404,823	31,127	_	202,352	1,009,356	92.6%
1988	14,386,748	247,072	3,631,073	37,354	10,755,675	209,718	2,093,548	85.4%
1989		612,669	3,362,934	66,335	14,799,644	546,334	3,202,284	82.4%
1990	18,837,760	630,131	2,679,463	48,901	16,158,297	581,230	2,848,548	84.9%
1991	19,410,903	588,777	2,432,023	40,809	16,978,880	547,968	3,591,732	81.5%
1992	18,848,225	582,609	2,213,703	37,739	16,634,522	544,870	4,021,877	78.7%
1993	16,735,011	735,013	3,072,998	72,082	13,662,013	662,931	7,608,031	54.5%
1994	16,317,683	827,998	3,428,705	92,415	12,888,978	735,583	7,819,626	52.1%
1995	16,091,920	930,906	3,261,575	698'66	12,830,345	831,037	8,250,770	48.7%
1996	16,082,718	961,079	2,910,300	88,229	13,172,418	872,850	9,076,481	43.6%
1997	16,822,921	1,015,788	2,853,399	85,116	13,969,522	930,672	10,461,670	37.8%
1998	11,306,576	707,620	1,373,565	41,821	9,933,011	662,799	6,198,387	45.2%
1999	13,095,818	781,121	1,878,599	54,471	11,217,219	726,650	7,127,334	45.6%
2000	14,274,049	844,054	2,020,478	58,372	12,253,571	785,682	8,132,280	43.0%

Source: Sarawak Forest Department

Year Logs Sawn Total Value CUM Value CUM Value FOB (RMO Log Export Logs Sawn Export Sawn Export Sawn Export 1981 6,923,175 812,357 162,963 84,800 89 1982 9,205,217 1,262,454 183,759 100,641 1,36 1984 8,981,224 1,227,118 130,273 67,789 1,45 1985 11,485,931 1,485,931 1,220,814 184,888 98,095 1,36 1986 10,262,855 1,230,814 184,888 98,095 1,38 1987 12,645,834 1,305,942 176,050 134,510 2,14 1989 14,360,294 2,670,402 279,406 194,660,294 2,670,402 251,710 3,74 1990 15,989,212 2,882,893 359,276 251,710 3,74 1991 15,819,171 3,43,518 559,206 38,062 35,062 1993 9,126,980	Table 2. E	Export of Logs and Sawn Timber 1981-2000	d Sawn Timber	1981-2000		
CUM Value CUM Value FOB (F Log Export Logs Sawn Export Sawn Export FOB (F 1981 6,923,175 812,357 162,963 84,800 1982 9,205,210 1,262,454 183,759 100,641 1983 9,170,865 1,093,300 153,410 84,974 1984 8,981,224 1,227,118 130,273 67,789 1985 11,485,991 1,403,411 141,381 58,745 1986 10,262,855 1,290,814 184,888 98,095 1987 12,645,834 1,905,942 176,050 134,610 1988 12,293,200 1,849,707 205,386 149,895 1989 14,960,294 2,670,402 279,406 197,060 1990 15,819,171 3,143,518 559,206 383,082 1991 15,819,171 3,143,518 559,206 383,082 1992 14,826,348 2,971,669 905,677 550,666						
CUM Value CUM Value FOB (F Log Export Logs Sawn Export Sawnwood FOB (F 6,923,175 812,357 162,963 84,800 84,800 9,205,210 1,262,454 183,759 100,641 84,974 9,170,865 1,093,300 153,410 84,974 84,974 11,485,991 1,403,411 141,381 58,745 87,769 10,262,855 1,290,814 184,888 98,095 8,80,95 12,293,200 1,849,707 205,386 149,895 149,060 12,293,200 1,849,707 205,386 149,895 251,710 12,293,200 1,849,707 205,386 149,895 251,710 15,819,171 3,143,518 559,206 383,082 383,082 15,819,171 3,143,518 559,206 383,082 384,980,057 2,568,804 1,360,361 1,133,405 383,082 384,980,057 2,568,804 1,444,038 1,032,808 385,508 385,430 383,082	rear	Logs		Sawn		Total Value
Log Export Logs Sawn Export Sawnwood 6,923,175 812,357 162,963 84,800 9,205,210 1,262,454 183,759 100,641 84,974 8,9170,865 1,093,300 153,410 84,974 11,485,991 1,403,411 141,381 58,745 10,262,855 1,290,814 184,888 98,095 12,293,200 1,849,707 205,386 149,895 12,293,200 1,849,707 205,386 149,895 12,882,893 359,279 251,710 15,819,171 3,143,518 559,206 383,082 15,819,171 3,143,518 559,206 383,082 15,819,171 3,143,518 559,206 383,082 17,669 9,126,980 2,868,057 1,123,010 877,648 14,826,348 2,971,669 905,677 550,666 9,126,980 2,868,057 1,123,010 877,648 1,206,237 2,291,279 1,556,360 1,221,031 2,305,626 1,309,667 770,211 5,968,484 2,335,739 1,224,707 950,409		CUM	Value	CUM	Value	FOB (RM'000)
6,923,175 812,357 162,963 84,800 9,205,210 1,262,454 183,759 100,641 9,170,865 1,093,300 153,410 84,974 8,981,224 1,227,118 130,273 67,789 11,485,991 1,403,411 141,381 58,745 10,262,855 1,290,814 184,888 98,095 12,645,834 1,905,942 176,050 149,895 12,293,200 1,849,707 205,386 149,895 12,293,200 1,849,707 205,386 149,895 15,819,171 3,143,518 559,206 383,082 15,819,171 3,143,518 559,206 383,082 15,819,171 3,143,518 559,206 383,082 15,819,171 3,143,518 559,206 383,082 15,819,171 3,143,518 559,206 383,082 15,819,171 3,143,518 1,256,360 1,227,031 15,810,980 2,868,057 1,266,360 1,227,031 1,060,237 2,295,724 1,444,038 1,032,381 1,060,237 2,295,724		Log Export	Logs	Sawn Export	Sawnwood	
9,205,210 1,262,454 183,759 100,641 8,981,224 1,227,118 130,273 67,789 11,485,991 1,403,411 141,381 58,745 10,262,855 1,290,814 184,888 98,095 12,293,200 1,849,707 205,386 149,895 12,293,200 1,849,707 205,386 149,895 15,989,212 2,882,893 359,279 251,710 15,819,171 3,143,518 559,206 383,082 14,826,348 2,971,669 905,677 550,666 9,126,980 2,868,057 1,123,010 877,648 8,498,057 2,568,804 1,360,361 1,133,405 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,305,626 1,309,667 766,493 5,968,484 2,335,739 1,209,477 770,211 6,141,769 2,335,739 1,224,707 950,409	1981		812,357	162,963		897,157
9,170,865 1,093,300 153,410 84,974 8,981,224 1,227,118 130,273 67,789 11,485,991 1,403,411 141,381 58,745 10,262,855 1,290,814 184,888 98,095 12,645,834 1,905,942 176,050 134,610 12,293,200 1,849,707 205,386 149,895 14,960,294 2,670,402 279,406 197,060 15,889,212 2,882,893 359,279 251,710 15,819,171 3,143,518 559,206 383,082 14,826,348 2,971,669 905,677 550,666 9,126,980 2,868,057 1,123,010 877,648 8,498,057 1,268,804 1,360,361 1,133,405 7,006,237 2,291,279 1,556,360 1,221,031 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,295,724 1,444,038 956,520 5,108,189 1,739,351 1,132,668 956,493 5,968,484 2,335,739 1,224,707 950,409	1982		1,262,454	183,759	100,641	1,363,095
8,981,224 1,227,118 130,273 67,789 11,485,991 1,403,411 141,381 58,745 10,262,855 1,290,814 184,888 98,095 12,645,834 1,905,942 176,050 134,610 12,293,200 1,849,707 205,386 149,895 14,960,294 2,670,402 279,406 197,060 15,889,212 2,882,893 359,279 251,710 15,819,171 3,143,518 559,206 383,082 14,826,348 2,971,669 905,677 550,666 9,126,980 2,868,057 1,123,010 877,648 8,498,057 2,568,804 1,360,361 1,133,405 7,006,237 2,291,279 1,556,360 1,221,031 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,295,724 1,444,038 1,032,808 5,108,189 1,739,351 1,132,668 826,493 5,968,484 2,335,739 1,224,707 950,409	1983			153,410	84,974	1,178,274
11,485,991 1,403,411 141,381 58,745 10,262,855 1,290,814 184,888 98,095 12,645,834 1,905,942 176,050 134,610 12,293,200 1,849,707 205,386 149,895 14,960,294 2,670,402 279,406 197,060 15,989,212 2,882,893 359,279 251,710 15,819,171 3,143,518 559,206 383,082 14,826,348 2,971,669 905,677 550,666 9,126,980 2,868,057 1,123,010 877,648 8,498,057 2,568,804 1,360,361 1,133,405 7,841,150 2,291,279 1,556,360 1,221,031 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,305,626 1,309,667 956,493 5,968,484 2,335,981 1,009,477 770,211 6,141,769 2,335,739 1,224,707 950,409	1984		1,227,118	130,273	62,789	1,294,907
10,262,855 1,290,814 184,888 98,095 12,645,834 1,905,942 176,050 134,610 12,293,200 1,849,707 205,386 149,895 14,960,294 2,670,402 279,406 197,060 15,989,212 2,882,893 359,279 251,710 15,819,171 3,143,518 559,206 383,082 14,826,348 2,971,669 905,677 550,666 9,126,980 2,868,057 1,123,010 877,648 8,498,057 2,568,804 1,360,361 1,133,405 7,006,237 2,291,279 1,556,360 1,221,031 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,305,626 1,309,667 956,520 5,108,189 1,739,351 1,132,668 826,493 5,968,484 2,335,981 1,009,477 770,211 6,141,769 2,335,739 1,224,707 950,409	1985		1,403,411	141,381	58,745	1,462,156
12,645,834 1,905,942 176,050 134,610 12,293,200 1,849,707 205,386 149,895 14,960,294 2,670,402 279,406 197,060 15,889,212 2,882,893 359,279 251,710 15,819,171 3,143,518 559,206 383,082 14,826,348 2,971,669 905,677 550,666 9,126,980 2,868,057 1,123,010 877,648 8,498,057 2,568,804 1,360,361 1,221,031 7,006,237 2,291,279 1,556,360 1,221,031 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,295,724 1,444,038 826,493 5,108,189 1,739,351 1,132,668 826,493 5,968,484 2,335,739 1,224,707 950,409	1986		1,290,814	184,888	98,095	1,388,909
12,293,200 1,849,707 205,386 149,895 14,960,294 2,670,402 279,406 197,060 15,889,212 2,882,893 359,279 251,710 15,819,171 3,143,518 559,206 383,082 14,826,348 2,971,669 905,677 550,666 9,126,980 2,868,057 1,123,010 877,648 8,498,057 2,568,804 1,360,361 1,133,405 7,841,150 2,291,279 1,556,360 1,221,031 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,295,724 1,444,038 826,493 5,108,189 1,739,351 1,132,668 826,493 5,968,484 2,335,739 1,224,707 950,409	1987	•	1,905,942	176,050	134,610	2,040,552
14,960,294 2,670,402 279,406 197,060 15,989,212 2,882,893 359,279 251,710 14,826,348 2,971,669 905,677 550,666 9,126,980 2,868,057 1,123,010 877,648 8,498,057 2,568,804 1,360,361 1,133,405 7,841,150 2,291,279 1,556,360 1,221,031 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,295,724 1,444,038 1,032,808 5,108,189 1,739,351 1,132,668 826,493 5,968,484 2,335,739 1,224,707 950,409	1988		1,849,707	205,386	149,895	1,999,602
15,989,212 2,882,893 359,279 251,710 15,819,171 3,143,518 559,206 383,082 14,826,348 2,971,669 905,677 550,666 9,126,980 2,868,057 1,123,010 877,648 8,498,057 2,568,804 1,360,361 1,133,405 7,841,150 2,291,279 1,556,360 1,221,031 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,305,626 1,309,667 956,520 5,108,189 1,739,351 1,132,668 826,493 5,968,484 2,335,981 1,009,477 770,211 6,141,769 2,335,739 1,224,707 950,409	1989		2,670,402	279,406	197,060	2,867,462
15,819,171 3,143,518 559,206 383,082 14,826,348 2,971,669 905,677 550,666 9,126,980 2,868,057 1,123,010 877,648 8,498,057 2,568,804 1,360,361 1,133,405 7,841,150 2,291,279 1,556,360 1,221,031 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,305,626 1,309,667 956,520 5,108,189 1,739,351 1,132,668 826,493 5,968,484 2,335,981 1,009,477 770,211 6,141,769 2,335,739 1,224,707 950,409	1990		2,882,893	359,279	251,710	3,134,603
14,826,348 2,971,669 905,677 550,666 9,126,980 2,868,057 1,123,010 877,648 8,498,057 2,568,804 1,360,361 1,133,405 7,841,150 2,291,279 1,556,360 1,221,031 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,305,626 1,309,667 956,520 5,108,189 1,739,351 1,132,668 826,493 5,968,484 2,335,981 1,009,477 770,211 6,141,769 2,335,739 1,224,707 950,409	1991	15,819,171	3,143,518	559,206	383,082	3,526,600
9,126,980 2,868,057 1,123,010 877,648 8,498,057 2,568,804 1,360,361 1,133,405 7,841,150 2,291,279 1,556,360 1,221,031 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,305,626 1,309,667 956,520 5,108,189 1,739,351 1,132,668 826,493 5,968,484 2,335,981 1,009,477 770,211 6,141,769 2,335,739 1,224,707 950,409	1992		2,971,669	905,677	550,666	3,522,335
8,498,057 2,568,804 1,360,361 1,133,405 7,841,150 2,291,279 1,556,360 1,221,031 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,305,626 1,309,667 956,520 5,108,189 1,739,351 1,132,668 826,493 6,141,769 2,335,981 1,224,707 950,409	1993		2,868,057	1,123,010	877,648	3,745,705
7,841,150 2,291,279 1,556,360 1,221,031 7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,305,626 1,309,667 956,520 5,108,189 1,739,351 1,132,668 826,493 5,968,484 2,335,981 1,009,477 770,211 6,141,769 2,335,739 1,224,707 950,409	1994		2,568,804	1,360,361	1,133,405	3,702,209
7,006,237 2,295,724 1,444,038 1,032,808 6,361,251 2,305,626 1,309,667 956,520 5,108,189 1,739,351 1,132,668 826,493 5,968,484 2,335,981 1,009,477 770,211 6,141,769 2,335,739 1,224,707 950,409	1995		2,291,279	1,556,360	1,221,031	3,512,310
6,361,251 2,305,626 1,309,667 956,520 5,108,189 1,739,351 1,132,668 826,493 5,968,484 2,335,981 1,009,477 770,211 6,141,769 2,335,739 1,224,707 950,409	1996		2,295,724	1,444,038	1,032,808	3,328,532
5,108,189 1,739,351 1,132,668 826,493 5,968,484 2,335,981 1,009,477 770,211 6,141,769 2,335,739 1,224,707 950,409	1997	6,361,251	2,305,626	1,309,667	956,520	3,262,146
5,968,484 2,335,981 1,009,477 770,211 6,141,769 2,335,739 1,224,707 950,409	1998		1,739,351	1,132,668	826,493	2,565,844
6,141,769 2,335,739 1,224,707 950,409	1999		2,335,981	1,009,477	770,211	3,106,192
	2000	6,141,769	2,335,739	1,224,707	950,409	3,286,148

.

Source: Sarawak Forest Department

Sarawak Forestry Statistics

Table 2.5 Export of Timber Products 1981-2000

		•	13 WOOD	Nonings &		רמווווומומר	AA CONCILIDO	lotal value	י סומו אמותם	
		Quantity		Moulded Boards	Dowels	Board		Processed	Logs, Sawn	Export
Year (Val	(Value)	(sq.m x 5mm)	(Value)	(Value)	(Value)	(Value)	(Value)		Primary	Value
			Plywood	Mouldings	Dowels	Lam. Board	Woodchips	Processed	Primary	Total
1981 -	ļ ,	1,525,000	4,633	18,398	40,307	2,723	11,656	71,717	897,157	974,874
1982	,	863,305	2,453	17,128	35,030	4,315	8,853	67,779	1,363,095	1,430,874
1983	,	1,026,884	2,517	15,873	38,587	3,048	7,197	67,222	1,178,274	1,245,496
1984	1	116,622	292	15,300	48,406	16,400	6,897	87,295	1,294,907	1,382,202
1985	,	1,060,217	2,588	11,162	35,911	7,388	6,077	63,126	1,462,156	1,525,282
1986		1,432,092	3,290	16,995	31,288	9,126	4,796	65,495	1,388,909	1,454,404
1987 -	1	530,481	1,391	23,184	22,261	15,022	3,698	65,556	2,040,552	2,106,108
1988 1	19373	34,720	26,615	21,387	34,088	20,927	4,229	126,619	1,999,602	2,126,221
1989 1	16787	79,147	57,211	31,417	29,494	66	5,755	140,763	2,867,462	3,008,225
1990 1;	12281	164,726	129,219	28,665	33,410		3,964	207,539	3,134,603	3,342,142
1991	19540	291,447	235,830	37,190	27,450	138	3,061	323,209	3,526,600	3,849,809
1992 9.	92892	548,955	428,174	30,160	24,564		2,406	578,196	3,522,335	4,100,531
1993 32	329507	892,459	1,014,003	25,805	23,262		2,627	1,395,204	3,745,705	5,140,909
1994 43	436707	1,286,952	1,399,174	21,709	29,071		2,853	1,889,514	3,702,209	5,591,723
1995 37:	373145	1,657,726	1,642,077	14,550	22,242		3,932	2,055,946	3,512,310	5,568,256
1996 41	414283	ВП	2,083,000	17,305	18,354		5,575	2,538,517	3,328,532	5,867,049
1997 51	515742	1,954,833	2,111,080	23,158	20,953	_	9,460	2,680,393	3,262,146	5,942,539
1998 41	414348	2,140,807	1,979,557	34,743	30,658	_	9,638	2,468,944	2,565,844	5,034,788
1999 47	478689	2,162,114	2,568,428	46,191	30,016		24,926	3,148,250	3,106,192	6,254,442
2000 47;	472585	2,202,047	2,415,639	40,791	28,159		20,958	2,978,132	3,286,148	6,264,280

Source: Sarawak Forest Department