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Report No. 16597

Implementation Completion Report

INDONESIA

**TREE CROP PROCESSING PROJECT
(Loan 3000-IND)**

Final

May 12, 1997

**Agriculture Operations Divisions
Country Department III
East Asia and Pacific Region**

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CURRENCY EQUIVALENTS

Currency Unit = Indonesian Rupiah

At Appraisal in 1988:

US \$ 1.00 = Rupiah (Rp) 1,660
Rp 1 Million = US\$ 602

At Project Completion in 1996:

US \$ 1.00 = Rupiah (Rp) 2,341
Rp 1 Million = US\$ 427

FISCAL YEAR OF BORROWER

GOI: April 1 -- March 31
PTPs: January 1 -- December 31

ABBREVIATIONS AND ACRONYMS

CPO	Crude Palm Oil
CRF	Crumb Rubber Factory
DGE	Directorate General of Estate
EIRR	Economic Rate of Return
FFB	Fresh Fruit Bunches (oil palm)
FIRR	Financial Rate of Return
FMDB	Factory Monitoring Data Base
GOI	Government of Indonesia
LC	Letter of Credit
LCB	Local Competitive Bidding
M&E	Monitoring and Evaluation
NES/PIR	Nucleus Estate and Smallholder Projects
NOL	No Objection Letter (Bank's approval required before proceeding with various aspects of the project)
PMCA	Pollution Monitoring and Control Authority
PTP	Perseroan Terbatas Perkebunan (State-owned Limited Liability Estate Company)
PTPN	Perseroan Terbatas Perkebunan Nusantara (recently reorganised PTPs)
SAR	Staff Appraisal Report
TA	Technical Assistance
TCPP	Tree Crops Processing Project
TKPIR	Tim Khusus Perkebunan Inti Rakyat (Special Team for Nucleus Estate and Smallholder)
RSI	World Bank Resident Staff in Indonesia

Vice President	:	Jean-Michel Severino
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IMPLEMENTATION COMPLETION REPORT

INDONESIA

TREE CROPS PROCESSING PROJECT (Loan 3000-IND)

Preface

This is the Implementation Completion Report (ICR) for the Tree Crops Processing Project (TCPP) in Indonesia, for which Loan 3000-IND in the amount of US\$ 118.2 million equivalent was approved on November 15, 1988 and made effective on March 2, 1989.

The loan was closed on September 30, 1996, three years later than the original closing date of September 30, 1993. Following three cancellations, amounting to US\$ 35.76 million, the Bank loan at loan closing stood at US\$ 82.4 million. The final disbursement took place on February 20, 1997, at which time a balance of US\$ 7.35 million was canceled. Cofinancing for the project was provided by the Japanese Government with a grant of JPY 240 million, disbursements under which were completed and an undisbursed balance of JPY 1,379,465 canceled on April 26, 1996.

The ICR was prepared by M. Osman Farruk, Agriculture Operations Division, East Asia and Pacific Region, World Bank with assistance of the FAO Cooperative Program and its consultants, Mr. Dennis Ellingson, Economist/Management Specialist and Mr. Lee Yew Foong, Oil Palm/Rubber Processing Specialist. Gershon Feder, Division Chief (EA3AG), reviewed and cleared the final draft.

Preparation of this ICR was begun during the Bank's final supervision/completion mission, during November 4 to 22, 1996. It is based on visits to some of the project sites, discussions with the staff of the Directorate General of Estates and the State owned Estate Companies, and review of materials in the project files. The Borrower's contribution to the ICR was received on March 21, 1997 and is included in the ICR as Appendix III.

IMPLEMENTATION COMPLETION REPORT

INDONESIA

TREE CROPS PROCESSING PROJECT

(Loan 3000-IND)

Evaluation Summary

Introduction

i. During the Third Five-Year Plan (Repelita III) (1979-84), the Government of Indonesia promoted the planting and replanting of some 350,000 ha of rubber and oil palms through a series of nucleus estate and smallholder (NES/PIR) projects. Many of these plantings started to reach maturity during the late 1980s, requiring access to processing facilities. However, the majority of the state owned tree crops' estates (PTPs) did not have the capacity to construct the required processing facilities, and public funding for constructing additional facilities were not provided for many of the NES/PIR sites. Access to commercial credit was also limited for the PTPs due to their high debt service obligations, built up in earlier years as a result of ambitious development programs, low commodity prices, and high export taxes on tree crop produce. Private processing facilities were largely involved in processing the output of their own estates and generally not located in the areas where NES/PIR development took place. At appraisal it was estimated that the tree crop sector was incurring losses of about US\$200 million annually due to inadequate and inefficient processing of tree crop produce. Against this background, the Tree Crops Processing Project (TCPP) was designed and implemented to address the need for increased processing capacity and improving the efficiency in existing NES/PIR sites.

Project Objectives

ii. The primary objectives of the project were: (i) to raise the productivity and efficiency of the tree crop subsector; (ii) to safeguard smallholder and estate incomes; (iii) to increase non-oil exports; and (iv) to generate rural employment, and improve smallholder incomes in the Outer Islands. These objectives were to be achieved by: (a) establishing new and expanding/rehabilitating existing factories in the publicly owned PTPs to process raw materials produced at the NES/PIR projects; (b) improving processing efficiency at the existing plants; and (c) strengthening the ability of the Directorate General of Estates (DGE) and related Government agencies (including those concerned with environmental protection) to provide technical, institutional, marketing and other support to the tree crop subsector.

iii. There were two major project components: (i) the Processing Facilities component which provided funds (on term credit) to the PTPs for constructing and efficiently operating additional processing facilities for oil palm and rubber in the NES/PIR sites, and (ii) the Project Support (non-credit) component which provided funds to the DGE for providing project implementation assistance to the PTPs and to strengthen its capacities to support sustainable development of the tree crop sector.

iv. The project's objectives and components were justified when considered against the urgent need for additional processing capacities and improving the efficiency at the existing NES/PIR sites, and for facilitating the recovery of smallholder credit through deductions from the sales price of raw materials at the processing points. However, when considered against the demonstrated inefficiencies of the PTPs, the fundamental policy and institutional constraints to private sector investment in the production, processing and marketing of tree crops, and the Bank's recent policies for private sector development, it would appear that the objectives and interventions may have been defined too narrowly and the Project was not leveraged to (i) promote privatization of the PTPs, and (ii) address some of the critical institutional and policy constraints to long-term improvements in the productivity and efficiency of the tree crop subsector, including private sector development.

Implementation Experience and Results

v. The project as designed and implemented was complex and subject to a high degree of implementation risk. It involved a large number of implementing agencies (12 PTPs), not all of whom had the financial and institutional capabilities for managing major civil works programs, including importation and domestic fabrication of machinery and factory components. It burdened the Director General of Estates (DGE) and its special team (Tim Khusus) for implementing NES/PIR projects with the management of a large number of civil works and procurement contracts, and supervision of a substantial construction program spread over a large geographic area. There were procurement and construction delays, initially because of disagreements among the PTPs on the technical specifications of the crude palm oil (CPO) mills, and delays in the finalization of standard designs for CPO mills and crumb rubber factories (CRF), and subsequently because of poor performance by some contractors, supervising consultants and project management staff, particularly those dealing with contract administration. These delays necessitated the extension of the loan closing date by three years.

vi. A number of major changes in the scope and activities of the project were made during its implementation, particularly at the mid-term review, reflecting downward revisions of crop forecasts, difficulties in vehicle procurement under the LCB, and reassessment of the working capital needs of the PTPs. These changes resulted in : (i) about 34% reduction of the physical targets for additional oil palm and rubber processing ; (ii) cancellation and/or re-location of some proposed new construction of processing facilities and rehabilitation of existing ones; (iii) additional studies and training activities; and (iv) cancellation of US\$35.76 million (30% of original) of loan amount. At loan closing, the additional processing capacities constructed under the project (300 tons of palm fruit bunches per hour and 140 tons of dry rubber per day) were about a third lower than the SAR targets, but the reduction was justified in view of downward revisions in crop projections at the NES/PIR sites.

vi. The project has achieved its objective of *raising the productivity and efficiency of the tree crop subsector*. The additional processing facilities have helped reduce potential wastages arising from unprocessed palm fruit bunches and rubber. The project-induced improvements in the engineering and technical aspects of the plants and machineries, and of the management and technical skills of PTP staff have also resulted in overall improvements in processing efficiencies. Average extraction rates of crude palm oil (about 23%) and palm kernal (about 5%) at the palm oil mills are higher than the pre-project averages of 18% and 4%, respectively, and exceeded SAR projections by over 10%. Raw material throughput in all but one of the project supported CPO mills and Crumb Rubber factories range between 90%-93%, which is slightly below the practical optimum

of 95% but substantially higher than the pre-project throughput of about 70%. These performance indicators compare favourably with the performance of the efficient mills in Malaysia and elsewhere.

viii. The project's objectives of *safeguarding smallholder and estate incomes* and *generating rural employment and improving rural incomes in the outer islands* have also been achieved. At full development, nearly 1.5 million tons of fresh palm fruit bunches (FFB) and 36 thousand tons of dry rubber will be processed by the factories/mills constructed under the project and benefit some 65,000 smallholder oil palm and rubber growers. Without these additional processing facilities at the NES/PIR sites, the smallholders' and estate produce would have been wasted for lack of access to processing facilities and/or their value decreased by higher transport costs to distant facilities. The smallholders are expected to receive between Rp. 230-250 billion (US\$ 95-108 million equivalent) per year as proceeds from the sales of their produce. The PTPs that were supported under the project have also improved their pre-tax and after-tax profitability.

ix. Indonesia's production of palm oil and rubber have increased by about 14% and 4% per annum, respectively, from 1990 to 1994, while their exports have grown by nearly 20% (palm oil) and 4% (rubber) per annum during the same period. During 1996, production from the project mills and factories were estimated at 200,500 tons palm oil; 47,600 tons kernel; and 16,600 tons rubber. The incremental processing capacity at full development (1998) will generate annual incremental production of 330,000 tons of palm oil, 75,000 tons of kernel and 31,500 tons of rubber, and account for over 10% of the volume of export of these crops. It can be, therefore, concluded that the project has also achieved its objectives for contributing *to increased non-oil exports*.

x. The economic rate of return for the project was re-estimated at 28%, ranging from 19%-45% for the palm oil mills, and 21%- 45% for four of the five rubber factories. Three of the five crumb rubber factories have financial rates of return of 45%, one 18%, and one below 10%. For the palm oil mills, two have FRRs above 20%, six between 10%-20%, two below 10%. The individual ERRs and FRRs are lower than estimated at appraisal because of : (i) delays in the construction of the factories; (ii) investments in new construction, which has lower return than in rehabilitation/expansion of existing factories, exceeding appraisal estimates; (iii) lower prices of CPO than projected at appraisal; (iv) higher smallholder FFB prices (80% of FOB vs 60% assumed at appraisal), and (v) higher unit costs of processing in some factories during the initial years of operation due to lower throughput than estimated at appraisal. Although the overall ERR is lower than the SAR estimates (57%), it is still robust and substantially above the opportunity cost of capital in Indonesia. Even at the low end of the 70% probability range for projected prices, the ERR would be 19%; at the higher end of the probability range, the ERR will be 37% and the ERRs and FRRs for all the project mills and factories will be satisfactory.

xi. Although not specifically stated as project objectives, the project has made substantial contributions to *institutional development* and improvements in *environmental management* at the processing plants. Project-funded training and technical assistance has created a pool of trained and widely exposed managerial and technical staff for management of the factories. Factory management teams now have the competencies to achieve the performance necessary for commercial sustainability. All the factories financed under the project have adequate effluent treatment systems, and most of them have already achieved full compliance with GOI environmental standards. At loan closing, over 75% of all PTP factories were reported to have achieved full

compliance, compared to 20% at the inception of the project. It is envisaged that 100% industry-wide compliance to the standards of waste management would be possible by the year 1998.

Summary of Findings, Future Operations, and Key Lessons Learned

xii. Despite initial implementation delays as mentioned earlier, the revised physical targets of the project and the objectives of the project as appraised were substantially achieved. The outcome of the project has therefore been rated as *satisfactory*. The Directorate General of Estates, the Tim Khusus and the PTPs deserve credit for successfully implementing a complex project. However, some of the procurement and implementation delays could have been minimized if the Government's fiscal management procedures were flexible enough to allow the project to pay for the import duties on project-related imports when the Government revoked the duty free privileges; or the Government had an effective mechanism for the swift resolution of contractual disputes with civil works contractors. Overall, the borrower's performance has been rated as *satisfactory*.

xiii. The Bank's overall performance has been rated as *satisfactory*. Its participation was extensive in all the phases of the project cycle. The mid-term review in 1992 led to some major adjustments in the project scope, which improved the pace of implementation and the development impact of the project. The Bank made an exceptional third extension of the loan closing date, which was fully justified to complete the project successfully, and indicative of the flexibility and responsiveness of the Bank towards the needs of the GOI and the project. Nevertheless, at the project design and appraisal stages, the Bank should have analyzed the rationale for public sector resource use in commercial operations more critically, particularly in view of the policy impediments to private sector investments, and structured the Bank's support within a wider policy framework for addressing these constraints. The Bank's forecasts of incremental productions at the NES/PIR sites were also optimistic and resulted in time-consuming restructuring of the project's scope.

xiv. Although the performance of the PTPs supported by the project have improved and the processing facilities are operating efficiently at present, these efficiency gains are largely attributed to the intensive Bank/GOI supervision and the heavy technical assistance inputs provided under the project during its implementation. There is, therefore, a risk that these gains will not be sustained over the longer term. For these to be sustained, the basic incentives regimes and the managerial context of the PTPs need to be reformed to adhere to commercial and private sector competition standards. Indeed, the public estate companies as a whole remain unquestionably inefficient in their operations. Their overall financial performance have declined steadily during the last decade, and their profits and returns on assets now are estimated at less than 6 percent. A 1993 Bank study of four PTPs concluded that they were significantly less efficient than the private estates and smallholders in oil palm and rubber in terms of crop yields, processing efficiency and overall costs of production. Part of the PTPs' problems are inherent in their charters, which require them to render agricultural support services to smallholders (extension and training) on a non-commercial basis, and support the Government's social objective for rural employment generation, often at unjustifiable financial costs. But more importantly, the overall operation of the PTPs are also subject to Government's fiscal and administrative controls that are inconsistent with commercially oriented operations. There are no incentives for the PTPs to be profit-oriented. Superior performances are not rewarded, and vice versa; revenues from sales are consolidated at the PTPN head offices, and funding for factory maintenance and operation are provided through budget appropriations, which often are inadequate and arbitrary. It is possible that the PTPs supported under the project will be subsumed by the overall institutional, management and financial

afflictions of the public estate companies and the efficiency gains fostered by the project will be lost. The development impact and outcome of the project will, therefore, be sustainable in the long-run only if the PTPs and the factories are privatized and/or allowed to operate on strictly commercial principles. Government policies on these critical factors in the sustainability of the project remain largely unclear and uncertain (see paras 35-36 on future operation), the global experiences of public sector involvement in commercial activities are replete with examples of failures and hence, the ICR has concluded that the prospects for project sustainability is *uncertain*.

xv. The Government's plans for the project's future operation are still emerging and are tied to the on-going institutional and organizational changes of the PTPs, and strengthening of public sector advisory and financial services to the smallholders. Although the ICR mission was advised that GOI would eventually move towards full privatization of the PTPs, particularly of the NES/PIR schemes and their associated processing facilities, its written contribution to the ICR, however, does not corroborate this commitment. Subsequently, GOI has indicated that the question of privatization will be considered in the context of the preparation of the PTPs' twenty-five year plans and that some of the PTPs are already moving to this direction. The ICR has, therefore, recommended that until the principles and modalities for privatizing the PTPs are agreed and acted upon, the GOI must ensure that the institutional, organizational and operational arrangements for the PTPs do not hinder the management of the processing factories as commercial entities, competing in a fair and open market for purchasing their raw materials and disposing their output (see para 36).

xvi. The key lessons learned from the implementation of the project are listed below:

- The rationale for Bank support for public sector investments in commercial enterprises has to be clearly established. In the event such investments are warranted, they should be undertaken alongside effective policy measures to remove the constraints to private sector participation in such activities, and within the framework of a time-bound plan for their early privatization.
- The scrutiny applied to the selection of contractors should be comprehensive and thorough to ensure their financial and management capabilities. The tenderers' financial situation and track record should be given more weight in the selection process.
- The Government should have an effective mechanism for timely resolution of contractual disputes.
- Realistic crop forecasts are essential for planning of investments in processing facilities.
- For projects dealing with commercial entities, financial performance indicators should be developed and monitored during project supervision. All monitoring and evaluation activities must start early in the implementation stage to ensure their full usefulness and continuation beyond the implementation stage of the project.

PART I: PROJECT IMPLEMENTATION ASSESSMENT

A. Statement/Evaluation of Objectives

1. During the Third Five-year Plan (Repelita III) (1979-84), the Government of Indonesia promoted the planting and replanting of some 350,000 ha of rubber and oil palms through a series of nucleus estate and smallholder (NES/PIR) projects.¹ Most of the investments were in the 'outer islands', which have the agro-ecological advantages for the profitable production of these crops and where rural poverty is ubiquitous. Many of these plantings started to reach maturity during the late 1980s, requiring access to processing facilities. However, while the need for additional processing capacities were identified at the time of the implementation of the planting programs, for many NES/PIR sites public sector funding for expanding processing facilities was not provided, although most of the public estates (PTPs) were not in a position to fund the construction of the factories. Access to commercial credit was also limited for most PTPs due to their already existing high debt service obligations which had built up in previous years due to ambitious development programs, low commodity prices and low returns in earlier years due to export taxes. Private sector facilities were involved in processing their own output and were not appropriately equipped and/or sited to handle the incremental production of the NES/PIR projects. According to Government estimates, the tree crop sector was incurring losses of nearly US\$200 million annually on account of inadequate and inefficient processing facilities. Against this background, the Tree Crops Processing Project (TCPP) was designed to address the need for increased processing capacity and efficiency in existing NES/PIR sites, and to facilitate the recovery of smallholder credit (by deductions at the processing points) extended under the various NES/PIR schemes.

2. The primary objectives of the project were: (i) to raise the productivity and efficiency of the tree crop subsector; (ii) to safeguard smallholder and estate incomes; (iii) to increase non-oil exports; and (iv) to generate rural employment, and improve smallholder incomes in the Outer Islands. These objectives were to be achieved by: (a) establishing new and expanding/rehabilitating existing factories in the public sector to process the raw material from NES/PIR projects; (b) improving processing efficiency at the plants; and (c) strengthening the ability of the Directorate General of Estates(DGE) and related Government agencies (including those concerned with environmental protection) to provide technical, institutional, marketing and other support to the tree crop subsector.

3. These project outcomes were to be achieved through the provision of additional funds to the PTPs as long-term credit as well as through technical assistance, training and studies. Essentially, there were two major project components. First, the Processing Facilities (credit) component of the project was for (a) the Construction and expansion of 11 rubber and 14 palm oil factories, including effluent control and associated housing; (b) procurement of Vehicles needed at each new or expanded site; (c) Training of PTP staff to provide the manpower skills to operate new and expanded factories; (d) Technical assistance to the PTPs to review the operations of the existing factories, to train and coordinate the training of engineering staff, and to monitor the construction and commissioning of new and expanded factories; and (e) Working capital. Second, the Project Support (non-credit) component was for (a) Environmental protection including the strengthening of

¹ To date, the Bank has supported five PMU and seven NES type smallholder tree crop development projects with total commitments amounting to over US\$ 950 million, and involving over 332,000 farm families and over 400,000 ha of smallholder areas.

pollution monitoring units in two project provinces, and a survey to determine the current status of effluent control in existing PTP factories; (b) Monitoring and evaluation (M&E) including technical assistance and other support to DGE (Tim Khusus); (c) Training of DGE and related agency personnel with responsibilities in the tree crop processing subsector; (d) Studies, e.g., (i) technical studies to develop and recommend more efficient processing methods taking into account of local conditions and the structure of the Indonesian tree crop subsector; and (ii) non-technical studies of rubber marketing and long-term processing needs; and (e) Start-up funds related to future tree crop projects, including possible introduction of advanced tree crop processing technology.

4. The project's objectives and components were justified considering the urgent need for additional processing capacities and improving the efficiency at the existing NES/PIR sites, and for affording the Government a convenient mechanism for smallholder credit recovery. However, given the Bank's recent policies for increased privatization of the public sector entities, and the global experiences of unsustainability of public sector commercial enterprises, the project should have been designed to foster privatization of the PTPs and remove some of the fundamental policy and institutional constraints to private sector investment in tree crops processing and marketing (trade restrictions, price controls, cumbersome licensing requirements for factory construction and expansion, and difficult access to land for development). The Bank, in a December 1989 Report, concluded that the array of public sector interventions designed to increase the value added from rubber, oil palm and coconut; stabilize consumer prices for tree crops produce; protect producer returns; improve processing efficiency through a matching of raw material supply with processing capacity; and to stimulate export growth, were largely ineffective. The SAR itself had also identified a number of policy reforms for improving the incentives regime for private sector participation in the commercial production, processing and marketing of tree crop products.² However, the project's objectives and interventions fell short of initiating any movement in any of the above policy directions.

6. The project as designed and implemented was complex and subject to a high degree of risk as it involved a large number of executing agencies and relied on their respective management capabilities for diverse activities including the procurement and supervision of major contracts. Procurement and construction delays were evident and necessitated the extension of the loan by a further three years beyond the original closing date. A number of major changes in project scope and activities also occurred during its implementation (see section C).

B. Achievement of Objectives

7. Despite the initial and subsequent delays in project implementation, the project has fully achieved the revised (see para. 15) targets for constructing additional processing facilities and, thereby its objectives of (i) raising the productivity and efficiency of the tree crop subsector; (ii) safeguarding smallholder and estate incomes; (iii) increasing non-oil exports; and (iv) generating rural employment and improving smallholder income.

² These were : (a) rationalization of policies relating to export restrictions, obligatory domestic sales, price controls and export taxes for crude palm oil; (b) review of the policy requirement that private nucleus estates also must develop large smallholder areas and provide initial financing for smallholders; (c) review of the policies affecting domestic manufacture of processing equipment and/or their importation; (d) streamlining procedures for land titling, obtaining usufruct as well as business and operating licences for tree crop establishment and processing; and (e) establishment of effective and industry-wide pricing formulas for smallholder rubber and oil palm FFB, under which the private sector would operate in a NES/PIR project.

8. The project has achieved its objective of raising the productivity and efficiency of the tree crop subsector, particularly of the PTP owned CPO and rubber factories. At loan closing, the revised targets for additional processing facilities (300 tons of FFB/hr and 140 tons of DRC/hr) were fully achieved, and the CPO mills and Crumb Rubber Factories (CRF) are all in operation. The installed processing capacities are about a third lower than stipulated at appraisal, but are fully consistent with the revised forecasts of crop production. While the output of dry rubber content will be about 51% of SAR targets, the full development production of palm products is expected to be about 98.8% of SAR targets, largely because of the enhanced processing and throughput efficiencies at the factories. The CPO extraction rates in most of the existing and new PTP palm oil factories reached an average of over 22% (range 19.5%-23.5%), compared to a pre-project average of 18% and SAR target of 21%. Kernel extraction rates have increased to over 5%, compared to a pre-project average of less than 4% and SAR target of 4.5%. Throughput in all but one of the project-supported mills range between 90%-93%, slightly below the practical optimum of 95% but substantially higher than the average pre-project throughput of around 70%. These improvements can be attributed to the project-induced upgrading of the engineering and technical aspects of the plants and machineries, and of the management and technical skills of PTP staff. The development of the factory monitoring data base (FMDB) system for monitoring and management control of the technical performance of the factories was an important contributor to these efficiency improvements.

9. The other set of interrelated objectives of safeguarding smallholder and estate incomes, and generating rural employment and improving smallholder incomes were also satisfactorily achieved. At full development, nearly 1.5 million tons of fresh palm fruit bunches (FFB) and 36 thousand tons of dry rubber will be processed by the factories/mills constructed under the project and benefit some 65,000 smallholder oil palm and rubber growers. Altogether, the smallholders are expected to receive between Rp. 230-250 billion per year as proceeds from the sales of their produce to these factories. Without these additional processing facilities at the NES/PIR sites, the smallholders' and estate produce would have been wasted for lack of access to processing facilities and/or their value decreased by higher transport costs to distant facilities. For example, in Jambi province, two CPO factories at Sei Bahar I and II (Pinang Tinggi and Bunut) are the only such facilities serving a large population of smallholder oil palm growers. The CPO factory at Tanjung Medan is the only processing facilities for smallholders in a radius of 150 km. Lastly, the PTPs that were supported under the project have improved their pre-tax and after-tax profitability and have become attractive for privatization. (see para 14).

10. Indonesia's production of palm oil and rubber have increased by approximately 14% and 4% per annum, respectively, from 1990 to 1994 (palm oil production increased from 2.4 million tons in 1990 to 4.1 million tons in 1994; during the same period, rubber production increased from 1.3 million tons to 1.5 million tons). Exports of these commodities have also grown by nearly 20% per annum for palm oil (0.97 million tons in 1990 to 1.97 million tons in 1994) and 4% per annum for rubber (1.1 million tons 1.25 million tons in 1994). In 1995, CPO and kernel production from the new factories constructed under the project reached 180,400 tons and 42,800 tons, respectively. Incremental production of rubber from the new and the expanded old factories reached 11,200 tons in 1995. The estimates for 1996 are 200,500 tons CPO; 47,600 tons kernel; and 16,600 tons rubber. The incremental processing capacity at full development (1997) will provide for annual incremental production (SAR targets in parenthesis) of 330,000 tons of palm oil (340,000 tons), 75,000 palm

11. Although not specifically stated as project objectives, it has achieved significant improvements in the standard of waste management at the PTP factory sites and contributed to institutional development. At loan closing, seven of the 10 project financed mills had achieved full compliance with GOI environmental standards, and it is expected that the remaining three mills will have achieved full compliance of GOI standards during the current year.³ As for the five project financed rubber factories, all have installed and fully upgraded effluent treatment systems which operate within the limits set by the GOI for compliance of environmental standards. The two Pollution Monitoring and Control Authority studies (PMCA I and PMCA II) on environment protection have contributed to the success, as well as the strengthening of pollution monitoring capabilities in North Sumatra and West Kalimantan provinces. The project has also successfully heightened the general awareness for environmental issues and an appreciation for the benefits of pollution control. Before the project, none of the approximately 200 PTP factories were in compliance with the national standards. By early 1996, 75% of all PTP factories were reported to have achieved full compliance. It is envisaged that with increased awareness combined with a strengthening of enforcement activities by GOI and by provincial governments, and further understanding of the benefits of properly managed effluent control, 100% industry-wide compliance should be achieved by the year 1998.

12. The project helped the creation of a pool of trained and widely exposed managerial and technical skills for management of the factories. The SAR target was to provide on-the-job training to about 850 PTP staff, short courses and overseas training to selected factory managers and senior PTP staff. It also envisaged the training of 91 DGE and other related agencies' staff with Masters Degree programs (21) and short courses. At the end, 1,359 persons were trained including 734 staff from 15 different PTP factories, and 625 PTP and GOI staff, 23 of whom enrolled and completed Masters Degrees.

13. International palm oil and rubber processing consultants were recruited and stationed at each of the PTP headquarters with the role of reviewing and improving the efficiency of existing PTP factories and advising management on the construction of new factories. Additional six consultants were employed to strengthen TKPIR's technical capacity in the areas of environmental protection and M&E. Technical and non-technical studies were carried out. These activities have substantially contributed to project implementation, particularly to the improvement of the existing PTP factory performance.

14. The recent increases in profitability indicates the impact of the improvements on overall management of the project-supported PTPs. In 1994, profits (pre-tax as well as after tax) for the PTPs supported under the project were 2 to 3 times higher than their profits in 1991. This by itself, and in the absence of data on their respective capital and debt structure and key ratios (i.e., debt servicing, debt-equity, asset-liability, etc.), cannot be taken as conclusive testimony to the PTPs' state of financial health. Nonetheless, the improved profits of the project supported PTPs is an indication of the beneficial impact the project has had on them.

³ The effluent treatment system at the Bunut mill has yet to be fully installed. However, when completed in early 1997, this mill should also be able to achieve full compliance of GOI standards. Although the Cot Girek mill and effluent treatment system is fully operational, it could only achieve partial compliance due to the lack of preparation in the initial start-up of the system and work is now in progress which should provide for full compliance of GOI standards by mid-1997. Finally, the Tanjung Medan mill was only due for commissioning in December 1996 and therefore, the effluent treatment system would not be fully tested until mid-1997.

C. Implementation Record and Major Factors Affecting the Project

15. According to the original scope, the project would have been implemented over a period of 4 years (1989 - 1993) in Sumatra, Kalimantan and Java, and involve 12 PTPs. Project implementation, however, fell behind schedule from the onset. Following the Bank's mid-term review in February 1992, the project scope was substantially amended, reducing the SAR targets for oil palm processing from 450 tons of FFB/hr to 300 tons and, for rubber, from 210 tons of DRC/day to 140 tons. Accordingly expansions of all five planned CPO factories were canceled, although one existing factory was rehabilitated. Nine originally planned new factories were constructed albeit one in a different location to the original program.⁴ The originally envisaged eight new CRF factories were reduced to three including a small pilot factory for research purposes. The originally targeted expansion of four existing CRF factories was reduced to three. The following table provides a summary of the original and revised targets, and actual completion.

Table 1. Construction of Processing Facilities, SAR vs Actual

	<u>SAR</u>		<u>Mid-term Review</u>		<u>Actual to Dec. 1996</u>	
	<u>Number</u>	<u>Incr.Cap.*</u>	<u>Number</u>	<u>Incr.Cap.*</u>	<u>Number</u>	<u>Incr.Cap.*</u>
Palm Oil Factories						
New Construction	9	300	9	300	8	300
Expansion	5	150	0	0	0	0
Rubber Factories						
New Construction #	7	130	3	70	3	70
Expansion	4	80	3	70	3	70

* For CPO factories, increased capacity in terms of tons FFB/hour; for Rubber factories, increased capacity in terms of tons dry rubber/day.

Including Sembawa Rubber Research facility with expected throughput capacity of 10 tons dry rubber/day.

16. The first extension of the loan (to September 30, 1994) followed the February 1992 mid-term review when the Bank Mission recommended major adjustments to the project scope (para. 15), additional studies and staff training, extension of the date for the submission of PTP action plans to meet GOI factory effluent standards, and cancellation of US\$ 15.5 million. Vehicle procurement was eventually canceled on request from the GOI because of the difficulties of procurement under the Bank's LCB procedures and lack of counterpart funding, especially considering that only 30% of the cost was eligible for financing. Working capital component for the new factories for supplies, raw materials and labor was found unnecessary, and therefore canceled. The loan was subsequently

⁴ Under the revised program, one new factory (Kaliana) was replaced with another of similar size and design (Tanjung Medan)

extended a second time to September 30, 1995 to accommodate the construction program which had been delayed at the beginning of project implementation, and again because of changes in the number of required processing facilities and the locations of construction sites. The third extension of the loan (to September 30, 1996) was necessary, in part due to delays in processing the second extension and, as such, was justified to complete the construction program.

17. The changes in project scope by the mid-term review were justified as they (i) rationalized the number and location of factory construction/expansion based on revised estimates of crop production, and thereby avoided costly investments in potentially excess processing capacities; and (ii) reduced the government's burden of paying commitment charges on undisbursed proceeds of the Bank loan. The three one-year loan extensions also enabled the satisfactory completion of the revised factory construction targets, factory waste management structures, and of the additional studies and training activities.

18. Total project costs at appraisal was estimated at US\$180.4 million, with a Bank financing of US\$118.2 million. Total project costs at completion is estimated at US\$100.6 million, reflecting the downsizing of the factory construction component and effects of Rupiah devaluation. Following three cancellations totalling US\$35.76 million, the total Bank loan at loan closing date (September 30, 1996) stood at US\$ 82.44 million. Disbursement lags during the first four years were substantial and at the end of FY93 it stood at over 65% of appraisal estimates. However, disbursements improved considerably following the mid-term review and subsequent loan cancellations, and at final closing of the loan (January 30, 1997) 91% of the revised Bank loan was disbursed and the remaining balance of US\$7.35 million was cancelled.

19. Initially, implementation delays resulted from disagreements among PTPs on the technical specifications for CPO factories. Delays were also experienced in the completion of the consultant's report for the standardization of CPO and rubber factories. This contributed to delays in factory constructions which were to follow the approved standard design. Nonetheless, the project induced standardization of plant designs has resulted in cost savings in the installation and maintenance of plant and machinery. This in turn contributed to achieve the project's objective of improved productivity and efficiency in the tree crops sector. It may be noted that despite implementation delays, investment costs per unit of incremental processing capacities was only 7% higher for palm oil, and 15% lower for rubber than estimated at appraisal. The standardization of factories has also been adopted by other PTPs thereby extending the benefits of the project.

20. Delays in the individual factory constructions/expansions were also experienced due to unsatisfactory performance by some contractors and supervising consultants, as well as the lack of coordination among the management staff of the civil works contracts. Contractors' weak financial situation, exacerbated by delayed payments by the Government, and poor management capabilities contributed to the major problems. Completion of contracts in these cases was only possible after repeated extensions. New CPO factories at Aek Raso, Cot Girek, Sungai Niru, Sungai Lengi and Bunut required 3 to 4 years to complete compared to the 18-20 month period specified in the construction contracts. Similarly, the construction of the new CRF factory at Lima Puluh Koto was also substantially delayed.

21. The sudden change in Government policy whereby procurement for public sector projects was no longer exempt from customs duty further contributed to construction delays. Completion of the Tanjung Medan oil palm factory was delayed by about 4-6 months because of delays in the

importation of boilers due to delays in the processing of the extension of the Bank's loan closing date. In another case (Bunut CPO construction), the lack of timely coordination by the PTP project implementation unit caused a delay in processing the contractor's LC application and consequently delay in the procurement. The uncertainties and confusion over responsibilities resulting from GOI decision to reorganize and rationalize the 32 PTPs into 14 PTPNs, further exacerbated the implementation delays.

D. Project Sustainability

22. All the project factories are located at strategic locations within close proximity of an adequate number of smallholder producers necessary to provide the raw material throughput to the factories. Many are also part of PTP estates which further assures a ready supply of throughput. The availability of crops is also expected to increase with the maturity of large numbers of juvenile trees in some areas to keep the operations of factories at sustainable production levels. The factories are well designed and constructed, and therefore, capable of optimum production. Factory management teams have attained technical abilities and competencies to achieve the performance necessary for commercial sustainability. Available data indicate that the unit costs of production for most of the project supported CPO mills and CRFs are substantially lower than the costs at the other non-project PTP factories. Data for any meaningful comparison of their performances with comparable private sector entities in Indonesia are not available, but the performance indicators of many of the project supported factories are comparable to some of the efficient operations in Malaysia.

25. However, the long-term sustainability of the PTPs and their constituent factories will depend on them being able to sustain the throughput and the processing cost efficiencies achieved under the project, especially after the smallholders will have completed their loan repayments and will no longer be obliged to sell their produce to the PTP factories. These could be achieved only if the public-owned PTPs and the factories were privatized or allowed to operate on strictly commercial principles and under non-distortionary policy and incentives regimes. Under the current arrangements, the PTPs and their constituent factories subject to the Government's fiscal and administrative controls. There are no incentives to be profit-oriented. Superior performances are not rewarded and vice versa; revenues from sales are consolidated at the PTPN head offices, and funding for factory maintenance and operation is provided through budget appropriations, which often are inadequate. Government policies on privatizing the PTPs and for creating an enabling environment for increased private sector operation in the tree crops sector remain largely unclear, uncertain and conflicting (very recently foreign investment in oil palm processing has been banned). As such, ICR has concluded that the prospects for project sustainability is *uncertain*.

E. Bank Performance

26. The Bank's participation has been extensive from the initial preparation and appraisal to supervision of the project. Bank supervision missions were conducted approximately twice a year (total of 11). The missions were adequately staffed with the expertise necessary to deal effectively with all the components of the project. Their reports and reviews were well-written and comprehensive, and have provided the implementing agencies with timely feed-backs and recommendations to improve project implementation. The Bank's mid-term review in 1992 led to some major adjustments in the project scope. Timely cancellations of parts of IBRD loan helped reduce the Government's commitment charges on undisbursed loan amounts. The Bank also made

an exception in granting a third extension of the loan closing date which indicates the flexibility and responsiveness of the Bank towards the needs of the GOI and the project.

27. Nevertheless, during the project design, the Bank should have analyzed the rationale for public sector resource use in activities of a commercial nature more critically, particularly in view of the policy impediments to private sector investments, and structured the Bank's support within a wider policy framework for addressing these constraints. The magnitudes of financial returns to public sector investments in the factories, as estimated at appraisal, were clear indications of a potentially favorable incentives regime for private investments in oil palm and rubber processing. The Bank, therefore, should have paid greater attention to determining the private sector counterfactual and assessing the extent and causes of any perceived market failure. At the very least, the Bank should have sought time-bound assurances from the GOI to act on the policy directions identified in the SAR, including the privatization of the PTPs, and/or designed the project as joint-venture investments between the PTPs and potential private sector investors. Project appraisal also inaccurately projected field productions, resulting in over-planning of processing factories, and time consuming adjustments during project implementation. During appraisal, or subsequently during supervisions, systematic monitoring of PTPs' financial performance, and monitoring and evaluation of the progress in achieving the development objectives of the project, should have been instituted.

28. The Borrower has raised some concerns regarding the bureaucratic process of the Bank, particularly with regard to the issuance of no objection letters (NOL) from Bank headquarters for various approvals affecting project implementation. Apparently, there were cases where delays in communications from the Bank Headquarters in Washington to the Resident Mission in Jakarta resulted in delays in procurement.

29. Taking all things into consideration, the performance of the Bank in the identification, preparation and supervision of the project has been rated as being *satisfactory*, and project appraisal as being *deficient*.

F. Borrower Performance

30. The overall performance by the Borrower was *satisfactory*. Adequate funds for the project implementation were provided on a timely manner. With the assistance of TKPIR, Project Implementation Units (PMUs) for all the factory components were established and despite the delays, the processing facilities have been largely completed. TKPIR also successfully implemented the diverse and numerous TA components of the project and ensured that all the loan covenants and conditions required of the Loan Agreement ultimately met with compliance. The GOI through TKPIR has also established guidelines on processing standards and efficiency as targets for PTP's achievement.

31. Except in a few special cases the Borrower was prompt in making procurement decisions. Although the change in Government policy with regard to the payment of import duties caused initial procurement delays due to lack of funds which had not been budgeted for this purpose, the issue was eventually resolved. However, in some cases, there were disputes between contractors, the PTPs and the supervising consultants over the status of progress made on some factory constructions. Apparently there was no mechanism to adequately resolve these disputes to the mutual satisfaction of all parties.

G. Assessment of Outcome

32. Despite implementation delays, the project has achieved its major objectives, and the development impact has been satisfactory. In addition to achieving its specific objectives, as set out at appraisal, the project has (i) strengthened the institutional and human resources base for further development in the tree crops sub-sector; (ii) improved awareness for and standards of environmental management and pollution control in tree crop processing facilities; and (iii) demonstrated the commercial viability of centralized processing of oil palm and rubber produced by a large number of smallholders farmers on scattered locations. Notwithstanding these substantial achievements, the overall outcome of the project has been rated as being only *satisfactory*, because of its uncertain sustainability.

33. Financial and economic rates of return were re-calculated for each of the factories constructed or expanded/rehabilitated under the project. The results have been detailed in Part II, Annexes A and B. Nine of the ten palm oil mills have ERRs ranging from 20%-45%, while four of the five crumb rubber factories have ERRs ranging from 21%-45%. The overall economic rate of return for the project is estimated at 28%, which is lower than the SAR estimates (57%), but still very satisfactory and robust. Even at the low end of the 70% probability range for the projected commodity prices, it falls to only 19%, well above the opportunity cost of capital (12%) in Indonesia. Three of the five crumb rubber factories have financial rate of returns of 45%, one 18%, and one below 10%. For the palm oil mills, FRRs for are above 20%, 10%-20% for six, below 10% for two. The individual ERRs and FRRs are lower than estimated at appraisal because of : (i) delays in the construction of the factories; (ii) bulk of project investments in new construction which has lower return than in rehabilitation/expansion of existing factories; (iii) lower prices of CPO than projected at appraisal; (iv) higher smallholder FFB prices (80% of FOB vs 60% assumed at appraisal) and (v) higher unit costs of processing in some factories during the initial years of operation due to lower throughput than estimated at appraisal.

H. Future Operation

34. The Government's plans for the project's future operation are still emerging and are tied to the on-going institutional and organizational changes of the PTPs, and strengthening of public sector advisory and financial services to the smallholders. Although the ICR mission was advised that GOI would eventually move towards full privatization of the PTPs, particularly of the NES/PIR schemes and their associated processing facilities, its written contribution to the ICR does not corroborate this commitment (appendix 3A). Subsequently, GOI has indicated that the question of privatization will be considered in the context of the preparation of the PTPNs' twenty-five year plans and that some of the PTPNs are already moving in that direction (Appendix 3B).

35. The ICR is of the view that early privatization of the PTPNs and its factories holds the key to efficient operation and commercial viability of these entities. Government's intent in this respect is embryonic and uncertain, to say the least. Its recent decision to restrict foreign investments on oil palm processing raises concerns about the Government's commitment to fostering private sector development in the production, processing and marketing of tree crops. The ICR, therefore, has recommended that (i) Indonesia should move to privatise the PTPNs at an early date; and (ii) until the principles and modalities for such privatization have been agreed and acted upon, the GOI must ensure that the institutional, organizational and operational arrangements for the PTPNs do not hinder the management of the processing factories as commercial entities, competing in a fair and

open market for purchasing their raw materials and for disposing their output. Towards these ends, the plan for the project's future operation should be geared to the following: (i) decentralization of factory management with each unit operating as a self-financing profit centers; (ii) organization and management structures that will accord the factories large degrees of control over their respective finances, particularly over the revenues they generate and the powers to borrow from commercial sources for working capital and reinvestment finances; (iii) an effective role of the PTPNs' headquarters to ensure technical support for O&M of the factories, setting and enforcing industry standards for technical, operational and environmental aspects of factory operations; (iv) the smallholders to be able to sell their produce to factories and markets of their choice, provided they do not default in their credit repayment obligations, and (v) removal of any barriers to entry by private processors.

I. Key Lessons Learned

37. The key lessons learned from the implementation of the project are listed below:
- The rationale for public sector investments in enterprises that are commercial in their operations has to be clearly established, and their private sector counterfactual objectively assessed. In the event such investments are warranted, they should be undertaken alongside effective policy measures to remove the constraints to private sector participation in such activities, and within the framework of a time-bound plan for their privatization.
 - The scrutiny applied to the selection of contractors should be comprehensive and thorough to ensure financial and management capabilities. The tenderers' financial situation and track record should be given more weight in the selection process. Generally, such factors would be more indicative of the future successful completion and cost-effectiveness of the sub-project than a lower bid.
 - The Government should have in place an effective mechanism for swift resolution of contractual disputes.
 - Realistic crop forecasts are essential for planning of investments in processing facilities.
 - For projects dealing with commercial entities, financial performance indicators should be developed and monitored during project supervision.
 - All monitoring and evaluation (M&E) activities must start early in the implementation stage to ensure their full usefulness and continuation beyond the implementation stage of the project.

PART II: STATISTICAL ANNEXS

ANNEX A. STATISTICAL TABLES

PART II: STATISTICAL TABLES

Table 1: Summary of Assessments

<u>A. Achievement of objectives</u>	<u>Substantial</u> (✓)	<u>Partial</u> (✓)	<u>Negligible</u> (✓)	<u>Not applicable</u> (✓)
Macro policies	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sector policies	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Financial objectives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Institutional development	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Physical objectives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poverty reduction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gender issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other social objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental objectives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public sector management	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Private sector development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<u>B. Project sustainability</u>	<u>Likely</u> (✓)	<u>Unlikely</u> (✓)	<u>Uncertain</u> (✓)
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>C. Bank performance</u>	<u>Highly satisfactory</u> (✓)	<u>Satisfactory</u> (✓)	<u>Deficient</u> (✓)
Identification	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Preparation assistance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Appraisal	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Supervision	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<u>D. Borrower performance</u>	<u>Highly satisfactory</u> (✓)	<u>Satisfactory</u> (✓)	<u>Deficient</u> (✓)
Preparation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Implementation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Covenant compliance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Operation (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<u>E. Assessment of outcome</u>	<u>Highly satisfactory</u> (✓)	<u>Satisfactory</u> (✓)	<u>Deficient</u> (✓)	<u>Highly unsatisfactory</u> (✓)
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table 2: Related Bank Loans/Credits

Loan/credit title	Purpose	Year of Approval	Status
<i>Preceding operations</i>			
1. North Sumatra Smallholder Development Project (Credit 358-IND)	To provide an effective agricultural extension services; improve primary processing and marketing facilities and services; train farmers in improved methods of rubber, oil palm and rice production; and assist them with the finance and inputs required to plant new land and existing rubber farms with these crops.	1973	Completed
2. Smallholder Rubber Development Project I (Credit 984-IND)	To raise the incomes of some 32,000 smallholder families; increase Indonesia's foreign exchange earnings from rubber; and build the institutional framework and database for the national smallholder rubber program.	1980	Completed
3. Smallholder Rubber Development Project II (Loan 2494-IND)	To expand and improve the effectiveness of the Government of Indonesia's smallholder rubber development project program in order to increase foreign exchange earnings; create employment and improve the incomes of rubber smallholders; promote regional development; and increase the productivity of underutilized land.	1985	Completed
<i>Following operations</i>			
1. Tree Crop Smallholder Development Project (Loan 3464-IND)	To assist 161,000 poor farm families establish or maintain 130,000 ha of rubber and 51,000 ha of coconuts in 12 provinces; strengthen project management to undertake the project, including implementing its environmental management plan and cost recovery scheme; strengthen sector institutions in land titling, auditing, monitoring, and inspection of smallholder project activities; and provide for studies related to cost recovery, to a future project, and to poverty-related agricultural development.	1992	Ongoing

Table 3: Project Timetable

Steps in project cycle	Date planned	Date actual/ latest estimate
Identification (Executive Project Summary)		April 30, 1986
Preparation		June 1986
Appraisal	April/May 1987	June 1987
Negotiations		July 25 -29, 1988
Letter of development policy (if applicable)	n.a.	n.a.
Board presentation		November 15, 1988
Signing		December 2, 1988
Effectiveness		March 2, 1989
First tranche release (if applicable)	n.a.	n.a.
Midterm review (if applicable)		February 1992
Second (and third) tranche release (if applicable)	n.a.	n.a.
Project completion	March 31, 1993	September 30, 1996
Loan closing	September 30, 1993	September 30, 1996

Table 4: Loan/Credit Disbursement: Cumulative Estimated and Actual
(US\$ millions)

	<u>FY89</u>	<u>FY90</u>	<u>FY91</u>	<u>FY92</u>	<u>FY93</u>	<u>FY94</u>	<u>FY95</u>	<u>FY96</u>	<u>FY97</u>
Appraisal estimate	13.0	43.0	67.0	93.0	113.0	118.2	118.2	118.2	118.2
Revised					39.7	39.7	39.7	82.4	82.4
Profile	1.2	8.2	19.8	34.6	47.8	61.0	72.6	81.6	82.4
Actual as % of Rev.	0.0%	0.0%	0.0%	0.0%	97.5%	129.5%	149.1%	87.6%	91.1%
Actual	0.2	2.8	19.3	30.5	38.7	51.4	59.2	72.2	75.1
Date of final disbursement	January 30, 1997								

Table 5a: Key Indicators for Project Implementation

New Construction/Expansion/Rehabilitation of Palm Oil Mills

Program	PTP	SAR		Revision		Implemented		
		Unit	Capacity (tons/hr)	Unit	Capacity (tons/hr)	Unit	Capacity (tons/hr)	
A. New Construction								
1.	Aek Raso	III	1	30	1	30	1	30
2.	Pinang Tinggi (Sei Bahar I)	IV	1	60	1	60	1	60
3.	Bunut (Sei Bahar II)	IV	1	30	1	30	1	30
4.	Tanjung Medan	IV	-	-	1	30	1	30
5.	Sei Intan	V	1	30	1	30	1	30
6.	Kalianta	VI	1	30	-	-	-	-
7.	Parindu	VII	1	30	1	30	1	30
8.	Cot Girek	IX	1	30	1	30	1	30
9.	Sungai Niru (Prabumulah)	X	1	30	1	30	1	30
10	Sungai Lengi (Muara Enim)	X	1	30	1	30	1	30
Sub-Total			9	300	9	300	9	300
B. Expansion								
1.	Bagan Sinembah	IV	1	30	-	-	-	-
2.	Sei Intan	V	1	30	-	-	-	-
3.	Ngabang	VII	1	30	-	-	-	-
4.	Parindu	VII	1	30	-	-	-	-
5.	Sungai Niru (Muara Enim)	X	1	30	-	-	-	-
Sub-Total			5	150	0	0	0	0
Total			14	450	9	300	9	300
C. Rehabilitation								
1.	Pagar Merbau	IX	-	-	1	60	1	60

Table 5b: Key Indicators for Project Implementation

**Physical Planning for the Construction/Expansion/Rehabilitation
of Palm Oil Factories**

		PTP	SAR	Implemented
A.	New Mill			
1.	Aek Raso	III	Sept 1990	Sept 1995
2.	Pinang Tinggi (Sei Bahar I)	IV	Sept 1990	Oct 1991
3.	Bunut (Sei Bahar II)	IV	June 1992	Sept 1995
4.	Tanjung Medan	IV	-	Nov 1991
5.	Sei Intan	V	Sept 1990	Aug 1991
6.	Kalianta	VI	Sept 1990	-
7.	Parindu	VII	Sept 1990	Sept 1991
8.	Cot Girek	IX	June 1992	Mar 1995
9.	Sungai Niru (Prabumulah)	X	Sept 1990	Oct 1992
10.	Sungai Lengi (Muara Enim)	X	Sept 1990	Mar 1992
B.	Extension			
1.	Bagan Sinembah	IV	Jan 1992	-
2.	Sei Intan	V	Sept 1992	-
3.	Ngabang	VII	Jan 1992	-
4.	Parindu	VII	Sept 1992	-
5.	Sungai Niru (Muara Enim)	X	Sept 1992	-
C.	Rehabilitation			
1.	Pagar Merbau	IX	-	Sept 1995

Closing Dates for TCPP Loan

SAR	30 September 1993
1st extension	30 September 1994
2nd extension	30 September 1995
3rd extension	30 September 1996

Table 5c: Key Indicators for Project Implementation

New Construction/Expansion/Rehabilitation of Crumb Rubber Factories

	Program	PTP	SAR		Revision		Implemented	
			Unit	Incr.Cap. (tons/day)	Unit	Incr.Cap. (tons/day)	Unit	Incr.Cap. (tons/day)
A.	New Construction							
1.	Alue le Mirah	I	1	20	-	-	-	-
2.	Labuhan Batu	II	1	20	-	-	-	-
3.	Rimbo Bujang	VI	1	20	-	-	-	-
4.	Durian Luncuk	VI	1	20	-	-	-	-
5.	Danau Salak	XVIII	1	20	1	40	1	40
6.	Ketahun	XXIII	1	20	-	-	-	-
7.	Tanjung Santan/Kaltim	XXVI	1	10	-	-	-	-
8.	Lima Puluh Koto	III	-	-	1	20	1	20
9.	Sembawa	BP	-	-	1	10	1	10
Sub-Total			7	130	3	70	3	70
B.	Expansion							
1.	Alue le Mirah	I	1	20	-	-	-	-
2.	Bajubang	IV	-	-	1	30	1	30
3.	Binio	IV	-	-	1	10	1	10
4.	Bukit Selasih	IV	1	20	1	30	1	30
5.	Danau Salak	XVIII	1	20	-	-	-	-
6.	Rimbo Bujang	XI	1	20	-	-	-	-
Sub-Total			4	80	3	70	3	70
Total			11	210	6	140	6	140

Table 5d: Key Indicators for Project Implementation

**Physical Planning for the Construction/Expansion/Rehabilitation
of Crumb Rubber Factories**

		PTP	SAR	Implemented
A.	New Construction			
1.	Danau Salak	XVIII	Mar 1992	Dec 1993
2.	Lima Puluh Koto	III	#	May 1995
3.	Sembawa	BP	#	Dec 1993
B.	Expansion			
1.	Bajubang	IV	#	May 1996
2.	Binio	IV	#	April 1995
3.	Bukit Selasih	IV	Jan 1992	May 1996

Revised and included in Mid-term Review - 1991

Closing Dates for TCPP Loan

SAR 30 September 1993
 1st extension 30 September 1994
 2nd extension 30 September 1995
 3rd extension 30 September 1996

Table 6a: Key Indicators for Project Operation - Palm Oil Mills

Palm Oil Mill		Factory Performance					Product Quality		Processing Cost #	Environment Protection	Commodity Prices (FOB)	
		Through-put tons/hr	Extraction Efficiency		Extraction Rates		% Free Fatty Acid	Marketing Specifications	Rp/Kg FFB	GOI Compliance	Rp Million/ton (Constant 1996)	
			CPO	PK	CPO	PK					CPO	PK
Bunut	SAR	30	93%	95%	21.0%	4.5%	Max 5.0%	To comply	18	to comply	1.17	0.52
	Actual	28	91%	86%	21.5%	4.9%	4.5%		-	not yet	0.98	0.73
Pinang Tinggi	SAR	60	93%	95%	21.0%	4.5%	Max 5.0%	To comply	18	to comply	1.17	0.52
	Actual	47	91%	90%	21.0%	5.8%	4.1%	Yes	15	complied	0.98	0.73
Sungai Niru	SAR	30	93%	95%	21.0%	4.5%	Max 5.0%	To comply	18	to comply	1.17	0.52
	Actual	28	92%	87%	24.0%	5.4%	5.2%	Yes	29	complied	0.98	0.73
Sungai Lengi	SAR	30	93%	95%	21.0%	4.5%	Max 5.0%	To comply	na	to comply	1.17	0.52
	Actual	27	92%	91%	22.6%	5.1%	4.2%	Yes	na	complied	0.98	0.73
Sei Intan	SAR	30	93%	95%	21.0%	4.5%	Max 5.0%	To comply	18	to comply	1.17	0.52
	Actual	28	92%	87%	21.1%	4.7%	3.9%	Yes	69	complied	0.98	0.73
Parindu	SAR	30	93%	95%	21.0%	4.5%	Max 5.0%	To comply	18	to comply	1.17	0.52
	Actual	28	92%	-	21.2%	5.1%	3.0%		14	not inspected	0.98	0.73
Aek Raso	SAR	30	93%	95%	21.0%	4.5%	Max 5.0%	To comply	18	to comply	1.17	0.52
	Actual	27	90%	90%	20.6%	4.6%	4.0%	Yes	20	not inspected	0.98	0.73
Cot Girek	SAR	30	93%	96%	21.0%	4.5%	Max 5.0%	To comply	18	to comply	1.17	0.52
	Actual	28	92%	88%	21.8%	5.0%	3.0%	Yes	14	not yet	0.98	0.73
Tanjung Medan	SAR	30	93%	96%	21.0%	4.5%	Max 5.0%			to comply	1.17	0.52
	Actual	Mill on Trial Run									commissioned	0.98
Pagar Merbau	SAR	60	93%	96%	21.0%	4.5%	Max 5.0%	To comply	18	to comply	1.17	0.52
	Actual	40	90%	88%	20.0%	5.6%	3.0%	Yes	15	not inspected	0.98	0.73

estimated processing cost determined in project survey of all PTPs in 1994.

Table 6b: Key Indicators for Project Operation - Crumb Rubber Factories

Crumb Rubber Factory		Throughput		Production Efficiency	Operating Cost	Environment Protection	Commodity Prices (FOB)
		tons dry rubber per day		% Failure	Rp/Kg dry rubber	GOI compliance	Rp Million/ton (Constant 1996)
Lima Puluh Koto CRF (new)	SAR	20		NIL	103*	effluent treatment	2.89
	Actual	16	80%	NIL	286	yes	3.38
Danau Salak CRF (new)	SAR	not yet available			103*	effluent treatment	2.89
	Actual				-	yes	3.38
Sembawa Pilot CRF	SAR	Research Center					2.89
	Actual						3.38
Bajubang (expansion)	SAR	40		NIL	103*	effluent treatment	2.89
	Actual	20	50%	1.4%	180	yes	3.38
Binio (expansion)	SAR	20		Not available	103*	effluent treatment	2.89
	Actual	12	60%		320	upgraded	3.38
Bukit Selasih (expansion)	SAR	40		NIL	103*	effluent treatment	2.89
	Actual	24	60%	NIL	190	upgraded	3.38

* estimated operating costs estimated in the SAR for project were Rp 103/kg and without project, Rp 182/kg.
Average operating costs determined in project surveys of all PTPs conducted in 1994 were Rp 220/kg dry rubber.

Table 7: Studies Included in the Project

No.	Study	Purpose	Consulting Agencies	Status	Impact Of Study
1	2	3	4	5	6
I.	POLICY AND NON TECHNICAL STUDIES 1. <u>Financial Evaluation of 10 PTPs</u> a. 4 PTPs (XVII, XXIV-V, XXVIII, XXIX) b. 6 PTPs (II, III, V, VII, VIII, IX)	To evaluate the financial viability assessment of PTPs for new project investment, identify weaknesses and make recommendations, as well as review other areas for attention.	SGV & Co, Philippine ADS Pte. Ltd, Singapore	Completed 6/90 Completed 6/90	Formalised standard guidelines on accounting for PTPs' financial accounts.
2.	<u>Factory Design Standardization</u> a. Rubber Factory b. CPO Factory	To select and standardize design capacity factories including processing equipment and lay out, bulding design on the grounds of simplicity of construction, operation and maintenance; and capable of producing good quality product at high efficiency, low operating costs and cost effective investment.	PT. Encona Indonesia/ ARAB/Mardec Sime Darby Service, Malaysia	Completed 10/89 Completed 6/90	Standardisation incorporated in all project mills and rubber factories. Facilitates tender process and documentation as standards are applied. Prompt evaluation of bidders and accuracy in comparisons.
3.	<u>Rubber Marekting in Indonesia</u>	(i) to evaluate the long term trends for domestic and international demand for the different types and grades of rubber now produced or which could be produced in Indonesia, (ii) to review the current marketing channels, (iii) to evaluate the potential profitability for each type and grade of rubber (iv) to indicate possible marketing strategies for GOI.	Landell Mill Commodities Ltd., England	Completed 5/90	Provided valuable information for project viability study. Provided market trends and products' scope and standards.

Table 7: Studies Included in the Project

No. 1	Study 2	Purpose 3	Consulting Agencies 4	Status 5	Impact Of Study 6
4.	<u>Long Terms Requirements of Rubber and Palm Oil Processing Facilities in Indonesia</u>	To determine the long term requirement for rubber and palm oil factories in Indonesia in order to plan the systematic development of the processing sub-sector.	HVA International, Netherlands	Completed 6/93	Provided guidelines for the formulation of subsector policy.
5.	<u>Pollution Control Requirements for existing PTP-CPO and Rubber Factories</u>	(i) Assessment of the current status of effluent treatment in Existing PTP CRFs/CPO and their possible impact on the environment status around the factory sites. (ii) Selection of most appropriate treatment/method for effluent discharge of PTP CRFs/CPO including in-plant processing improvements design capacity factories including processing improvements to reduce the effluent pollution loads with consequent reduction in treatment cost. (iii) Estimation of preliminary investment and operating cost for the proposed treatment system including a cost benefit analysis.	PT. Exsa Int. Indonesia/ Kosultant Proses Sdn. Bhd., Malaysia	Completed 4/91	Improvements in PTP mills in achieving compliance of GOI standards. Guidelines for formulating control systems and requirements of national standards for palm oil and rubber waste disposal.
6.	<u>Pollution Control Requirements of PTPs Existing Sugar Factories</u>	To conduct environmental studies and recommend methods for pollution control for sugar factories.	Biotim/Mardec Eng. Sdn.Bhd., Malaysia	Completed 5/94	Useful guidelines and technical input for implementation.
7.	<u>Establishment of PMCA System in North Sumatra and West Kalimantan</u>	To formulate and set up BAPEDAL in North Sumatra and West Kalimantan.	Mac Donald Agriculture Services, England	Completed 1991	Provided useful guidelines to Prov. Gov'ts. and Central BAPEDAL.

Table 7: Studies Included in the Project

No.	Study	Purpose	Consulting Agencies	Status	Impact Of Study
1	2	3	4	5	6
8.	<u>Implementation of PMCA System in North Sumatra and West Kalimantan</u> - Stage I - Stage II (Extension)	To formulate an effective management system for pollution control in these selected provinces where most of the mills are located.	Mac Donald Agriculture Services, England	9/94 11/95	Generated improved commitment and participation. Remarkable improvement in treated effluent disposal.
9.	<u>Sembawa CRF Amdal Studies</u>	Feasibility study of a pilot plant to conduct studies for improv. to crumb rubber process.	PT. Indeco Duta Utama Indonesia	Completed 2/95	CRF process to overcome s-holder prob.
10.	<u>External Review of LPP</u>	To study the viability for setting up training program to be undertaken by LPP.	ADS Pte. Ltd, Singapore	Completed 7/95	LPP staff given training on milling technology.
11.	<u>Feasibility Study of Lhokseumawe Bulking Installation</u>	To conduct feasibility study for a CPO bulking installation at Lhokseumawe, Aceh.	PT. Tri Karya Pecindo, Indonesia	Completed 1994	
II.	<u>TECHNICAL STUDIES</u>				
1.	<u>Palm Oil</u> a. Utilization of Empty Bunches as Fertilizers and others b. Determination of CPO Effluent Monitoring using Simple Tests c. CPO and PKO Characteristics.	To study and recommend the economic benefit of using empty fruit bunches in estate fields. To explore methods and equipment for effluent testing. In-depth study of the characteristics and providing market specifications.	BPP Medan/RISPA BPP Medan/RISPA BPP Medan/RISPA	Completed 3/94 Completed 4/93 Completed 3/94	Stopped incineration of EFB to eliminate air pollution. Monitoring resulted in increased awareness of effluents. Provided useful info. for marketing products.
2.	<u>Rubber</u> a. Improvement of Rubber Collecting Practices b. Introduction of Appropriate DR Determination Method c. Semi industrials on all stages of Processing by Using Pilot CRF d. Rubber Effluent Monitoring	a) Survey of present methods, analyse and recommend improvements in collection. b) Review existing methods, analyse and recommend updated methods for prompt DRC testing. c) Formulate scope of trials to improve product quality caused by poor quality raw rubber. d) To study and recommend suitable effluent treatment systems.	BPP Sungai Putih BPP Bogor BPP Sembawa BPP Tanjung Morawa	Completed 4/93 Completed 6/93 Completed 9/95 Completed 4/93	a) Used guidelines for setting requirements in pilot CRF plant. b) new methods introduced in PTPs. c) Scheduled for implementation in pilot factory. d) Implementation reduced pollution from rubber factory discharge.

Table 8A: Project Costs

Component	Appraisal estimate (US\$M)			Actual/latest estimate (US\$M)		
	Local costs	Foreign costs	Total	Local costs	Foreign costs	Total
1. Processing Facilities						
Factories	28.7	53.4	82.1	20.2	47.2	67.4
Housing	11.5	3.8	15.3	2.0	4.5	6.5
Vehicles	3.2	12.7	15.9	-	-	-
Tech. Assistance/Training	11.2	7.1	18.3	-	9.5	9.5
Initial Working Capital	6.8	0.8	7.6	-	-	-
Other Civil Works *	-	-	-	1.0	2.4	3.4
Subtotal	61.4	77.8	139.2	23.2	63.6	86.8
2. Project Support						
Environmental Protection	0.8	1.2	2.0	-	3.6	3.6
Tech. Assistance/Training	0.9	2.5	3.4	-	7.0	7.0
Studies	0.8	1.6	2.4	-	3.2	3.2
Start-up Funds	0.5	2.5	3.0	-	-	-
Subtotal	3.0	7.8	10.8	-	13.8	13.8
TOTAL BASE COSTS	64.4	85.6	150.0	23.2	77.4	100.6
Physical Contingencies	3.8	6.4	10.2	-	-	-
Price Contingencies	10.7	9.5	20.2	-	-	-
TOTAL PROJECT COSTS	78.9	101.5	180.4	23.2	77.4	100.6
Interest During Construction	40.0	18.6	58.6	-	-	-
TOTAL FINANCING REQUIRED	118.9	120.1	239.0	23.2	77.4	100.6

* for effluent treatment

Table 8B: Project Financing

Source	Appraisal estimate (US\$M)			Actual/latest estimate (US\$M)		
	Local costs	Foreign costs	Total	Local costs	Foreign costs	Total
IBRD	18.5	99.7	118.2	30.8	44.3	75.1
Japan Grant Facility	-	1.8	1.8	-	1.8	1.8
2 State Commercial Banks	80.1	18.6	98.7	10.4	7.9	18.3
12 Government-owned Estate Companies (PTPs)	19.6	-	19.6	2.8	2.1	4.9
Government of Indonesia	0.7	-	0.7	0.5	-	0.5
TOTAL	118.9	120.1	239.0	44.5	56.1	100.6

**Table 9a: Summary of ERR and FRR
(Base Case)
Crude Palm Oil Mills and Crumb Rubber Factories**

Program	PTP	PTPN	SAR		ICR		
			FIRR	EIRR	FIRR	EIRR	
A. Crude Palm Oil Mills							
1.	Aek Raso	III	III	26%	62%	11%	26%
2.	Pinang Tinggi (Sei Bahar I)	IV	VI	23%	69%	26%	43%
3.	Bunut (Sei Bahar II)	IV	VI	19%	81%	9%	22%
4.	Tanjung Medan	IV	V	-	-	13%	25%
5.	Sei Intan	V	V	19%	60%	4%	21%
6.	Parindu	VII	XIII	17%	70%	23%	45%
7.	Cot Girek	IX	I	18%	53%	11%	23%
8.	Sungai Niru (Prabumilah)	X	VII	24%	65%	13%	26%
9.	Sungai Lengi (Muara Enim)	X	VII	24%	65%	10%	19%
10.	Pagar Merbau	IX	II	-	-	19%	21%
B. Crumb Rubber Factories							
1.	Danau Salak	XVIII	XIII	100%	21%	18%	21%
2.	Lima Puluh Koto	III	VI	-	-	6%	8%
3.	Bajubang	IV	VI	-	-	46%	45%
4.	Binio	IV	V	-	-	45%	30%
5.	Bukit Selasih	IV	V	392%	129%	45%	42%
Total Project EIRR				57%		28%	

**Table 9b: Sensitivity Analysis
(Price)
Crude Palm Oil Mills and Crumb Rubber Factories**

Program	PTP	PTPN	Low End of Range		High end of Range		
			FIRR	EIRR	FIRR	EIRR	
A. Crude Palm Oil Mills							
1.	Aek Raso	III	III	neg.	17%	23%	35%
2.	Pinang Tinggi (Sei Bahar I)	IV	VI	19%	40%	32%	47%
3.	Bunut (Sei Bahar II)	IV	VI	-9%	10%	24%	36%
4.	Tanjung Medan	IV	V	-4%	13%	27%	40%
5.	Sei Intan	V	V	-9%	14%	13%	28%
6.	Parindu	VII	XIII	13%	42%	31%	50%
7.	Cot Girek	IX	I	neg.	15%	24%	33%
8.	Sungai Niru (Prabumulah)	X	VII	1%	21%	21%	33%
9.	Sungai Lengi (Muara Enim)	X	VII	-2%	13%	18%	26%
10.	Pagar Merbau	IX	II	-1%	-2%	38%	40%
B. Crumb Rubber Factories							
1.	Danau Salak	XVIII	XIII	3%	11%	24%	26%
2.	Lima Puluh Koto	III	VI	-6%	-1%	11%	12%
3.	Bajubang	IV	VI	14%	14%	59%	58%
4.	Binio	IV	V	27%	9%	53%	38%
5.	Bukit Selasih	IV	V	16%	15%	56%	53%
Total Project EIRR				19%		37%	

**Table 9c: Sensitivity Analysis (Cost and Capacity Utilization)
Crude Palm Oil Mills and Crumb Rubber Factories**

Program	PTP	PTPN	Financial Internal Rate of Return				
			Cost < 25%	Cost > 25%	Util. < 5%	Util. < 10%	
A. Crude Palm Oil Mills							
1.	Aek Raso	III	III	14%	8%	3%	neg.
2.	Pinang Tinggi (Sei Bahar I)	IV	VI	27%	24%	22%	16%
3.	Bunut (Sei Bahar II)	IV	VI	12%	5%	1%	-13%
4.	Tanjung Medan	IV	V	15%	10%	6%	-7%
5.	Sei Intan	V	V	6%	1%	-2%	-13%
6.	Parindu	VII	XIII	25%	21%	18%	neg.
7.	Cot Girek	IX	I	13%	7%	1%	neg.
8.	Sungai Niru (Prabumulih)	X	VII	15%	11%	8%	-3%
9.	Sungai Lengi (Muara Enim)	X	VII	12%	8%	5%	-6%
10.	Pagar Merbau	IX	II	31%	4%	neg.	neg.
B. Crumb Rubber Factories							
1.	Danau Salak	XVIII	XIII	21%	15%	3%	neg.
2.	Lima Puluh Koto	III	VI	8%	3%	-5%	neg.
3.	Bajubang	IV	VI	55%	37%	11%	neg.
4.	Binio	IV	V	57%	30%	neg.	neg.
5.	Bukit Selasih	IV	V	52%	37%	18%	neg.

**Table 10: Status of Legal Covenants
Indonesia
Tree Crop processing Project**

Agreement	Section	Covenant Class	Present status	Original fulfillment date	Description of covenant
Article III	3.01	13,01	C		Borrower to carry out the Project with due diligence and efficiency and provide required funds, facilities, services and other resources.
	3.03	13,01	C		Borrower to enter or cause to be entered financing agreements, subsidiary Loan Agreements, and Credit Agreements satisfactory to the Bank.
	3.04	9	C	6/30/93	Borrower to submit by June 30, 1989, action plan for each project PTP.
	3.05	6	C	12/31/90	Borrower to submit by December 31, 1990, action plan for effluent control for existing factories.
	3.06	10	C		Borrower to recruit and train factory staff for each project PTP and appoint them at least 6 months prior to commissioning date.
	4.01 (a)	3	C		Borrower to maintain or cause to be maintained adequate records and accounts in respect of the project.
	4.02	5	C		Borrower to cause each project PTP to take out and maintain adequate insurance.
	4.03(a)	5	C		Borrower to cause each project PTP to maintain rights and interest in land and other as necessary in the conduct of its business.
	4.03 (b)	5	C		Borrower to cause each project PTP to operate and maintain installations, equipment and property adequately.
	4.04	5	C		Borrower to cause each PTP to manage its affairs, maintain its financial position adequately.

Covenant Class:

- 1 Accounts/audit
- 3 Flow & utilization of Project funds
- 5. Management aspects;
- 6 Environment Covenants
- 9 Monitoring, review and reporting
- 10 Implementation
- 13 other

Present Status:

C = Covenant complied with

Table 11: Compliance with Operational Manual Statement

Statement number and title	Describe and comment on lack of compliance
There are no OMS relevant to the project that have not been complied with and/or acted against.	

Table 12: Bank Resources: Staff Inputs

Stage of project cycle	Planned		Revised		Actual	
	Weeks	US\$	Weeks	US\$	Weeks	US\$'000
Through appraisal	n.a.	n.a.	n.a.	n.a.	66.9	
Appraisal - Board	n.a.	n.a.	n.a.	n.a.	105.6	
Board - effectiveness	n.a.	n.a.	n.a.	n.a.	n.a.	
Supervision	n.a.	n.a.	n.a.	n.a.	246.7	
Completion	n.a.	n.a.	n.a.	n.a.	2.5	
TOTAL	426.3	n.a.	n.a.	n.a.	421.7	

Table 13: Bank Resources: Missions

Stage of project cycle	Month/year	Number of persons	Days in field	Specialized staff skills represented	Performance rating		Types of problems
					Implementation status	Development objectives	
Identification							-
Preparation							-
Appraisal							-
Supervision 1	6/89	5	20	TCS, TS, E, A, PE	1	1	-
Supervision 2	12/89	3	7	TCS, A, PE	1	1	-
Supervision 3	6/90	4	12	TCS, A, PE, ME	2	1	-
Supervision 4	3/91	5	19	TCS, TS, AE, A, PE	2	2	-
Supervision 5	2/92	6	31	TCS,FA,TS, ES, A, PE	2	2	-
Supervision 6	12/92	5	18	TCS, TS, ES, A, PE	2	2	-
Supervision 7	8/93	4	15	TCS, A, PE, ES	2	2	-
Supervision 8	3/94	4	22	TCS, TS, A, PE	2	2	-
Supervision 9	9/94	2	18	TCS, A	S	HS	-
Supervision 10	6/95	3	17	TCS, A, TS	S	S	-
Supervision 11	7/95	2	18	TCS, A	S	S	-
Completion	02/97	3	11	TCS, AE, PE	S	S	-

Specialized Staff: TCS=Tree Crop Specialist; TS= Training Specialist; E= Economist; A=Agriculturalist; AE= Agricultural Economist; PE=Processing Engineer; FA= Financial Analyst; ES= Environmental Specialist; ME= M&E Specialist.

PART II: STATISTICAL ANNEXES

ANNEX B. FINANCIAL AND ECONOMIC RATES OF RETURN

Part a. Palm Oil Mills

Annex B. Part a.

Notes on Financial and Economic Rate of Return Calculations for Oil Palm Mills
(see Tables a.3.1 to a.3.10 - Annex B)

Except for the rehabilitation of the Pagar Merbau 60 ton/hour CPO mill (Table a.3.10 - Annex B), there is no without project scenario for palm oil factories. The assumption is that factories which existed before the project were too far away to transport the FFB without spoilage.

1. FFB Processed. Tonnage for years 1990 to 1995 based on actuals reported by PTPs/TKPIR. Tonnage for the year 1996 based on estimates derived from monthly actuals provided up to June or October 1996. Projections for the years 1997 and beyond based on estimates provided by PTPs/TKPIR or projected up to the capacity of the factory to process.
2. CPO and Kernel Extraction rates. Expressed as a percentage of CPO/kernel per ton of FFB. Rates for the years 1990 to 1995 based on actuals reported by PTPs/TKPIR. Rates for the year 1996 based on estimates derived from monthly actuals provided up to June or October 1996. Projections for the years 1997 and beyond based on estimates provided by PTPs/TKPIR or calculated from projected FFB tonnage processed and oil/kernel produced.
3. CPO and Kernel Production. Tonnage for years 1990 to 1995 based on actuals reported by PTPs/TKPIR. Tonnage for the year 1996 based on estimates derived from monthly actuals provided up to June or October 1996. Projections for the years 1997 and beyond derived from projections of FFB processed and the respective projections on CPO and Kernel extraction rates.
4. CPO and Kernel Price Received (see Table a.1 - Annex B). Expressed in Constant Rp/kg (1996=100). Prices derived from World Market actuals and projections as reported by the World Bank, "Commodity Markets in Developing Countries", (August 1996). CPO price received assumed to constitute approximately 90% of the FOB market price due to domestic price controls and export taxes. Kernel price received is FOB market price based on actuals reported by PTPs/TKPIR and assumed to be 60% of CPO market price.
5. CPO and Kernel Revenue Received. Expressed in Constant Rp million (1996=100). Result derived from the product of CPO and Kernel processed by the respective price received.
6. Estate FFB production costs. Expressed in Constant Rp million (1996=100) and calculated from the proportion of estate FFB production. Assumed that the cost of estate FFB production is 80% of the FOB palm product value in terms of revenue received.
7. Smallholder FFB purchases. Expressed in Constant Rp million (1996=100) and calculated from the proportion of FFB production purchased from smallholders. Calculations based on smallholder FFB pricing formula which requires that approximately 70% of the FOB palm product value be paid by the factory for purchase of smallholders' FFB.

Annex B. Part a.

8. Processing costs. Expressed in Constant Rp million (1996=100). Result derived from the product of unit cost of processing (Rp/kg) and the total amount of FFB processed. Unit costs for the years 1990 to 1995 based on actuals reported by PTPs/TKPIR. Unit costs for the year 1996 based on estimates derived from actuals provided up to June or October 1996. Projections for the years 1997 and beyond based on standards necessary for efficient and cost-effective operation.
9. Marketing costs. Expressed in Constant Rp million (1996=100). Result derived from the product of unit cost of transport and marketing (Rp/kg) and the total amount of palm products processed. Unit costs for the years 1990 to 1995 based on actuals reported by PTPs/TKPIR. Unit costs for the year 1996 based on estimates derived from actuals provided up to June or October 1996. Projections for the years 1997 and beyond based on standards necessary for efficient and cost-effective operation. Provision for PTP Head Office overhead costs included.
10. Investment costs. Actuals as reported by PTPs/TKPIR and expressed in Constant Rp million (1996=100). Projected replacements of machinery and equipment as shown on Tables a.2.1 and a.2.2 (Annex B).
11. Economic value of production. Based on same calculations as for the financial rate of return except that the CPO price is the world market FOB price (not discounted for the effect of domestic price controls and export taxes).
12. Economic investment and operating costs. As in the SAR, conversion factor of 0.85 applied to investment costs and operating costs of processing and marketing.
13. Support training and consultancy. General training and consultancy costs (including environmental support) funded under the non-credit/support component of the project apportioned on the basis of weighted average by respective factory investment cost.
14. Financial and Economic IRR. Base Case (See Table 9a - Annex A).
15. Pagar Merbau. (see Table a.3.10 - Annex B). Rehabilitation of 60 ton/hr CPO mill. Without project costs and benefits based on actuals to 1995. With project costs and benefits in 1995 based on actuals; in 1996 estimated from monthly actuals to June; 1997 and beyond projected on standards necessary for efficient and cost-effective operations.
16. Price Sensitivity. (See Table 9b - Annex A). Low end and high end prices derived from World Market 70% probability distribution as reported by the World Bank, "Commodity Markets in Developing Countries", (August 1996). Prices to 1995, actuals applied; for 1996 and beyond, low end and high end of 70% distribution range applied respectively.
17. Sensitivity to processing costs and changes in capacity utilisation. (See Table 9b - Annex A). Processing costs to 1995, actuals applied; for 1996 and beyond, 25% decrease and 25% increase in estimated/projected processing costs applied respectively. Factory throughput to 1995, actuals applied; for 1996 and beyond, 5% and 10% decrease in factory throughput applied respectively.

Table a.1 CPO and Kernel Price Calculations

#	CPO - Actual			#	MUV	MUV	CPO - CIF Europe			CPO - FOB JKT			Exch.Rat	CPO - FOB JKT			CPO Rec'd			Kernel - FOB JKT			
	CIF Europ (90 \$/ton)	Base (\$/ton)	Low (\$/ton)				High (\$/ton)	'90=100	'96=100	Base (96 \$/ton)	Low (96 \$/ton)	High (96 \$/ton)		Base (96 \$/ton)	Low (96 \$/ton)	High (96 \$/ton)	(Rp/\$)	Base (96 Rp/Kg)	Low (96 Rp/Kg)	High (96 Rp/Kg)	Base (96 Rp/Kg)	Low (96 Rp/Kg)	High (96 Rp/Kg)
1985	730	501			68.61	57.89				865			820										
1986	613	459			74.89	63.19				726			681										305
1987	513	417			81.17	68.48				608			563	1,639	923			831					357
1988	428	374			87.44	73.78				507			462	1,660	768			691					480
1989	354	332			93.72	79.08				420			375	1,758	659			593					434
1990	290	290			100.00	84.37				344			299	1,855	554			499					255
1991	335	342			102.23	86.26				396			351	1,953	686			618					433
1992	369	394			106.64	89.98				438			393	2,014	791			712					524
1993	355	378			106.33	89.71				421			376	2,074	781			702					384
1994	479	528			110.21	92.99				568			523	2,163	1,131			1,018					574
1995	545	628			115.18	97.18				646			601	2,252	1,354			1,219					617
1996	430	510	460	635	118.52	100.00	510	460	635	465	415	590	2,341	1,089	972	1,381	980	874	1,243	731	583	829	
1997	380	460	370	630	120.91	102.02	451	363	618	406	318	573	2,341	950	744	1,340	855	669	1,206	570	446	804	
1998	360	445	345	635	123.48	104.18	427	331	609	382	286	564	2,341	895	670	1,321	805	603	1,189	537	402	793	
1999	342	433	320	633	126.37	106.62	406	300	593	361	255	548	2,341	844	596	1,283	760	537	1,155	507	358	770	
2000	325	420	294	630	129.26	109.06	385	270	578	340	225	533	2,341	796	526	1,247	717	473	1,122	478	315	748	
2001	319	423			132.27	111.60	379	266	569	334	221	524	2,341	781	517	1,227	703	466	1,104	469	310	736	
2002	314	425			135.28	114.14	373	262	560	328	217	515	2,341	767	508	1,207	690	457	1,086	460	305	724	
2003	309	428			138.29	116.68	367	258	552	322	213	507	2,341	753	499	1,186	678	449	1,067	452	299	712	
2004	305	430			141.30	119.22	361	254	543	316	209	498	2,341	740	489	1,165	666	440	1,049	444	294	699	
2005	300	433			144.31	121.76	356	250	534	311	205	489	2,341	727	480	1,145	654	432	1,030	436	288	687	
2006							356	250	534	311	205	489	2,341	727	480	1,145	654	432	1,030	436	288	687	
2007							356	250	534	311	205	489	2,341	727	480	1,145	654	432	1,030	436	288	687	
2008							356	250	534	311	205	489	2,341	727	480	1,145	654	432	1,030	436	288	687	
2009							356	250	534	311	205	489	2,341	727	480	1,145	654	432	1,030	436	288	687	
2010							356	250	534	311	205	489	2,341	727	480	1,145	654	432	1,030	436	288	687	

1 World Bank, "Commodity Markets in Developing Countries", (August 1996)

PART II: STATISTICAL ANNEXES

ANNEX B. FINANCIAL AND ECONOMIC RATES OF RETURN

Part b. Rubber Factories

Notes on Financial and Economic Rate of Return Calculations for Rubber Factories
(see Tables b.3.1 to b.3.5 - Annex B)

There is no without project scenario for Danau Salak (40 tons/day) and Lima Puluh Koto (20 tons/day) CRF factories (see tables b.3.1 and b.3.2 - Annex B). The assumption in these cases is that factories which existed before the project were too far away for transport of raw materials.

1. Dry Rubber Processed. Tonnage for years 1990 to 1995 based on actuals reported by PTPs/TKPIR. Tonnage for the year 1996 based on estimates derived from monthly actuals provided up to June or October 1996. Projections for the years 1997 and beyond based on estimates provided by PTPs/TKPIR or projected up to the capacity of the factory to process.
2. Price Received (see Table b.1 - Annex B). Expressed in Constant Rp/kg DRC (1996=100). Prices derived from World Market actuals and projections as reported by the World Bank, "Commodity Markets in Developing Countries", (August 1996). Without project price received based on actuals to 1995; for 1996, estimated from monthly actuals to June or October; for 1997 and beyond, projected for SIR 10/20 (assumed at a discount of 10% from RSS-1 FOB, Jakarta). With project price received based on actuals to 1995 and monthly estimates to June or October for 1996; for 1997 and beyond, projected for RSS-1 FOB, Jakarta.
3. Revenue Received. Expressed in Constant Rp million (1996=100). Result derived from the product of dry rubber processed by the price received.
4. Estate costs. Expressed in Constant Rp million (1996=100) and calculated from the proportion of estate rubber production. Assumed that the cost of estate estate production is 80% of the FOB product value in terms of revenue received.
5. Smallholder purchases. Expressed in Constant Rp million (1996=100) and calculated from the proportion of rubber production purchased from smallholders. Purchases to 1995 based on actuals; for 1996, estimated from montly actuals to June or October; for 1997 and beyond, assumed that the price paid is approximately 80% of the FOB product value in terms of revenue received.
6. Processing costs. Expressed in Constant Rp million (1996=100). Result derived from the product of unit cost of processing (Rp/kg) and the total amount of dry rubber processed. Unit costs for the years 1990 to 1995 based on actuals reported by PTPs/TKPIR. Unit costs for the year 1996 based on estimates derived from actuals provided up to June or October 1996. Projections for the years 1997 and beyond based on standards necessary for efficient and cost-effective operation.

Annex B. Part b.

7. Marketing costs. Expressed in Constant Rp million (1996=100). Result derived from the product of unit cost of transport and marketing (Rp/kg) and the total amount of rubber products processed. Unit costs for the years 1990 to 1995 based on actuals reported by PTPs/TKPIR. Unit costs for the year 1996 based on estimates derived from actuals provided up to June or October 1996. Projections for the years 1997 and beyond based on standards necessary for efficient and cost-effective operation. Provision for PTP Head Office overhead costs included.
8. Investment costs. Actuals as reported by PTPs/TKPIR and expressed in Constant Rp million (1996=100). Projected replacements of machinery and equipment as shown on Tables b.2.1, b.2.2 and b.2.2.3 (Annex B).
9. Economic value of production. Same as amounts shown in revenue received.
10. Economic investment and operating costs. As in the SAR, conversion factor of 0.85 applied to investment costs and operating costs of processing and marketing.
11. Support training and consultancy. General training and consultancy costs (including environmental support) funded under the non-credit/support component of the project apportioned on the basis of weighted average by respective factory investment cost.
12. Financial and Economic IRR. Base Case (See Table 9a - Annex A).
13. Expansion Factories. (see Tables b.3.3, b.3.4 and b.3.5 - Annex B). Without project costs based on actuals to 1995. With project costs in 1995 based on actuals; in 1996 estimated from monthly actuals to June; 1997 and beyond projected on standards necessary for efficient and cost-effective operations.
14. Price Sensitivity. (See Table 9b - Annex A). Low end and high end prices derived from World Market 70% probability distribution as reported by the World Bank, "Commodity Markets in Developing Countries", (August 1996). Prices to 1995, actuals applied; for 1996 and beyond, low end and high end of 70% distribution range applied respectively.
15. Sensitivity to processing costs and changes in capacity utilisation. (See Table 9b - Annex A). Processing costs to 1995, actuals applied; for 1996 and beyond, 25% decrease and 25% increase in estimated/projected processing costs applied respectively. Factory throughput to 1995, actuals applied; for 1996 and beyond, 5% and 10% decrease in factory throughput applied respectively.

Table b.1 Rubber Price Calculations

#	Rubber - Actual			#	MUV		Rubber - CIF Europe			RSS-1 FOB JKT				RSS-1 FOB JKT			SIR 10/20 FOB JKT			
	CIF Europ (90 c/kg)	Base (c/kg)	Low (c/kg)		High (c/kg)	'90=100	'96=100	Base (96 c/kg)	Low (96 c/kg)	High (96 c/kg)	Base (96 c/kg)	Low (96 c/kg)	High (96 c/kg)	Exch.Rat (Rp/\$)	Base (96 Rp/Kg)	Low (96 Rp/Kg)	High (96 Rp/Kg)	Base (96 Rp/Kg)	Low (96 Rp/Kg)	High (96 Rp/Kg)
1985	111	76			68.61	57.89	131						121							
1986	104	78			74.89	63.19	123						113							
1987	99	80			81.17	68.48	117						107	1,639	1,751				2,033	
1988	94	82			87.44	73.78	111						101	1,660	1,679				2,255	
1989	90	84			93.72	79.08	106						96	1,758	1,692				1,709	
1990	86	86			100.00	84.37	102						92	1,855	1,705				1,581	
1991	84	86			102.23	86.26	100						90	1,953	1,752				1,722	
1992	81	86			106.64	89.98	96						86	2,014	1,724				1,686	
1993	78	83			106.33	89.71	93						83	2,074	1,711				1,879	
1994	103	113			110.21	92.99	122						112	2,163	2,412				2,077	
1995	137	158			115.18	97.18	163						153	2,252	3,436				2,970	
1996	121	144	133	156	118.52	100.00	144	133	156	134	123	146	2,341	3,137	2,879	3,418	3,046	2,591	3,076	
1997	118	143	115	168	120.91	102.02	140	113	165	130	103	155	2,341	3,047	2,405	3,621	2,743	2,164	3,259	
1998	114	141	110	169	123.48	104.18	135	106	162	125	96	152	2,341	2,934	2,238	3,563	2,641	2,014	3,207	
1999	112	142	107	171	126.37	106.62	133	100	160	123	90	150	2,341	2,884	2,104	3,509	2,595	1,894	3,158	
2000	111	143	103	172	129.26	109.06	131	94	158	121	84	148	2,341	2,835	1,977	3,458	2,552	1,779	3,112	
2001	112	148			132.27	111.60	133	95	160	123	85	150	2,341	2,875	1,995	3,512	2,587	1,795	3,160	
2002	113	153			135.28	114.14	134	96	162	124	86	152	2,341	2,912	2,023	3,558	2,621	1,820	3,202	
2003	115	159			138.29	116.68	136	98	164	126	88	154	2,341	2,948	2,051	3,605	2,653	1,846	3,245	
2004	116	164			141.30	119.22	137	99	166	127	89	156	2,341	2,982	2,079	3,652	2,684	1,871	3,287	
2005	117	169			144.31	121.76	139	100	168	129	90	158	2,341	3,015	2,107	3,699	2,714	1,896	3,329	
2006							139	100	168	129	90	158	2,341	3,015	2,107	3,699	2,714	1,896	3,329	
2007							139	100	168	129	90	158	2,341	3,015	2,107	3,699	2,714	1,896	3,329	
2008							139	100	168	129	90	158	2,341	3,015	2,107	3,699	2,714	1,896	3,329	
2009							139	100	168	129	90	158	2,341	3,015	2,107	3,699	2,714	1,896	3,329	
2010							139	100	168	129	90	158	2,341	3,015	2,107	3,699	2,714	1,896	3,329	

APPENDIX I
AIDE MEMOIRE

**Indonesia - Tree Crops Processing Project (Loan 3000-IND)
Preparation of Implementation Completion Report (ICR)**

AIDE MEMOIRE

1. An FAO (CP) mission consisting of consultants, Mr Dennis Ellingson (Economist/Management Specialist) and Mr Lee Yew Foong (Oil Palm/Rubber Processing Specialist) visited Indonesia from 4 to 22 November 1996 to carry out the final supervision and prepare an Implementation Completion Report (ICR) for the Tree Crops Processing Project (Loan 3000-IND). Mr Osman Farruk (EA3AG), Task Manager, participated in the mission and was responsible for overall guidance and coordination of mission activities. Mr Soemardjo (EA3RS) provided back-up support and information required for the work of the mission.

2. Following initial discussions with staff of TKPIR, the mission visited the construction sites of several palm oil and rubber factories in southern, central and northern Sumatra.¹ During this time the mission also held discussions with the management and technical staff of these factories and with head office staff of some PTPNs. This Aide Memoire summarises the findings and recommendations of the mission, and discussions at a wrap-up meeting with GOI officials on November 21, 1996 which was chaired by Mr Nogoseno, Director of Planning (DGE). The mission's recommendations are subject to confirmation by Bank management in Washington D.C. The mission wishes to thank TKPIR, and staff of the factories and PTPNs visited, for the excellent arrangements made for the field visits and the warm hospitality and cooperation extended.

PROJECT BACKGROUND

3. The Tree Crop Processing Project (TCPP) was approved on November 11, 1988 for a total loan amount of US\$118.2 million with total project costs estimated at US\$180.4 million. Co-financing was also provided for the funding of technical assistance in the form of a grant of JPY240 million from the Japanese government.

4. The Loan Agreement was signed on December 2, 1988 and became effective on March 2, 1989. The original closing date was September 30, 1993. Following the February 1992 mid-term review, the closing date was extended by one year to September 30, 1994. Subsequently, as the result of further reviews in 1994 and 1995, it was granted two more one-year extensions to September 30, 1995 and finally to September 30, 1996 which was the third and final extension. The reviews also resulted in adjustments to the project scope, among others, including: (a) cancellation of some factories due to downward revisions in crop projections, relocation of two rubber factories and the construction of an additional new palm oil factory; (b) additional studies and training activities; and (c) cancellation of loan savings amounting to US\$35.8 million in total. The mission was informed that a further undisbursed amount of US\$7-8 million will be cancelled. The mission also advised GOI that all reimbursement claims for eligible expenditure must be submitted to the Bank prior to January 31, 1997.

¹ A detailed technical report of the factory visits was given to TKPIR at the wrap-up meeting for distribution to the relevant PTPNs.

PROJECT OBJECTIVES

5. The main objectives of the TCPP were to raise the productivity and efficiency of the tree crop subsector, safeguard smallholder and estate incomes, and increase non-oil exports by providing essential processing facilities and addressing technical, institutional and marketing constraints on factory efficiency. The original project scope consisted of: (a) Processing Facilities (credit component) for the construction and/or expansion of PTP processing facilities including 11 crumb rubber factories (CRF) and 14 crude palm oil (CPO) factories with vehicles, training of PTP and factory staff, technical assistance and working capital; and (b) Project Support (non-credit component) for environmental protection, monitoring and evaluation, training of DGE staff and tree crop subsector related agencies' personnel, studies and start-up funds.

ACHIEVEMENT OF OBJECTIVES

6. The physical implementation of the project has been satisfactory and despite the initial and subsequent delays in project implementation, the revised targets have been achieved. As of the loan closing date on September 30, 1996 eight new CPO factories have been completed and are in operation. The 9th, at Tanjung Medan, is expected to be operational by December, 1996. The completion of these factories represents an increased oil palm fresh fruit bunches (FFB) processing capacity of 300 tons/hour. The rehabilitation of the 60 tons/hr Pagar Merbau CPO factory has also been completed. Under the revised scope of the project, three new rubber factories have been completed including a crumb rubber pilot plant at Sembawa and three existing crumb rubber factories (CRF) have been expanded. These CRF factory construction/expansions represent an increased dry rubber processing capacity of 150 tons/day. Although the increased throughput capacity created with the project was less than envisaged at appraisal (projected at 450 FFB tons/hr and 220 dry rubber tons/day), given the reduced investment cost, the unit costs to create the increased capacity was also lower.

7. Besides creating increased processing capacity, the project has achieved its major objective of raising the productivity and efficiency of the tree crop subsector. In addition to providing processing and marketing outlets for the raw materials produced by smallholders and estates of the NES/PIR projects, in some cases, these facilities have also benefitted other plantations not initially associated with the project. Factory efficiencies have also improved, with CPO extraction rates in most of the existing PTP palm oil factories increasing by as much as 1-2% to a range of 19.5% to 23.5% (overall 22% average). The new project funded factories also showed remarkable oil extraction achievements of 21% to 24% compared to SAR estimates of 21%. This and improved factory throughput, particularly by the 30 tons/hr CPO mills, can be attributed to the technical assistance, training and M&E activities carried out under the project. Project induced standardisation of factory design has also resulted in cost savings in the installation and maintenance of plant and machinery further indicating achievement of the productivity/efficiency objective.

8. Another major objective of the project was to safeguard smallholder and estate incomes. TCPP has achieved this objective through providing assured access to processing facilities, in many instances, in areas which hitherto had no such facilities. For example, the CPO factory at Tanjung Medan will provide the only processing facilities for smallholders in a radius of 150 miles. The two CPO factories at Sei Bahar I and II (Pinang Tinggi and Bunut) are the only such facilities in Jambi province which has a large population of smallholder oil palm growers. Altogether the increased processing capacity created under the project will provide continued benefits to some 65,000 smallholder oil palm and rubber growers. The current standard of factory management is good and, in some cases, close to optimum production levels have been reported. The adequate standard of these facilities, provided continued good management, should ensure that processing and marketing outlets for the raw materials produced by both estates and smallholders is easily and cheaply accessible in the long term.

9. The third major objective of increased non-oil exports has also been achieved by the project.² The incremental processing capacity at full development will provide for annual incremental production of 330,000 tons of palm oil, 75,000 tons of palm kernel and 40,500 tons of rubber. At current market prices, this increased production is equivalent to nearly US\$200 million, approximately 8.5% of the value of exports of these two commodities in 1990.

10. World palm oil production is rising at a rate of about 1 million tons or 5% p.a. which is the fastest growth of all vegetable oil supplies. Indonesia's increased production accounts for approximately half of this increase in world supplies. World demand for vegetable oils is also expected to improve in the future with a projected increase of 1.4 million tons in 1996/97 and continued strong import demand, particularly by China which alone accounts for more than half of the total increase in world imports of vegetable oils. Palm oil production is expected to cover the bulk of the increase in world import demand and with the rise in production will account for approximately two-fifths of the world total import demand for all vegetable oils. The world export prospects for rubber are also good, especially given the fall in estate production in Malaysia where total production has contracted since mid-1995. By contrast, despite recent softening of prices, Indonesian production increases have been steady and consistent at about 2.1% growth p.a. The TCPP provides the increased processing capacity to further strengthen Indonesia's position in the world export markets for CPO and rubber.

11. The project has also achieved significant improvements in the standard of waste management at project factory sites as well as at other PTP factories not directly associated with the project. The implementation of PMCA I and PMCA II on environment protection has also contributed to the success as well as the strengthening of pollution monitoring capabilities in North Sumatra and West Kalimantan provinces. All the factories financed under the project have installed effluent treatment systems and, though all are not yet in compliance with the standards set by GOI, it is expected that all will be in the near future.³

² In recent years most of the CPO produced in Indonesia has been refined and consumed locally. Never-the-less, the savings of foreign exchange through import substitution would be approximately equivalent to the foreign exchange earnings if it was exported instead.

³ Mechanical works for the effluent treatment system have yet to be installed at the Bunut Mill.

Altogether the project has made a remarkable impact on existing PTP factories' effluent and pollution control. Whereas before the project none of the PTP factories were in compliance with the national standards, by the end of 1994, 68% were in compliance. It is envisaged that with increased awareness and further realisation of the benefits of properly managed effluent control, 100% compliance is possible within the next few years.

12. Achievements in institutional development have also been satisfactory, especially with regard to the proper and efficient management of the factories. This was achieved through the training and technical assistance which has provided a pool of trained and widely exposed managerial and technical manpower upon which the factories must rely for efficient operations.

13. International palm oil and rubber processing consultants were recruited and stationed at each of the PTP headquarters with the role of reviewing and improving the efficiency of existing PTP factories and advising management on the construction of new factories. The project also provided 6 consultants to strengthen TKPIR's technical capacity. The consultancies have been satisfactory and they have contributed to project implementation, particularly in the improvement of the existing PTP factory performance which previously was reported as unsatisfactory.

TOTAL PROJECT COSTS, FINANCING AND DISBURSEMENTS OF BANK LOAN

14. As of October 28, 1996 total loan disbursements amounted to US\$73 million or 82.6% of the total revised loan amount. The mission was not provided with a breakdown of project costs and financing by their constituent component. However, preliminary calculations by major project category are shown on the following table.

Estimated Project Costs @ October 28, 1996	Local Costs	Foreign Costs	Total
1. Processing Facilities			
Factory and Housing	14,946,406	34,874,947	49,821,353
Effluent Treatment Plants	7,789,244	1,465,738	2,254,982
Technical Assistance/Training	-	9,149,804	9,149,804
2. Project Support			
Technical Assistance/Training	-	11,513,353	11,513,353
3. Special Account			
Special Account	-	330,770	330,770
TOTAL	15,735,649	57,334,613	73,070,262
% of Total	21.50%	78.50%	100.00%

15. The mission requested that TKPIR provide the actual disbursements and project costs, by their constituent component, by the end of November 1996 so that they can be incorporated into the final ICR.

IMPLEMENTATION RECORD AND MAJOR FACTORS AFFECTING THE PROJECT

16. As mentioned above, project implementation was behind schedule from the onset and further delays during its course resulted in the need for three one-year extensions of the loan closing date to enable the project to be completed satisfactorily. Initially, implementation delays resulted from disagreements among PTPs on the technical specifications for CPO factories urgently required in some areas. This was eventually resolved but not before the construction of these 5 'urgent' factories were delayed by approximately one year. Delays were also experienced in the completion of the consultant's report for the standardisation of CPO and rubber factories which subsequently resulted in a delay in construction of factories which were to be constructed according to the approved standard design.

17. Once construction commenced there were also delays in many of the individual factory constructions/expansions caused by the less than satisfactory performance by some contractors and supervising consultants, as well as the lack of coordination between all the parties involved in the management of the construction contracts. New CPO factories at Aek Raso, Cot Girek, Sungai Niru, Sungai Linggi and Bunut required 3 to 4 years to complete compared to the 18-20 month period specified in the construction contracts.

18. Initially, there were delays in the importation of machinery and equipment due to the change in Government policy whereby procurement for public sector projects was no longer exempt from customs duty. There was also at least one case (boilers for Tanjung Medan) where the delay in officially approving the loan closing date extension resulted in the expiry of the LC which subsequently had to be reapplied for and renewed causing even further delays in the procurement of these items. In another case (Bunut CPO construction) the lack of support for the contractor's LC application resulted in the procurement delay for the required equipment. There were also changes in the number of processing facilities required as well as the locations of construction sites which resulted in delays in overall project implementation.

19. Many of the above-mentioned implementation problems and delays were further exacerbated with the uncertainties and confusion over responsibilities naturally resulting from GOI decision to reorganise and rationalise the 32 PTPs into 14 PTPNs, consideration of which started towards the middle of the project period with the official decision taken in March 1996.

PROJECT SUSTAINABILITY

20. All the project factories are located at strategic locations within close proximity of an adequate number of smallholder producers necessary to provide the raw material throughput to the factories. Many are also part of PTP estates which further assures a ready supply of throughput. The availability of crops is also expected to increase with the maturity of large numbers of juvenile trees in some areas and hence, adequate crops available to keep the factories operating at optimum production levels.

21. Medium and long term projections for commodity prices are generally favourable and the operating margins received by the factories on the processing of raw materials is adequate to provide for continued profitability. However, in recent times, more private sector facilities are being established and therefore, PTP factories need to maintain a strictly commercial outlook to ensure their competitiveness and market share. Prices paid for the raw material purchases, and other services provided by the factories, must be maintained at competitive levels, especially after the repayment of loan commitments when smallholders will no longer be obliged to sell their produce to the PTP factories.⁴

22. The prospects of sustainability for the main project components are good as the factories were well designed and constructed, and capable of optimum production and extraction efficiencies. They are currently well managed and reasonably efficient with acceptable unit costs of production. Factory management teams have been trained under the project and now provide the competence in management and technical abilities to maintain the performance which in most cases is as good as that of more established major plantation companies. The Factory Monitoring Database (FMDB) is being incorporated into the management information systems of the PTPNs to provide better management control in technical areas. To ensure the factories continue to operate efficiently, continued support from the PTPNs' headquarters, particularly adequate funding for preventive maintenance, is required. To ensure the full integration of the FMDB and given the cessation of TKPIR, there may also be a need to establish a functional responsibility for its implementation at the national level.

BANK PERFORMANCE

23. The Bank's performance in regard to the project has been extensive and involved not only during the project's implementation but also during the initial preparation stages when the Bank's inputs expedited project preparation, appraisal and loan negotiations leading to accelerated loan effectiveness. During the period of project implementation, Bank supervision missions were conducted approximately twice yearly (total of 11). The missions were adequately staffed with the expertise necessary to deal effectively with all the components of the project. Their reports and reviews were well-written and comprehensive, and have provided the implementing agencies with timely findings and recommendations to improve the status of project implementation. The Bank's mid-term review in 1992 which led to some major adjustments in the project scope, and its willingness to make an exception with the third loan closing date extension, was indicative of the flexibility and responsiveness of the Bank towards the needs of the GOI and the project.

24. The Borrower raised some concerns regarding the bureaucratic process of the Bank, particularly with regard to the issuance of no objection letters (NOL) from Bank headquarters for various approvals affecting project implementation. The mission took this concern into consideration but was provided with no quantitative evidence to substantiate it.

⁴ The prices paid for smallholder fresh fruit bunches is calculated according to a formula which is adjusted periodically. A review of the formula is underway to revise it to ensure that smallholders are receiving a fair price for their produce.

BORROWER PERFORMANCE

25. The performance by the borrower was good. Adequate funds for the implementation of project were provided on a timely basis. With the assistance of TKPIR, Project Implementation Units (PMUs) for all the factory components were established and despite the delays, the processing facilities have been largely completed as a result. TKPIR also successfully implemented the diverse and numerous TA components of the project and ensured that all the loan covenants and conditions required of the Loan Agreement ultimately met with compliance. The GOI through TKPIR has also established guidelines on processing standards and efficiency as targets for PTPN's achievement. The development of the factory monitoring data base (FMDB) system for monitoring and management control of the technical performance of the factories was another good achievement.

26. Except in a few special cases the borrower was prompt in making procurement decisions. Although the change in Government policy with regard to the payment of import duties caused initial procurement delays due to lack of funds which had not been budgeted for this purpose, this issue was eventually resolved. However, in some cases, there were disputes between contractors the PTPs and the supervising consultants over the status of progress made on some factories' construction. Apparently there was no mechanism to adequately resolve these disputes to the mutual satisfaction of all parties.

ASSESSMENT OF OUTCOME

27. Generally the assessment of the TCPP was positive as it achieved its objectives of raising the productivity and efficiency of the tree crops subsector; it has safeguarded estate and smallholder incomes; and it has provided the increased production to increase non-oil exports if the Government chose to export rather than consume the products locally. At the time of project implementation, there were no private sector processing facilities in the proximity of smallholders whose produce, without the factories constructed or expanded by the project, would have been wasted or their value decreased by high transport costs to deliver the produce to distant facilities. Rather than interfering with the establishment of private enterprise, the project has actually demonstrated that processing of smallholder produce can be a profitable enterprise. However, so as not to interfere with private sector development in the future, GOI must ensure that the policy framework is neutral to public and private sector development.

28. The quantitative assessment of the project outcome relies to a large extent on the financial and economic rates of return which would be re-calculated utilising actual costs and benefits over the period of project implementation. These and new estimates of future projections which, given more precise knowledge from the experience gained to date on the project, should be more accurate than those estimated in the SAR. The actual data to perform the IRR re-calculations has been difficult to obtain partly due to the reorganisation of the PTPs and the transfer of files and individuals with institutional knowledge about a particular factory to new PTPNs. Never-the-less, by reconstructing some of the missing data and re-calculating the rates of return for several factories, it appears that for CPO factories at least, financial returns will be high. This is largely due to the much higher world market prices for palm products which have been experienced in recent years and the reduced investment costs for factory construction and expansion compared to those estimated in the SAR. Similarly, the economic returns to the Indonesian economy from the project should be quite acceptable. However, without actual data for the period of project implementation and future projections based on the operational plans of the PTPNs, it is difficult

to calculate and specify the IRRs with a high degree of confidence. Therefore, the mission requested that TKPIR provide the missing data to the mission by the end of November 1996 so that it could be incorporated into the final ICR report.⁵

FUTURE OPERATION

29. The GOI agencies involved in the project were undergoing institutional and organisational changes which, in other circumstances, could represent a threat to the ongoing operations of project components. However, in this case, the main components are commercial with the ability of self-financing and therefore, no public sector funding will be required for their continued operations.

30. The reorganisation of the PTPs into PTPNs is currently in a transition phase which has resulted in some confusion over respective responsibilities and mis-communications. Ultimately the rationalisation of NES/PIR sites in the same proximity under the direction of the same PTPN will be good for the subsector as it should provide for greater economies and cost-effectiveness. Never-the-less, PTPNs must recognise the commercial nature of processing and marketing and move to become even more efficient in this regard. A major step in this direction would be full profit-center management and control of the factories. Currently, revenue from sales of factory produce is consolidated at the PTPN head office. Funding for factory maintenance and operation is achieved through budget requisitions. However, the factory organisational structure is such that in cases where there is an associated estate, such requests are vetted by the Estate Manager who, in times of tight liquidity with conflicting requirements, is likely to favour the plantation's needs to the detriment of the factory. Given the completely separate and commercial nature of factory operations, an organisation and management structure where the factory has more control over its finances would be preferable. Ultimately, as a full profit center, it should have financial control over the revenue it generates and, with its own asset base and balance sheet, the capability to approach commercial banks for working capital and re-investments. Such a change in the management and financial operation of the factories would also place them in a better position for future privatisation.

31. Although a plan of future operations was not provided to the mission, GOI's intentions in this regard were elaborated upon at length during the wrap-up meeting. The mission requested GOI to provide its detailed plan of future operations by the end of December 1996 so that it can be included in the final ICR. Briefly, as discussed in the meeting, the plan is to move towards full privatisation of the PTPNs, particularly the NES/PIR schemes and their associated processing facilities. However, this would not be an open tender as the intention is for smallholders associated with the project to gain an equity shareholding in it. The mission learned that there are several cases where bids have been made by the participating farmers' cooperatives to buy out the assets of the PTPN in the area serving their farmers. The GOI is considering this method for privatisation and the mission fully supported the initiative. However, the GOI went on to express its concept for the future of the NES/PIR schemes as being that of self-contained entities where the raw material supplies for the factory operations are assured mainly from associated farmers' produce throughout a 25 year project cycle. The mission expressed concern at this concept as it would appear to keep the smallholders captive to the needs of the factory regardless of the

⁵ A format for the provision of the data was provided by the mission and this format should be utilised in this regard.

standard of services and prices paid for the farmers' produce. The mission emphasised that the factories must be competitive in a fair and open market and, if not, smallholders should be allowed to sell their product wherever they can receive the highest return.

KEY LESSONS LEARNED

32. The key lessons learnt from the implementation of the project are listed below:

- In special circumstances, strategic public sector investments can help maintain producer incentives and demonstrate the viability of investments by the private sector. However, they need to be planned and implemented according to a definite timeframe which calls for their early privatisation and deregulation of the environment so as not to interfere with private sector enterprise.
- Public sector technical and training activities can result in a high calibre of technical and management staff comparable to the capabilities of private sector management and technical operations.
- For projects with major construction components, engineering design and technical specifications should be prepared in advance and finalised as part of the preparation phase of the project so as not to cause delays in implementation.
- The scrutiny applied to the selection of contractors should be comprehensive and thorough to ensure financial and management capabilities. The tenderers' financial situation and track record should be given more weight in the selection process. Generally, such factors would be more indicative of the future successful completion and cost-effectiveness of the sub-project than a low bid.
- These factories have demonstrated that compliance of BAPEDAL standards of pollution control are practically achievable provided the system is well designed and constructed, and training/awareness is provided for management and technical staff to gain an appreciation of the benefits of effective effluent treatment.
- M&E activities must start early in the implementation stage to ensure their full usefulness and continuation beyond the implementation stage of the project.

BORROWER'S CONTRIBUTION TO THE ICR

33. The mission requested GOI to provide its own evaluation report on the project together with the operational plan by December 31, 1996.

M. Osman Farruk (EA3AG)
Task Manager

Dennis Ellingson (FAO/CP)
Economist/Management
Specialist

Lee Yew Foong (FAO/CP)
Oil Palm/Rubber
Processing Specialist

APPENDIX II

A: Project Review from the Borrower's Perspective

B: Letter from the Borrower

**IMPLEMENTATION COMPLETION REPORT
INDONESIA
TREE CROP PROCESSING PROJECT (TCPP)
(LOAN 3000-IND)
BORROWER'S CONTRIBUTION TO THE ICR**

1. INTRODUCTION

The Tree Crop Processing Project (TCPP) was assisted by the International Bank for Reconstruction and Development (IBRD). The motivation behind such funding by the Government of Indonesia (GOI) and the IBRD, was to provide additional processing capacity for crude palm oil (CPO) and rubber for the Nucleus Estates and Smallholders (NES) Development Projects whether such NES Projects were jointly financed by GOI and IBRD or by GOI alone. Viewed in this light the TCPP may be considered as the tail end requirements of the NES Projects.

2. PROJECT OBJECTIVES

2.1 The main objectives of the TCPP were: (i) to raise the productivity and efficiency of the tree crop sub-sector; (ii) to safeguard smallholder and estate incomes; (iii) to increase non-oil exports by providing essential processing facilities and addressing environmental issues and technical, institutional, marketing and policy constraints on factory efficiency.

2.2 These project objectives were highly challenging as well as very demanding not only to the Special Team for Nucleus Estates and Smallholders Projects (TKPIR) who had responsibility for project coordination but also to the Government-owned Estate Crop Enterprises or PTPs as implementing agencies for the factory component in order to respond to the issues faced by The Tree Crop Subsector especially the need for additional processing capacity and improvement of processing efficiency in the existing NES/PIR projects being managed by PTPs.

2.3 These objectives did not change during project implementation but the project scope particularly with regard to the credit component, the number of CPO factories and Crumb Rubber factories (CRF) to be constructed/expanded were revised from 15 (450 ton FFB/hr) to 9 (300 ton FFB/hr) and 12 (220 dry rubber ton/day) to 6 (140 dry rubber ton/day) respectively. More attention was addressed to the improvement of factory processing efficiencies. This reduction was primarily caused by the difference between projections and actual field production. This could have been addressed during the feasibility and appraisal stage of the project. This can therefore be considered a shortcoming. The reduction of the loan amount from US\$ 118.2 Million at start of Loan compared to the latest revised estimates in the last amendment to Loan No. 3000 - IND of US\$ 82.4 Million was sizeable.

2.4 The non-credit component did not change from the original concept except that during implementation adjustments had to be made to adapt to the situation at such time.

3. ACHIEVEMENT OF PROJECT OBJECTIVES

3.1 Overall, the project has substantially achieved its objectives. The project favorably created additional processing capacity of 300 ton FFB/hr and 140 ton dry rubber/day, increased processing efficiencies of PTPs existing factories, improved factory standard on waste management, contributed to the increase of non-oil export and improved standards of factory management.

3.2 The project has also produce standard factory design and specification for CPO and Rubber (CRF) which was not only used by PTPs as project implementing agencies but also other PTPs and Private sector enterprises. Furthermore, the project has established standard factory processing efficiency for CPO and Rubber, and Factory Monitoring Data Base (FMDB) System including effluent treatment.

3.3 A total of 1,379 persons including 23 Master Degree had been successfully trained in various disciplines and subject training which provided contribution for the improvement of the factory processing management and efficiency, the awareness of environmental issues, monitoring and evaluation and improvements to overall competence of DGE, LPP and other government agencies including certain PTPs.

3.4 The Project has also contributed for the preparation and strengthening of pollution monitoring capabilities in the provinces of North Sumatra and West Kalimantan.

4. IMPLEMENTATION RECORD AND MAJOR FACTORS AFFECTING THE PROJECT

4.1 The Loan Agreement was signed on December 22, 1988, became effective in early March 1989, and after having extended for three years closed on September 30, 1996. During its first two years of project implementation, the progress of the project particularly with regard to the construction of CPO urgent mills were very slow. This was due to the complexity of the procurement process, starting from the placement of Headquarters and Supervision Consultants as a condition of loan disbursement, length of period consumed in reaching the agreement on the technical specifications, long process of bidding including selection of the winning bidder, delays in completion of the construction of two CPO Mills (S.Lengi and S.Niru) because of weak performance of the contractors and cancellation of one CPO Mill at Kaliaanta as result of the GOI decision to hand-over the Kaliaanta Estate to the private sector.

Even some factors that affected the project implementation had been minimized, however there were several factors that still affected implementation performance thereafter, i.e. (i) difference between projections and actual field production, financial constraints of certain PTPs, selling of smallholders' products to private processors near the project locations and different decisions in selecting the contractor between GOI and IBRD (for construction of Durian Luncuk rubber factory) resulted in the reduction of the numbers of factories to be constructed/ expanded; and (ii) certain technical specifications and drawings were still subject to discussions, disputes arose between all parties involved in the management of construction contracts caused by insufficient inputs of Supervision Consultants, weak performance of some contractors and late payment made to the contractors, resulted in delays of completion of the construction of certain factories and low disbursement of loan.

4.2 Based on the agreed revised project scope, the actual total project costs were USD. 101 million or only 55% from the original project cost and the disbursement of loan up to end of January 1997 will only achieve USD. 75.09 millions or 91% of the latest loan allocation or 64% of the original loan allocation.

5. PROJECT SUSTAINABILITY

The project has put in place the construction of processing facilities and the mechanism to ensure effective factory processing. This process of transformation could backside if the institutional framework established through the project is not pushed through in the future. Continued support will be required if this achievements will not taper off or backside even if the institutionalizing elements of TCPP are continued but not at a constant and regular tempo. It now remains to the PTPNs to be responsive to the result of the project or they will be at risk of losing the advantages provided for under the project for sustained development.

6. BANK PERFORMANCE

In general, the Bank's performance was considered satisfactorily. The Bank Supervision Mission which have been held twice a year was very helpful to the project implementing agencies since it provided findings and recommendations for smooth project implementation. The mid-term review carried out by the Bank in 1992 also provided good response in accommodating the executing agency/implementing agencies proposals. However, there were constraints on the time consumed in issuing the Bank no objection letter for all stages of procurement process. This was because the approval were issued by The Bank Headquarters in Washington which indirectly affected slow progress of projected implementation and disbursement of loan.

7. BORROWERS PERFORMANCE

The Borrower is in compliance with all loan covenants. On the whole, the performance of various agencies of the Borrower was satisfactory. Nonetheless, there were certain instances where improvements could have been instituted, such as, the period of time to process proposed loan amendments and the funding by the State Commercial Banks concerned in accordance with the relevant provisions of the Credit Agreements.

8. ASSESSMENT OF OUTCOME

The overall assessment of meeting the project objectives has been generally presented in the previous paragraphs. The possibility of sustainability is likely.

Nonetheless constraints are to be addressed. From the perspective of meeting objectives and sustainability, the assessment of project outcome is satisfactory.

9. KEY LESSONS LEARNED

The following are the key lessons learned from project preparation to implementation.

1. Realistic field production projections is a must in order to avoid unnecessary funding which later on be cancelled due to lower actual field production.
2. All aspects of project preparation be based on realistic and practical plans for implementation taking into account the relevant constraints of the situation.
3. Continuing the professionalization of PTPNs personnel should be performed from hiring up to implementation of various personnel actions. This is in order to assure the continued effectiveness and efficiency of PTPNs discharge of their various functions. Professionalization should include specialization when called for.
4. Any system to be introduced should be thoroughly thought out and realistic/practical programs formulated.
5. Complex construction works should have standard technical specifications and drawings to help in improving the quality of construction. Corollary to this, contractors and consultants should be scrutinized as to capabilities and strict enforcement of terms and conditions of tender documents be applied.
6. Pari Passu as a method of payment results in delays of releasing of funds. Previous payment schemes in NES Projects are recommended to be followed for future projects.
7. Placements of Headquarters and Supervision Consultants as a condition of loan disbursement results in delays of loan disbursements.

FUTURE OPERATIONAL PLAN

The major features of the future operations for the TCPP are as follows :

A. TRAINING ASPECTS

1. Continue the training of factory personnel from the Factory Manager up to the skilled workers. Without this training the factory efficiency may deteriorate. The Estate Crops Training Institute (Lembaga Pendidikan Perkebunan) should formulate together with the reorganized PTPs now called PTPNs concerned such training program for the succeeding year. The training may take the form of refresher training, upgrading training, hands-on training, training on factory management and supervision, training of laboratory personnel, training of maintenance factory personnel and others depending on training needs analyses. When training by entities other than LPP is suggested the management/coordination of such factory personnel training be performed by LPP as this is a role of LPP.
2. Continuing the training of factory and PTPNs' headquarters personnel on the use, analysis/evaluation of data and management of computers for the Factory Monitoring Database (FMDB). Certain PTPN computer personnel should be trained as computer programmers so that any modification of the FMDB can be performed by them.

B. ORGANIZATIONAL ASPECTS

3. Delineate the functions between the factory and the field operations in clear and precise manner. It might be considered that the PTPN management take into account the autonomous set-up for the factory considering the skills and knowledge required are different between field production and factory operations.
4. Aside from training of PTPNs personnel based on each PTPN assessment, these PTPNs should formulate other approaches and strategies to improve effectiveness, efficiencies and productivities.

C. FACTORY ASPECTS

5. Up-date the standardization of the technical specifications and drawings to be used for future CPO factory/CRFs constructions/expansions.
6. Continuing the implementation and improvement of FMDB System.
7. Evaluate the application of Palm oil and Rubber Processing Standards from time to time based on technology development including possible automation and market situation in order to improve the Indonesian National Standard.

D. OTHERS

8. Beef-up the capability of factory maintenance operations in order that downtime is reduced. This should include the up-dating of the inventory control systems used by the factories.

DEPARTEMEN PERTANIAN

Appendix III B

DIREKTORAT JENDERAL PERKEBUNAN

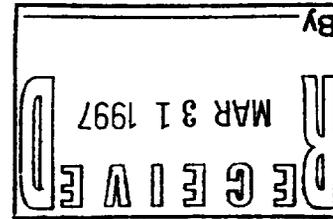
Jl. Let. Jen. S. Parman 73 Slipi
Jakarta 11410
Kotak Pos 1060/JKT, 10010

Telp. : 5347220 Hunting System
Telex : 43497 DITJBUN IA
Fax. : 021-5347191, 5484493, 5347193

Ref. No. : KL.400/EK.208/03.97

Jakarta, March 21, 1997

Mr. Gershon Feder
Chief, Agriculture Operations Division,
Country Department III
East Asia and Pacific Region,
The World Bank
1818 H. Street N.W.
Washington DC. 20433, USA.



Dear Mr. Feder,

Tree Crop Processing Project(TCPP-LN.3000-IND)
Draft Implementation Completion Report(ICR)

1. We, acknowledge with thanks, receipt of your February 14, 1997 letter attaching two copies of the above reference subject.
2. We believe by now you are aware that we had forwarded the Borrower's contribution to the ICR. However, we are enclosing the same document for your easy reference.
3. After reviewing your draft ICR, we concluded that the contents of the report and the Borrower's contribution are in line with each other on the factual assessment of the said project, but your presentations are more extensive.
4. With regard to your issues on the sustainability and future operation for PTPNs and their NES/PIR projects(page 4/5,6,14 and 15), we have the following comments :
 - (i) The re-organization of the PTPs from 32 PTPs to 14 PTPNs was a move to improve its organizational and structural effectiveness and efficiency in order to enhance the sustainability of their future operations which we believe is GOI's concern.
 - (ii) Another concern of the GOI in relation to the sustainability of the NES/PIR components was proven by, among others DGE (a) arranging with an Insurance Company (PT.Bumiputera) for an insurance on the replanting of the smallholders tree crops on a voluntary basis, (b) providing additional funds required for maintenance of the smallholders' tree crop including rehabilitation/upgrading of production and collection roads after conversion. (c) providing credit liquidity facility of Bank Indonesia for purchasing of fertilizers required for maintenance of smallholders' tree crops, (d) trained and appointed Area Development Officers to act as a bridge or facilitator between the Nucleus

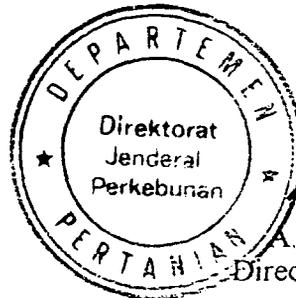
components in order that both will work jointly as partners, (e) trained smallholders to develop the farmers economic institutions through the establishment and operations of farmers' cooperatives, (f) and provided the smallholders packages of dryland rice seeds for planting in their food crops areas.

- (iii) At present, the said PTPNs are in the process of preparing their twenty-five year plan for the first time, which should include their visions for their future operations. Each PTPN has factors to consider which are not the same with one another, so that they have to operate in their own time frame considering their present situation, potentials, capabilities, and resources to undertake the implementation of their twenty-five year plans. The issue of privatization will be part of the consideration in preparing the said plans which may take into account the experiences of past privatization of other government-owned enterprises. As you may be aware, a few of the PTPNs have prepared for privatization which we expect to be realized in the near future. In this privatization, PTPNs will go public by selling shares including to the smallholders and/or their cooperatives.

The above in our mind is clear, reasonably well defined and the direction is certain.

5. We do hope that these comments and the GOI's contribution will be incorporated in the final ICR.

With kind regards,



Sincerely yours,

A. Rante Tondok
A. Rante Tondok, SE
Director General of Estates

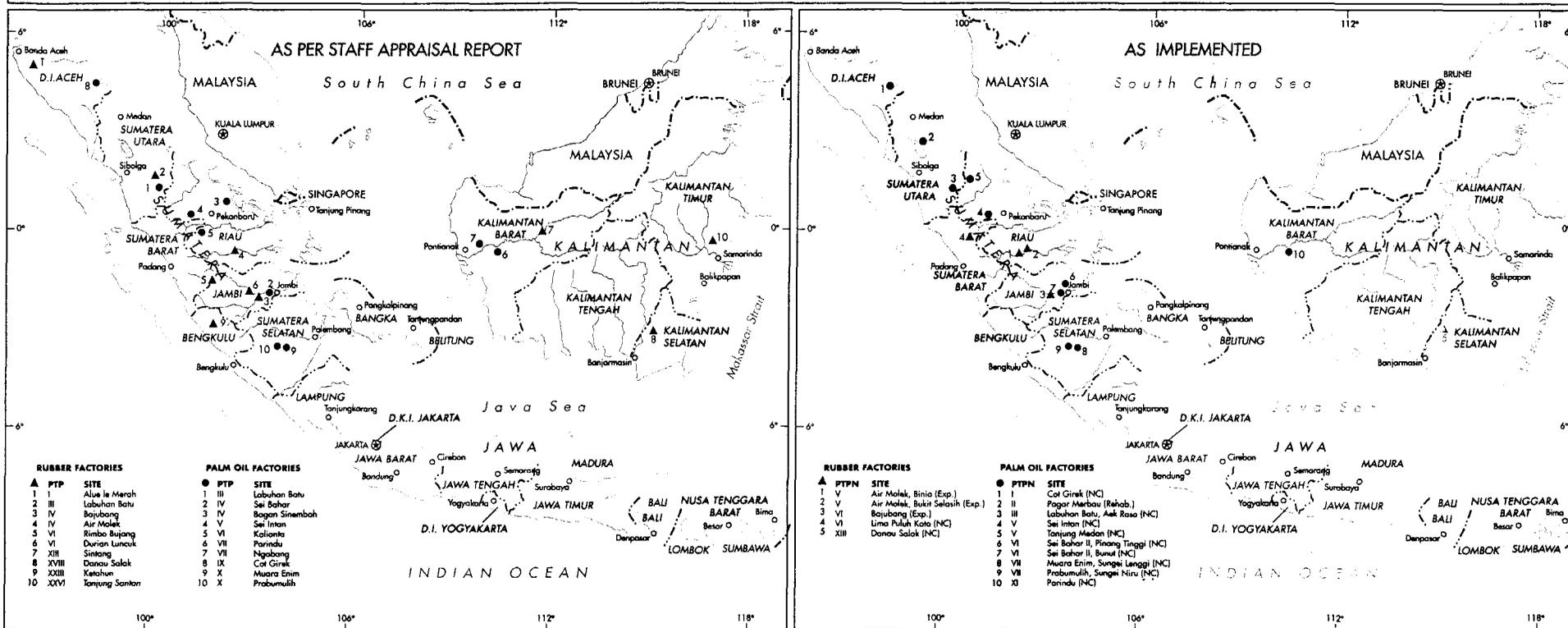
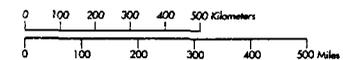
CC.:
Director, External Monetary Funds,
Ministry of Finance

APPENDIX III
COMPARISON MAP OF PROJECT SITES

INDONESIA TREE CROP PROCESSING PROJECT

- | | | |
|----------------------|--------------------------------|-----------------------|
| ▲ RUBBER FACTORIES | — RIVERS | NC : NEW CONSTRUCTION |
| ● PALM OIL FACTORIES | --- PROVINCE BOUNDARIES | Exp. : EXPANSION |
| ○ CITIES OR TOWNS | ----- INTERNATIONAL BOUNDARIES | |
| ⊕ NATIONAL CAPITALS | | |

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IMAGING

Report No.: 16597
Type: ICR