

RESTRICTED

PE-56 (AU)

L-148 (SF)/149-INO

ASIAN DEVELOPMENT BANK
Post-Evaluation Office

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the exclusive use of the Bank.*

PROJECT PERFORMANCE AUDIT REPORT

ON THE

EAST JAVA SUGAR PROJECT

IN

INDONESIA

October 1981

CURRENCY EQUIVALENTS

Currency Unit	-	Indonesian Rupiah (Rp)
At Appraisal (1973)		
Rp1,000	=	\$2.410
\$1.00	=	Rp415
At Project Completion Report (1980)		
Rp1,000	=	\$1.613
\$1.00	=	Rp625
At Post-Evaluation (1981)		
Rp1,000	=	\$1.613
\$1.00	=	Rp625

NOTES

1. In this Report "\$" refers to US dollars.
2. The fiscal year (FY) ends on 31 March.

ABBREVIATIONS

BULOG	-	Badan Urusan Logistic Government body responsible for marketing basic commodities including sugar.
JSPU	-	Joint Sugar Project Unit Government body responsible for technical advisory services for the preparation of sugar projects.
PCR	-	Project Completion Report
PEM	-	Post-Evaluation Mission
PNP	-	Perusahaan Negara Perkebunan State-owned Estate Enterprises
PTP	-	Perseroan Terbatas Corporations with limited liability operating under the commercial code. 100 per cent of shares are held by the Government.
UNDP	-	United Nations Development Program

(ii)

GLOSSARY

BAGASSE	-	Fibrous and pike residue from cane after sugar extraction.
BOILING HOUSE EFFICIENCY	-	Sugar produced from juice from the mill as a per cent of theoretical.
MOLASSES	-	Liquid residue from cane after separation of crystallized sugar.
RATOON	-	Cane growing from the stubble of a previous crop.
RENDEMENT	-	Per cent sugar extracted from cane, reflecting both sucrose content of cane and extraction efficiency of the factory.
POL	-	Sugar as measured by the rotation of polarized light.

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PREFACE

This Project Performance Audit Report (PPAR) reviews the East Java Sugar Project for which the Bank provided a blended loan of \$17.52 million in November 1973. The loan consisted of \$6.23 million (Loan No. 149-INO) from the Bank's ordinary capital resources and \$11.29 million (Loan No. 148-INO(SF)) from Special Funds. These loans financed the first sugar project in Indonesia approved by the Bank.

The Executing Agency was the PNP XXIV (State-owned Estate Enterprises) which was converted in 1975 into a Corporation, PTP XXIV and XXV, with limited liability operating under the commercial code. The loan became effective on 7 May 1974 and was closed on 31 December 1978; the closing date was extended by seven months. A Project Completion Report (PCR) prepared by the General Agriculture Division was circulated to the Board in August 1980.

The Project emerged as a result of the Indonesian Sugar Study (financed by UNDP) which was completed in 1972. The study recommended a ten-year program aimed at meeting the domestic demand for sugar at the least cost. Specific recommendations were made for an initial three-year investment plan including the construction of two new factories and rehabilitation of 13 others. However, a joint mission composed of IBRD, the Bank and the Government concluded, after reviewing the findings of the study, that construction of new factories would be too expensive and could not be justified. Instead, rehabilitation and expansion of existing factories were recommended. It was finally agreed that the Bank would assist two factories of PNP XXIV and XXV.

The performance of the Project has been documented in the PCR. PCR provides some factual material related to the Project, but in PEM's view, some important issues discussed by it, particularly the economic evaluation of the Project, lack analytical depth. PEM has reviewed the findings of PCR, which are supplemented where necessary.

The PEM visited factories and sugarcane growing areas in Jatiroto and Semboro and held discussions with senior officials of PTP XXIV and XXV, Joint Sugar Project Unit in Surabaya (which was engaged in the preparation of the Project) and Ministries of Agriculture and Finance in Jakarta.

This Report is based on the Mission's findings in Indonesia, discussions with Bank staff, examination of Project Files and relevant documents available in the Bank. Copies of the Draft Report were forwarded for comments to operational staff of the Bank, the Government and the Executing Agency. Comments received are reflected in the text or included as footnotes.

BASIC PROJECT DATA
EAST JAVA SUGAR PROJECT - LOAN NOS. 148-INO(SF)/149-INO

KEY PROJECT DATA

	<u>Appraisal</u>	<u>Actual</u>
Loan Amounts (US\$Mn) : 148-INO(SF)	11.290	9.290
149-INO	6.230	6.230
Cancelled (US\$Mn) : 148-INO(SF)	-	2.000
Date Physical Component Completed	April 1977	January 1978
Economic Internal Rate of Return (%)	24.4	10.42

KEY DATES

	<u>Original</u>	<u>Actual</u>
Date of Request		December 1972
Project Appraisal		May/June 1973
Loan Negotiations		2-5 October 1973
Board Approval		20 November 1973
Loan Signing		3 December 1973
Loan Effectiveness	3 March 1974	7 May 1974
Closing Date	31 May 1978	31 December 1978

BORROWER - Republic of Indonesia

EXECUTING AGENCY - Perusahaan Negara Perkebunan XXIV (PNP XXIV), which was converted into Perseroan Terbatas (PTP) XXIV and XXV in 1975.

MISSION DATA

<u>Type of Mission</u>	<u>No. of Persons</u>	<u>Man-days</u>	<u>Mission Length (Days)</u>	<u>Month/Year</u>
Fact-Finding	3	36	12	November 1972
Project Preparation	5 a/	96	19.2	March/April/May 1973
Appraisal	9	173	19.22	May/June 1973
Follow-Up	1	5	5	September 1973
Loan Negotiations	3	12	4	October 1973
Review (1)	3	9	3	January 1974
(2)	2	8	4	April 1974
(3)	1	4	4	December 1974
(4)	2	7	3.5	April 1975
(5)	2	6	3	May 1975
(6)	2	6	3	June 1975
(7) b/	1	2.5	2.5	July 1975
(8)	1	1	1	August 1975
(9)	4	20	5	February 1976
(10) b/	5	37.5	7.5	November/December 1976
(11)	2	20	10	November/December 1977
(12) b/	1	2	2	February/March 1979
Project Completion	3 c/	63	21	February/March 1980

STAFF COMPOSITION OF MISSIONS

	<u>Man-days</u>
Fact-Finding/Project Preparation/ Appraisal/Follow-up :	
Agricultural Economist	50
Consultant - Sugar Factory Engineer	57
Consultant - Cane Agronomist	57
Irrigation Engineer	22
Mechanical Engineer	22
Financial Analyst	34
Country (Operations) Manager/Officer	50
Counsel	18
Loan Negotiations :	
Agricultural Economist	4
Counsel	4
Country (Operations) Officer	4
Project Review :	
Director - Country (Operations) Department	3
Deputy Director - Projects Department	3
Manager - Agricultural Division	8
Country (Operations) Manager	3
Project Engineer	27
Agronomist	7.5
Project Officer	12
Project Economist	11.5
Financial Analyst	25.5
Country (Operations) Officer	15.5
Counsel	7
Project Completion :	
Project Officer	21
Sugar Factory Consultant	21
Sugar Agronomist	21
Total	508

OTHER BANK PROJECTS IN AGRO-INDUSTRY SECTOR

	<u>Loan No.</u>	<u>Amount (\$ Mn)</u>	<u>Approved</u>	<u>Date of Closing of Loan</u>
Sawit Sebarang Oil Palm Estate	15-INO(SF)	2.400	21 Oct. 1969	31 Dec. 1973
Fiber Production and Processing	189-INO	13.200	27 Aug. 1974	10 June 1980
Gohor Lama Palm Oil Processing	235-INO	11.300	6 Nov. 1975	31 Dec. 1981
Palm Oil Processing and Smallholder Development	499-INO	28.000	15 Dec. 1980	30 June 1986

a/ Includes two consultants who worked from 28 March-2 May 1973.

b/ Only a portion of the time has been provided as the mission involved other Bank projects.

c/ Includes two consultants.

HIGHLIGHTS

The primary objective of the Project financed by the Bank was to increase sugar production through the rehabilitation and expansion of factories in Jatiroto and Semboro of PTP XXIV and XXV. As of June 1981 production at Jatiroto reached close to the target level, whereas in Semboro it fell considerably below the target. PEM observes that the performance of the Project at Jatiroto seems fairly satisfactory in view of its cane supply and processing in the factory except for some technical improvements which are being carried out.

The level of production at Semboro was below the target level during the initial operations and dropped sharply in 1980. Delay in Project completion caused by difficulties in obtaining funds to cover the cost overrun contributed to the shortfall in production. PEM observed in the field that most of the land in the Semboro area is cultivated by independent farmers. Government restrictions on the use of irrigated land have limited the area available for cane production in Semboro. This is in contrast to Jatiroto where land is mostly under the direct control of the factory. PEM observes that this problem should be further analyzed and pursued by Government agencies.

Major points of interest include:

- In order to increase production of cane, farmers need support in the form of fertilizers, credit and extension services. PEM believes that the activities of "farmers group" should be further encouraged (para 13);
- The operational efficiency of the Jatiroto factory requires improvement. This can be achieved effectively by modification of No. 2 cane knife (para 15);
- The Semboro factory needs gearing changes on No. 2 Mill which will increase the grinding rate and time efficiency. This will improve the efficiency of the boiling house and rendement (para 17);
- In retrospect, PEM observes that there were two major weaknesses in Project preparation and implementation viz.

(viii)

- (i) Consultants were not made available during the critical period of initial operation (para 20); and
 - (ii) Delay in loan effectiveness affected the preparation period. Delay in the engagement of the design team reduced the time available for preparation of tender specifications (para 8).
- Specification preparation was inadequate: PEM considers that this was partly responsible for the disagreement between the Bank and the Executing Agency over the awarding of contract (No. 3) to the lowest bidder (para 8);
 - The financial reporting system appears to be satisfactory and PTP XXIV and XXV is in control of financial/accounting information for the factories (para 25);
 - The income of a sugarcane farmer is not as high as estimated in the Appraisal Report, especially when compared with a rice farmer. In view of this, the Government should take some action to ensure sufficient cane cultivation and its supply to the factory. An additional supply of cane is essential, for the efficient operation of the factories (para 30);
 - It is PEM's opinion that there is scope for improvement in the yield of sugar through the development of improved cane varieties and use of ripeners (para 21); and
 - PEM's reassessment of economic evaluation shows that EIRR of the Project is lower than the Appraisal estimate (para 28).

I. SUMMARY

1. The sugar industry in Indonesia is located entirely in Java. It is more than a hundred years old. For some time, it was one of the world's largest and most productive sugar industries. Production, however, began to decline during the 1930s. It went down further during World War II. Imports replaced exports from early 1960s. During the period, 1977/1978 - 1979/1980, Indonesia imported an average of 462,000 tons of sugar every year. The level of sugar imports is not likely to decline in the foreseeable future, unless domestic production is substantially increased. The Government of Indonesia has emphasized agricultural development so as to attain self-sufficiency in basic commodities, including rice and sugar and has accorded high priority to it in Repelita II (1974/1975 - 1978/1979). The Project was in line with the Government's priority to increase domestic sugar production.

2. Based on a review of the findings of the Indonesian Sugar Study of 1972, it was agreed that the World Bank would finance the expansion and rehabilitation of suitable factory units belonging to six of the eight state enterprises (PNP) operating in the sugar sector, and that the Bank would assist units of the remaining two (PNPs XXIV and XXV). Among the 12 factories operated by PNPs XXIV and XXV, those at Jatiroto and Semboro were identified as offering the greatest scope for expansion. Project preparation for these two factories was undertaken by the Bank consultants in 1973. The Bank subsequently appraised the Project. The Appraisal Report basically followed the Consultants' recommendations; the only major exception was the change in the capacity of the Semboro factory from 4,200 to 4,800 tons of cane per day (TCD).

3. The present level of sugar production at Jatiroto is close to the target level, and by increasing operational efficiency, PEM observes that the target production level can be achieved in the near future. The Semboro factory is however operating at considerably below the anticipated level of production. The leased land available to the factory was reduced, following restrictions imposed by the Government in 1975 on the use of irrigated land. Since then, a large proportion of sugarcane farming area in Semboro has been cultivated by farmers themselves, instead of by the factory under traditional lease system. The prevailing conditions in Semboro area raise serious doubts on the availability of land for growing sugarcane. Furthermore, at the farmer's level, there is acute competition between rice and sugar. At the moment, the decision to cultivate rice or sugar is left to the initiative of farmers. The factory can no longer rely on the traditional lease system. The land resources in the Project area are also limited. A thorough review by the Government is called for in order to ensure additional cane supply to the factories.

4. Competition from other crops, particularly rice in the Project area raises another issue. One of the important justifications for the Project, envisaged in AR, was that production of sugar would yield higher returns to the farmer than rice. The Appraisal Report assumed (in 1973) that the international price of sugar would increase steadily compared with that of rice. However, the record shows the opposite: the international price of rice has increased significantly against the price of sugar. PEM wishes to note that, since domestic prices of sugar and rice are affected by the international price, the economic comparative advantage of growing sugar instead of rice does not appear to be as significant as the Appraisal Report estimated. A further analysis of economic re-evaluation is presented in Chapter V, as this aspect is not adequately covered in PCR.

II. PROJECT COST AND IMPLEMENTATION

5. The total Project costs estimated during Appraisal was \$23.70 million. PCR noted (para 38) that actual cost of the Project was \$54.88 million, or 135 per cent higher than the original estimate. PCR (para 38) gave three reasons for the increase viz:

- (i) low estimates for equipment during Appraisal;
- (ii) considerable increase in the price of equipment after 1973; and
- (iii) devaluation of the Indonesian Rupiah in 1978.

PEM endorses PCR's observations. Since the feasibility study, inflation had increased rapidly as a result of the oil crisis. This increased equipment costs. 1/ The bid prices were much higher than estimated. In the end, the Bank did not finance all the foreign components of the Project as originally envisaged. It provided \$15.52 million of the actual total foreign exchange component of \$38.74 million, or approximately 40 per cent. The remaining 60 per cent was arranged by the Executing Agency mainly through supplier's credit. 2/ 3/

6. In retrospect, PEM concedes that it was difficult to foresee the substantial increases of equipment prices at the time of Appraisal. However, PEM notes that the cost estimates of AR basically followed the consultant's feasibility report, and greater efforts should have been made by the Bank to develop more realistic estimates. The rest of the equipment had to be purchased with supplier's credit and the need to find

1/ PEM notes that the first Review Mission of the Bank in 1974 indicated the possible risk of substantial cost overrun. The subsequent review missions recalculated FIRR on several occasions, but EIRR was not calculated.

2/ See Appendix 1 for the breakdown of total costs.

3/ PEM notes that in June 1975 the Government requested the Bank for a supplementary loan to finance the foreign exchange cost overrun of the Project, estimated at about US\$20 million. But in view of the disagreement between the Borrower and the Bank over the contract award to the lowest bidder, discussions on the supplementary loan were discontinued. The Executing Agency is of the view that difficulties in obtaining additional funds to cover the cost overrun affected significantly the Project implementation schedule.

such credit was mainly responsible for the delay of one year (from 1977 to 1978) in Project completion (see Appendix 2). PEM assessed in the field that some equipment which had been ordered as per the original schedule was stored on site for about a year and suffered damages.

7. PEM is of the view that the preparation of specifications of the Project was too limited. For a project of this size to be successful, its full scope must be defined in advance and agreed to by the Executing Agency before its implementation. One example may be cited here to illustrate this point. The Bank's Consultant recommended acceptance of the lowest priced factory equipment (boiler) tendered, based on the Bank's Guidelines for procurement (see PCR, para 32). But the Executing Agency did not accept this boiler as it was not suitable for burning bagasse, having been designed for burning wood chips. This ended in the cancellation of \$2 million from the loan amount. The boilers purchased were financed by the supplier's credit. It took the Bank and the Executing Agency nine months to resolve this problem. PEM notes that unresolved difficulties during procurement regarding specifications of equipment (Contract No. 3) led not only to cost overruns but also to delay in Project completion. PCR notes (PCR, para 24) the overall delay in the Project was mainly due to: (i) late Bank approval of proposals for the award of contracts; (ii) delay in the delivery and installation of equipment on the part of the suppliers; and (iii) delay (of a few months) in the recruitment of engineering consultants.

8. While PEM agrees with the observation of PCR, PEM's assessment goes much further and notes that the specifications issued to bidders were inadequate for international competitive bidding. This resulted from the limited time available for their preparation. ^{1/} Without detailed specifications, bid evaluation could not be carried out treating all bidders on an equal basis. For example, as material specifications for all the equipment were not included, suppliers tended to offer the cheapest material possible. PEM believes that for a Project of this magnitude, Project preparation requires a much longer period. In this Project there was virtually one month only available for the preparation of specifications. ^{2/}

^{1/} Although a nine-month period for design was originally scheduled from end June 1974 to April 1975, the majority of specifications were issued at the end of August 1974. There were virtually less than two months for the preparation of major specifications.

^{2/} PEM notes that this aspect was thoroughly discussed in the report of the factory Consultant who worked on PCR. However, the Consultant's view is not reflected in the PCR (Ref.: Factory Consultant Report for PCR, March 1980).

PEM believes that in cooperation with experts from the Executing Agency, the specific scope of the Project should have been defined. The size of the equipment and electrical and other requirements including heat and water balances in the factory should also have been specified. 1/

1/ In retrospect, the Bank appears to have been optimistic during Project preparation. The record in the Project file reveals that the Bank anticipated that considerable technical data on equipment performance and condition had already been compiled by the local factory engineers, and the Bank thought that only a short time would be required to prepare the specifications.

III. PRODUCTION PERFORMANCE

A. General

9. In 1980 682,000 tons of cane were harvested in Jatiroto, and the factory produced 60,200 tons of sugar. This was slightly below the target production of 69,800 tons. In the Semboro area, 366,000 tons of cane were harvested and the Semboro factory produced 36,000 tons of sugar. which was substantially below the target level of 83,000 tons. 1/ PEM generally agrees with the observations of PCR (paras 41, 46 and 47) on the production achieved by the factories, except on some points.

B. Cane Production

10. PEM observes that the differences in land conditions in the Jatiroto and Semboro areas significantly affected the area of land available for sugar cultivation. Cane cultivation at Jatiroto is mainly done by long-leased irrigated land and is thus under the direct control of the factory. The land in Jatiroto was not affected by the 1975 Presidential Instruction (No. 9/1975) which disallowed the use of short-lease irrigated lands for cane cultivation (see Appendix 4). Although there were some shortfalls in the areas cultivated in Jatiroto as PCR notes (para 46), the situation has improved and PEM believes that there will be no major problems in Jatiroto achieving its target.

11. The situation at Semboro is entirely different. Most of the land previously cultivated in Semboro was short-leased irrigated land. As PCR notes (para 47), the Presidential Instruction of 1975 resulted in a serious decline in land area controlled by the factory (see Appendix 5). It was anticipated that farmers would make up for the resultant shortfall. Although there was a large increase in the area cultivated by farmers, it was not sufficient to meet the target. 2/

1/ See Appendix 3 for details of production.

2/ The Executing Agency informs that due to the delay in Project completion, the 1978 milling capacity was only 2,362 TCD, as against the expected capacity of 3,500 TCD. However, the 1978 cane production was far above the milling capacity because the milling season became longer (17 June-28 December) and a large portion of the cane (65,639 tons) had to be milled by sister factories. This caused extra expenses on additional cane transport and losses of sugar content in the cane.

12. Efforts are being made in Somboro to increase the area of cane cultivation and the factory anticipates that the targets would be met by 1982/1983. 1/ PEM thinks that further efforts are needed to encourage farmers to plant cane and increase its yields, 2/ by providing them with additional extension services. PEM observes, and the management of PTP XXIV and XXV agrees, that the factory's control over land is indirect (i.e., by way of extension service). The policy of the Provincial Government is expected to have substantial effect on the cultivation of land for cane production. Given the Government's priority for rice, the factory is encountering various difficulties in acquiring sufficient land for cane cultivation. PEM believes that coordination with the Provincial Government should be further pursued.

13. PEM observes that landholdings in the project area are very small, having an average of 0.5 hectare per household. Irregular planting of cane in the holdings of various sizes has apparently made the irrigation and its management complicated and less efficient in achieving the desired cane quality. Cane delivery timing also varies making transportation inefficient. In view of these factors, it is suggested that the farmers be given assistance by way of extension services to improve the cultivation and harvesting techniques. Moreover, by organizing team work among the farmers or by grouping them, early scheduling of cane planting could be arranged in accordance with water distribution requirement so as to improve cane harvesting. Due to Government regulations, most of cane farming has to be undertaken by independent farmers. 3/ PEM believes that further efforts to strengthen farmers' groups could contribute to the improvement of efficient planting and harvesting of cane. It was felt that healthy competition between the farmers' groups in the different cane growing regions would provide an additional incentive which might result in higher yields.

1/ The Executing Agency informs that due to the losses experienced in 1978, neither the farmers nor the regency officials had any more confidence in the potency of the Somboro factory. Supply areas for cane plantation decreased to 4,343 ha in 1980. However, as the farmers have regained confidence, cane plantation for 1982 is expected to be 8,500 ha.

2/ See Appendix 10 for details of yield record.

3/ Bank Review Mission pointed out the implications of the Government Policy of 1975 and noted that there was a need to strengthen "the small farmers intensification program." But in retrospect, it is felt that the measures were addressed in a general way and specific guidelines were not provided.

C. Technical Performance of Factory

1. Jatiroto

14. PEM made a reassessment of the technical performance of the Jatiroto factory because it was not sufficiently covered in PCR. PEM observes that the present operating efficiencies of this factory in terms of boiling house efficiency is slightly below pre-1978 levels (see Appendix 6). The low level of boiling house efficiency can partly be explained by cane quality with higher fiber and lower pol contents and greater downtime (see Appendix 7), resulting in deterioration in the quality of juice while in process. Regarding cane quality, PEM views that delays in delivery may result from the logistical problems of bringing additional cane to the factory.

15. By 1980 boiling house efficiency was near to pre-1978 levels but grinding time as a percentage of crop days was still lower than in 1975-1977 (by about 15 per cent). The continuing poor efficiency was caused mainly by shortage of cane, mechanical problems with the second cane knife and shortages of steam for the process. PEM suggests that the configuration of the second cane knife should be simplified and modified to that of a normal knifing unit.

16. PEM observed in the field that the management identified a bottleneck in the boiling house and was proposing to install an additional vacuum pan, five centrifugals and two juice heaters. PEM felt that this shortage in capacity was probably due to the additional capacity requirements for producing the large grained crystal sugar demanded by the Indonesian market (large crystal sugar requires longer boiling time). Because of the continuing high consumption of oil by the boilers to meet the steam demands of the process, the boiling system as operated is expensive. PEM feels that measures are required to economise the steam requirements.

2. Semboro

17. Semboro has not met its sugar production target. The shortfalls ranged from 46,000 tons in 1978 to 47,700 tons in 1980. Although these estimates are broadly in line with the figures quoted in PCR, the reasons given by PEM for the variations differ from those reported in PCR which noted that the main problems were with the transport of cane (PCR, para 42). PEM, on the other hand, would attribute the shortfalls to the level of efficiency of the factory due to the delay of project completion. The operating efficiency and pol extraction fell sharply in 1978. ^{1/} Although boiling house efficiency and pol extraction improved in 1980, PEM views that the operating efficiency of Semboro factory was affected

^{1/} See Appendixes 8 and 9.

by its milling performance. This was not as good as in Jatiroto and it was largely due to the problems encountered with the milling tandem No. 2 (a set of rollers). This unit was first installed at Jatiroto but was later moved to Semboro to operate in parallel with the one already in the factory. The gearing and drive were changed and in the process the operating speed of the mills was increased. This reduced the thickness of the blanket of cane accepted by the mill. Breakdowns resulting in loss of grinding time affected the juice quality. These factors caused the low boiling house efficiency and rendement. 1/

18. The operating efficiency of Semboro factory has been affected by both low yields (see Appendix 10) and a reduction in the area planted. It was reported to PEM, however, that additional cane is being planted by farmers in the Semboro area and this will be available for the 1982 crop with a further increase in 1983. It would therefore be necessary for the Semboro factory to grind significantly more cane next year. The factory plans to replace the gearing so that the mill speed and settings are returned to the level previously operated at Jatiroto. For the Semboro to increase its capacity, additional capacity is required in the boiling house. An additional pan, five centrifugals and two juice heaters may be needed.

19. PEM observes that the general level of competence of factory staff appeared to be satisfactory. Senior experts of both factories are aware of the technical problems being encountered. Intensive training programs are, however, needed to familiarize operating personnel with the technical requirements. There is need to study heat, material, power and water balances in order to investigate the problems of the apparently excessive consumption of steam and water. This will require the "instrumentation" to be in better condition than it is at present. Semboro in particular needs instrument technicians, as the level of instrument maintenance especially in the process house, is rather low. In sum, the operating efficiency of the factory calls for further improvement.

D. Consultants' Contribution

1/ The Executing Agency informs that a decrease in the milling extraction and the boiling house efficiency in 1978 arose due to the overload imposed on the milling capacity (see also footnote of para 11). In order to overcome the operational difficulty, PTP XXIV and XXV used special funds to rehabilitate the mills at a cost of Rp 300,000,000. As a result, the extraction rate increased to 93 per cent and the boiling house efficiency became 97 per cent.

20. PEM concurs in the observation of PCR (para 30) that the Consultant's performance was generally satisfactory except the timing. As far as the factory Consultant is concerned, he was engaged to advise on all the 12 factories of PTP XXIV - XXV from September 1974 to September 1977. However, as the Project was delayed by one year, his contribution to the rehabilitation of Jatiroto and Semboro was minimal (see Appendix 2 for the timing of assignment). Also, PEM wishes to note that due to the delay in the Project, agricultural consultants ~~were~~ not available during the critical period when expansion took place. PEM views that the absence of consultants at such time was detrimental to the initial operation of the factory.

21. For the two factories to achieve the levels set in the Appraisal Report the field and factory performance must improve. PEM concludes that there are three major problems to overcome: (i) at Jatiroto, operating efficiency in the factory must be improved, mostly by modifying the No. 2 cane knife; (ii) the gearing on the second mill in Semboro should be modified to permit a greater throughput; and (iii) improvements in cane varieties and ripening techniques are necessary. At present three sugarcane varieties, BZ 132, 81 and 148 are being used. Further efforts should be made at the Research Station in Pasuruan to develop new varieties suited to the climatic and soil conditions in the Project area. The use of ripeners to improve sugar content at harvesting should also be investigated.

IV. PERFORMANCE IN INSTITUTION-BUILDING

A. Management Structure (Factory Level)

22. At the head of each factory is an Administrator who is responsible for both the agricultural and factory performance. A loan covenant for Loan No. 148(SF) stated that the positions of Factory Manager and Chief Cultivation Officer should be created under the head of the factory. As PCR notes (para 59), only the Chief Cultivation Officer has been appointed and the management has no plans to introduce a Factory Manager. 1/

23. In addition to PCR's observation (paras 58-62) on the organizational structure, PEM notes the following: PTP management expressed the view (in discussion with PEM) that the number of managers reporting directly to the Administrator (four at Jatiroto and five at Semboro) is not excessive and that the control of the Administrator is effective. In view of the present work of the Administrator, PEM concludes that the existing management structure of the factories is adequate and PEM does not see the need for a factory manager as a separate position. The appointment of a Chief Cultivation Officer is considered appropriate.

B. Profit Motivation

24. PNP was converted into PTP in 1975. The Appraisal Report expressed concern over the lack of profit motive at the enterprise level. PCR does not provide any assessment of the effect of the conversion of the Executing Agency from PNP to PTP. 2/ PEM observes that the effect of the conversion is reflected in the operation of the profit motive as seen in the pay-scales of PTP staff. Although the salary scale of all PTP employees is determined by the Government, an additional bonus (based on profits) is determined according to the performance of each factory. Payment of bonus is determined by two criteria - "The staff" of PTP XXIV-XXV receive their bonus according to the overall performance of all factories of PTP XXIV-XXV, which include those in Jatiroto and Semboro. The "non-staff", mainly factory workers, earn their bonus according to the performance of their individual factory. This "ability to pay basis"

1/ For the details of existing organizational structure of the factories, see Appendixes 11 (Jatiroto) and 12 (Semboro).

2/ From the state-owned Estate Enterprise (PNP) to corporation with limited liability (PTP) operating under commercial code.

scheme appears to be functioning satisfactorily in the content of the existing socio-economic climate of the Project area. PEM also notes that staff turnover is low at both the senior expert and factory worker levels.

C. Financial Control

25. PEM reviewed the financial and accounting system of PTP XXIV and XXV in the field. Each factory is responsible to the PTP XXIV and XXV for its performance. Complete financial statements for each factory are produced and submitted to the management of PTP XXIV and XXV. This is contrary to PCR's findings (para 55) that separate financial documents are not available for the factories. ^{1/} PTP management uses the statements for financial control and consolidates them to produce its own audited account for its shareholders.

26. The factory's financial statements are prepared on a monthly basis with an inventory of stocks and they contain sufficient details for purposes of proper management control. PEM believes that more information regarding the performance of individual departments of the factory would be beneficial.

^{1/} A summary of financial statement of Jatiroto factory (mid-year review) is translated and given in Appendix 13. On this point, the Project staff advise that at the time of review of PCR Mission the Executing Agency did not have separate balance sheet for each factory.

V. RE-ASSESSMENT OF THE ECONOMIC EVALUATION

27. While the Appraisal Report has an in-depth economic analysis of the Project, PCR lacks such an analysis. No Economic Internal Rate of Return (EIRR) is calculated in PCR and the major portion of the economic analysis is devoted to an estimate of foreign exchange savings. In the assessment of PEM, the method of calculation is not consistent with that found in Appraisal Report. A comprehensive review of the economic evaluation of the Project should have been made in PCR to ascertain the economic viability. The compelling nature of cultivation of sugar and rice in the Project area has major implications for the determination of the Project's economic viability.

28. The Appraisal Report estimated EIRR at 24.4 per cent. 1/ The recalculated EIRR, following the same method as was used in the Appraisal Report, is estimated to be 10.42 per cent, and excluding the opportunity cost of land, 15.60 per cent. 2/ PEM considers that the following factors have affected EIRR:

- (i) The opportunity cost of land, viz economic cost of the production foregone (rice) is considerably higher than the estimate in the Appraisal Report. PEM attributes this to higher international price of rice as against sugar. 3/ Up to 1976 the international price of sugar per ton was higher than rice. From 1976 the trend was reversed. It should be noted, however, that the sugar price per se increased much higher than the Appraisal estimate, 4/ but this was not significant enough to offset the opportunity cost of rice in EIRR calculation;

1/ See Report No. INO: Ap-17, page 55.

2/ For details of EIRR calculation, see Appendixes 14-15.

3/ See Appendix 16 for comparison of international prices of sugar and rice.

4/ AR estimated that the predicted world market price of sugar would be \$180/ton in 1980 (see INO: Ap-17, page 28). Actual price (in current) was \$290.

- (ii) The second factor which affected EIRR, was the low incremental net benefits of the Project. During the period of initial Project operations (1978-1980), incremental benefits appear to be marginal relative to the appraisal estimates. The decline in the initial benefits is largely due to the performance of Semboro factory; and
- (iii) The substantial increase in the actual Project cost which is higher than the original estimate, reduced EIRR. 1/

A. Farmers' Income

29. The Appraisal Report included a detailed analysis of farm income both sugarcane and rice and concluded that the farmer would receive a higher income from sugar than from rice. 2/ PCR does not provide any analysis of farm income; it has given a general observation that cane farming is more profitable than rice farming. 3/ PEM considers that the analysis of farm income is a critical element in assessing the Project as well as its future prospects. PEM is of the view that the relative levels of income between cane farming and rice farming turned out to be different from what was anticipated in the Appraisal Report. Income from sugarcane as well as rice farming varies considerably in the Project area depending on soil conditions, cropping intensity, use of fertilizer and availability of extension services. PEM estimates that the average income of 16 months of ratoon cane farming would be between Rp 800,000 and Rp 900,000 per hectare. 4/ The corresponding figure for rice farming is estimated to be Rp 848,000 per hectare. 5/

1/ PEM estimates that the economic cost (1980 constant dollars) of Loan No. 148-INO(SF) and 149-INO would become \$31.068 million, an increase of 160 per cent from actual disbursements. For details of calculation, see Appendix 21.

2/ The cane ratooning farmer was estimated to receive 64 per cent higher than a rice farmer (see INO: Ap-17, pages 56 and 133).

3/ See PCR, para 67. PEM notes (based on its analysis of the income of more than 80 farmers in Jatiroto and Semboro), that the income estimates quoted by PCR do not seem to represent the actual figures.

4/ See Appendix 17 which provides samples of the cases analyzed for Jatiroto and Semboro.

5/ See Appendix 18 for details.

30. PEM is of the view that rice farming has become competitive in terms of income it gets as compared with sugar farming. PEM considers that this is partly due to the fact that the prices set by the Government for sugar and rice have moved in parallel with the world market prices. Consequently, the comparative advantage of sugar has not been as great as the Appraisal Report estimate. 1/ However, PEM's field investigations suggest that there is scope for sugarcane farmers to earn higher incomes. This would depend on the nursery and cultivation techniques, an area which should be further developed by the factories by way of extension services.

B. Foreign Exchange Earnings

31. Appraisal estimates were that the Project would produce net incremental production of 80,000 tons of sugar by 1978 and about 120,000 tons by 1985, equivalent to gross foreign exchange savings of \$13.6 million and \$20.5 million, respectively. The net benefit to the balance of payments, after deducting the costs of rice production foregone was expected to be \$10 million and \$17 million, respectively. 2/

32. PCR calculated that the gross foreign exchange earnings would amount to \$18.7 million in 1978 and \$25.5 million in 1980. PEM considers that the PCR's estimation is not consistent with the estimate in the Appraisal Report. 3/ PEM is not in agreement with PCR (para 65) which states that the foreign exchange savings exceeded the appraisal estimates. PEM's recalculation of the gross foreign exchange saving would amount to \$4.9 million for 1978, and \$8.7 million for 1980. The net benefit to the balance of payments after deducting the costs of rice production foregone would be approximately \$3.3 million in 1978 and \$7.0 million in 1980, 4/ which is in sharp contrast with the PCR estimates.

1/ In retrospect, PEM considers that AR was rather optimistic in forecasting the world market price of sugar and rice. AR envisaged stable or declining prices of rice and increases in sugar prices (see INO: Ap-17, page 133, para 2).

2/ See INO: Ap-17, page 53.

3/ PCR does not take into account the "net" incremental production which is calculated after deduction of "without" project case (see PCR, para 64 and Report No. INO: Ap-17, para 130).

4/ For details of calculation of foreign exchange savings, see Appendix 19.

C. Summary

33. The basic objective of the Project was to (i) increase sugar production and thus (ii) reduce foreign exchange expenditure on sugar imports, and (iii) to create employment and raise income levels of small farmers. In conclusion, PEM feels that the net economic benefit of the Project is less than the Appraisal estimate. This is partly due to the fact that the sugar estate in East Java could only be established at the cost of considerable reduction of other crops in the area. Since the overall level of sugar consumption in Indonesia is likely to increase in the foreseeable future, 1/ PEM observes the Government policy to introduce new sugar estates in the outer islands is in the proper direction from the economic point of view.

1/ For details of overall production, consumption and import of sugar in Indonesia, see Appendix 20.

VI. MAJOR FINDINGS AND CONCLUSIONS

A. For the Bank

34. PEM concludes that neither the Project preparation period nor the specifications was adequate. For projects of this nature to be successful, their full scope should be defined in advance and agreed to by the Executing Agency before implementation (para 8).

35. PEM views that Bank follow-up on the technical performance of the Project was inadequate. The Bank's major preoccupations during the Project implementation was disbursement of the loan. Many of the technical aspects of the factory operation were left to the Consultants. When the Consultants left the field, the Bank's follow-up on the operating efficiency of the factories was insufficient. For future projects, the Bank should make available sufficient expertise for supervising technical performance of a project (para 20).

36. Because of implementation delays, the Consultants were not in the field during the critical time of initial operation of the factories. PEM believes that the absence of the Consultants during the initial stage of the factory operations contributed to the operating problems. The Bank should ensure for future projects that the engagement of consultants and Project implementation are properly synchronized (para 20).

37. PEM notes that the Bank review of the economic viability of the Project was not adequate. The first Review Mission in December 1974 identified the risk of substantial cost overrun. Although the Financial Internal Rate of Return was recalculated from time to time, the Bank has not recalculated EIRR since Appraisal, either as part of project implementation monitoring or in the PCR. PEM concludes that given the significant cost/time overrun and increase in the opportunity cost of land EIRR should have been recalculated during Project implementation to ascertain the economic viability of the Project (para 5 - footnote 1/ and para 27).

38. PEM concludes that unless there are methodological issues, the PCR should employ the same methods for the calculation of key figures (i.e., foreign exchange savings) as were used in the Appraisal. If different methodologies are used, the fact should be clearly stated (para 32, and footnote 1/).

B. For the Executing Agency

39. The operating efficiency of the two factories needs improvement.

It is suggested that the efficiency could be improved at the Jatiroto factory largely by modifying the No. 2 cane knife. At Semboro, the gearing on the second mill should be modified to permit a greater throughput. Also, instrumentation should be improved at both the factories (paras 15, 17 and 19).

40. Due to the Government policies on irrigated land, the Semboro factory must depend entirely on small farmers for sugarcane cultivation. While acquiring sufficient land is beyond the powers of PTP XXIV and XXV, further efforts should be made to strengthen the existing extension services. PEM believes that strengthening the activities of farmers' groups would be beneficial for both the factories and farmers (paras 11 and 13).

41. PEM considers there is scope for improvement in cane varieties and ripening techniques which could result in significant increases in the rate of sugar extraction (para 21).

C. For the Government

42. PEM concludes that policies should be developed at the provincial level which are consistent with the national agricultural priorities. PEM also wishes to note that under the present circumstances additional sugar cultivation in East Java can only be achieved at the cost of a reduction in other crops. PEM's reassessment of the economic evaluation includes the trade-off between cultivation of sugar and rice. Since Indonesia is a net importer of sugar and rice, the difficulty must be faced in setting the priority at the provincial level. PEM concludes that Government policy should be well coordinated at the provincial government level, and a consistent policy should be established for the development of sugar cultivation (paras 28, 30 and 33).

APPENDIXES

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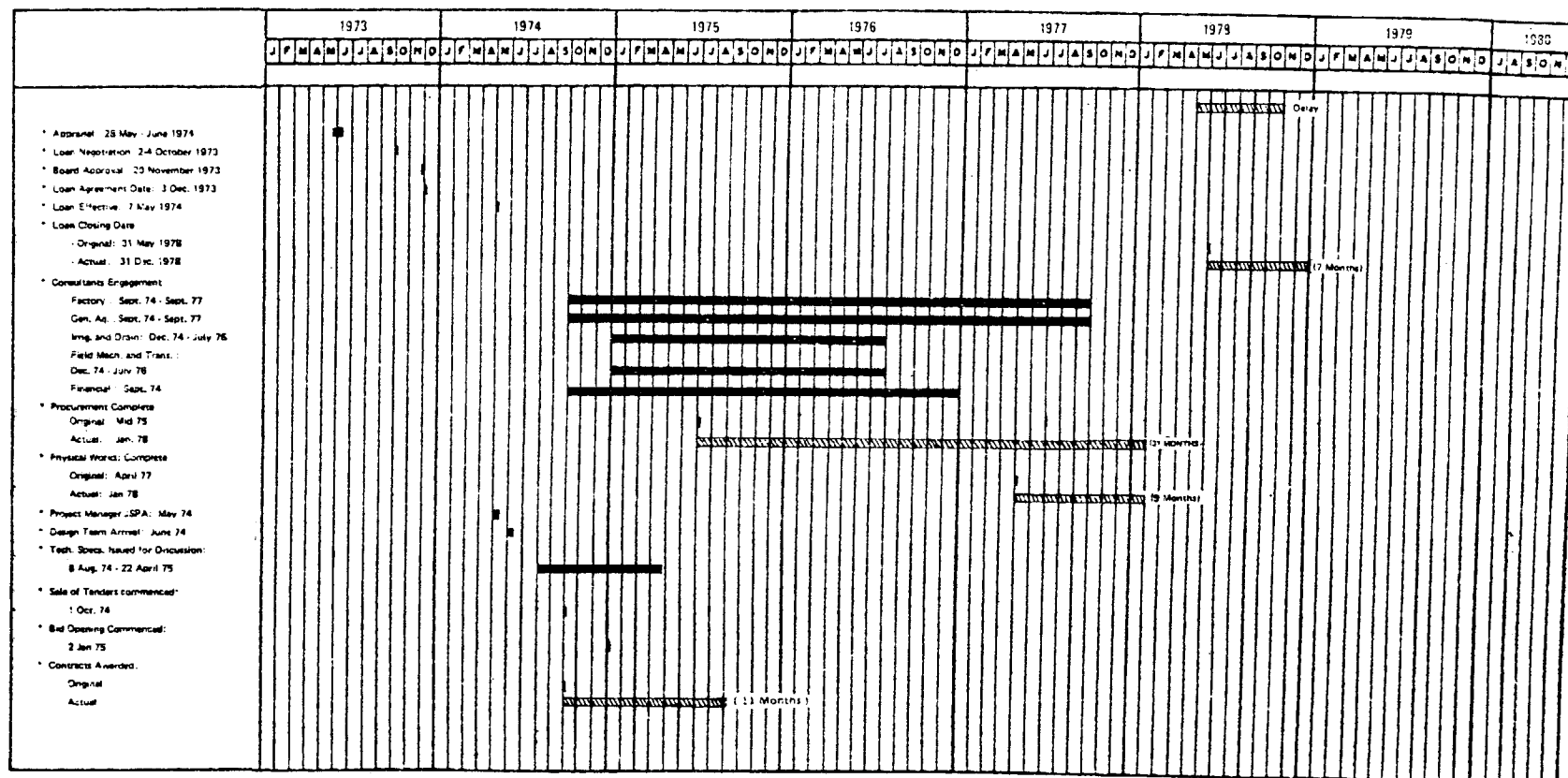
Appendix 1

PROJECT COSTS (Summary)		
	Foreign (\$)	Local (Rp)
I. ADB Loan (Loan Nos. 148-INO (SF), 149-INO)	15,520,000.00	1,598,351,183.52
II. Supplier's Credit	Rp9,146,869,115.53 (\$22,040,648.00)	1,013,395,469.90
III. Others		3,909,849,000.00
Total	\$37,560,648.00	Rp 15,687.897.00

Source: JSPU (Surabaya)

(Reference in text: page 3, paragraph 5)

PROJECT IMPLEMENTATION SCHEDULE
- KEY FIGURES (ORIGINAL AND ACTUAL)



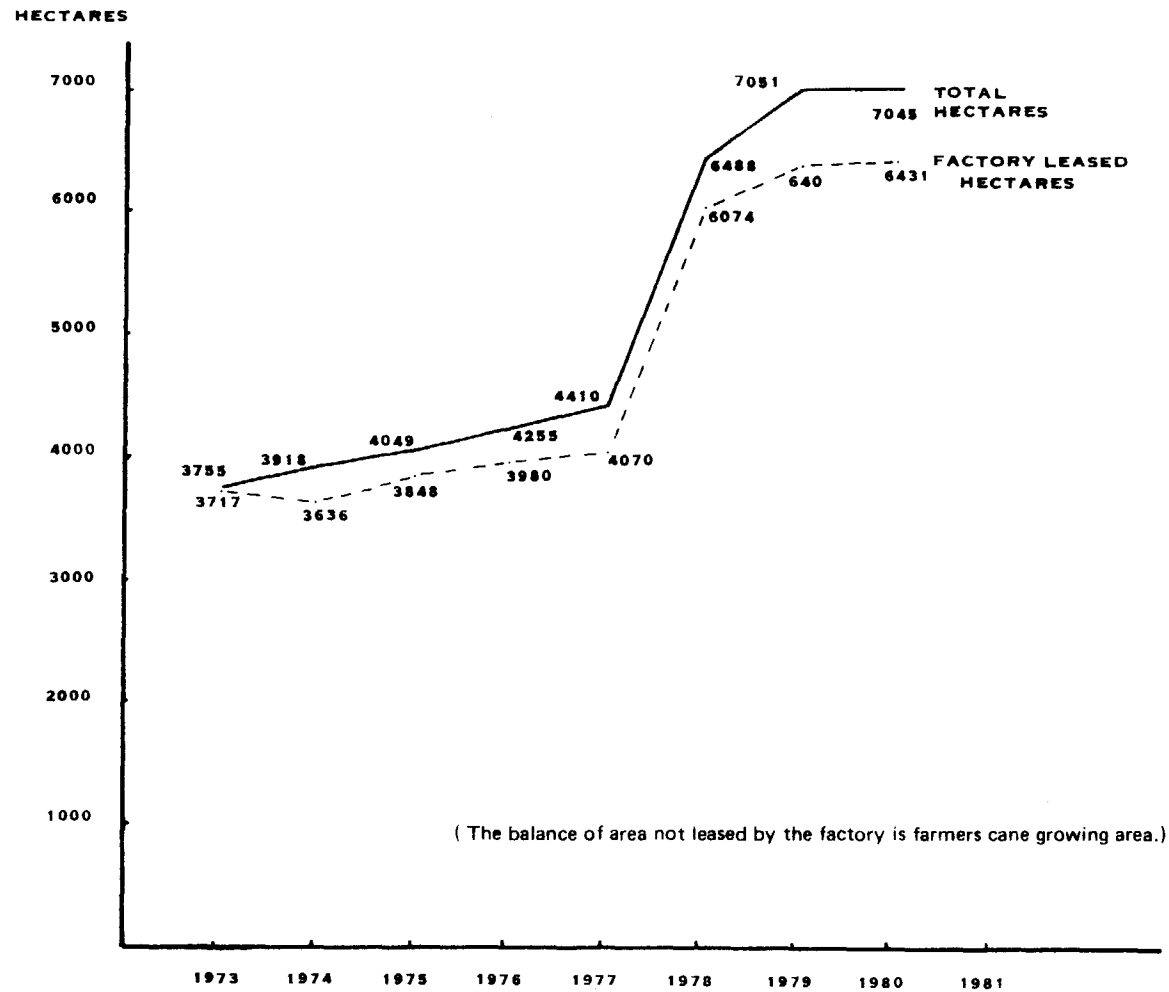
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ACTUAL YIELDS 1973 - 1980

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
<u>JATIROTO</u>								
1. Cane (tons/ha)	97.3	82.3	88.0	78.6	190.6	119.9	94.3	95.5
2. Sugar (tons/ha)	7.80	7.75	7.69	8.17	10.31	8.77	7.74	8.44
3. Rendement (%)	8.02	9.41	8.73	10.40	9.41	7.31	8.20	8.84
4. Total Cane Harvested ('000 tons)	365	323	356	334	483	778	665	682
5. Total Sugar Produced ('000 tons)	29.3	30.3	31.1	34.8	45.5	56.9	54.6	60.2
6. Target Sugar Production	-	40.5	42.0	43.2	72.8	69.6	69.6	69.8
7. Shortfall	-	10.2	10.9	8.4	27.3	12.7	15.0	9.6
<u>SEMBORO</u>								
1. Cane (tons/ha)	110.4	103.2	102.9	93.3	115.9	108.2	98.1	88.9
2. Sugar (tons/ha)	9.79	10.32	9.92	9.55	10.86	7.82	7.99	8.22
3. Rendement (%)	8.87	9.99	9.64	10.23	9.37	7.23	8.14	9.24
4. Total Cane Harvested ('000 tons)	396	380	352	361	409	523	566	366
5. Total Sugar Produced ('000 tons)	35	38	34	37	38	38	46	36
6. Target Sugar Production	-	37	40	43	67	79	81	83
7. Shortfall	-	- 1	6	6	29	41	35	47

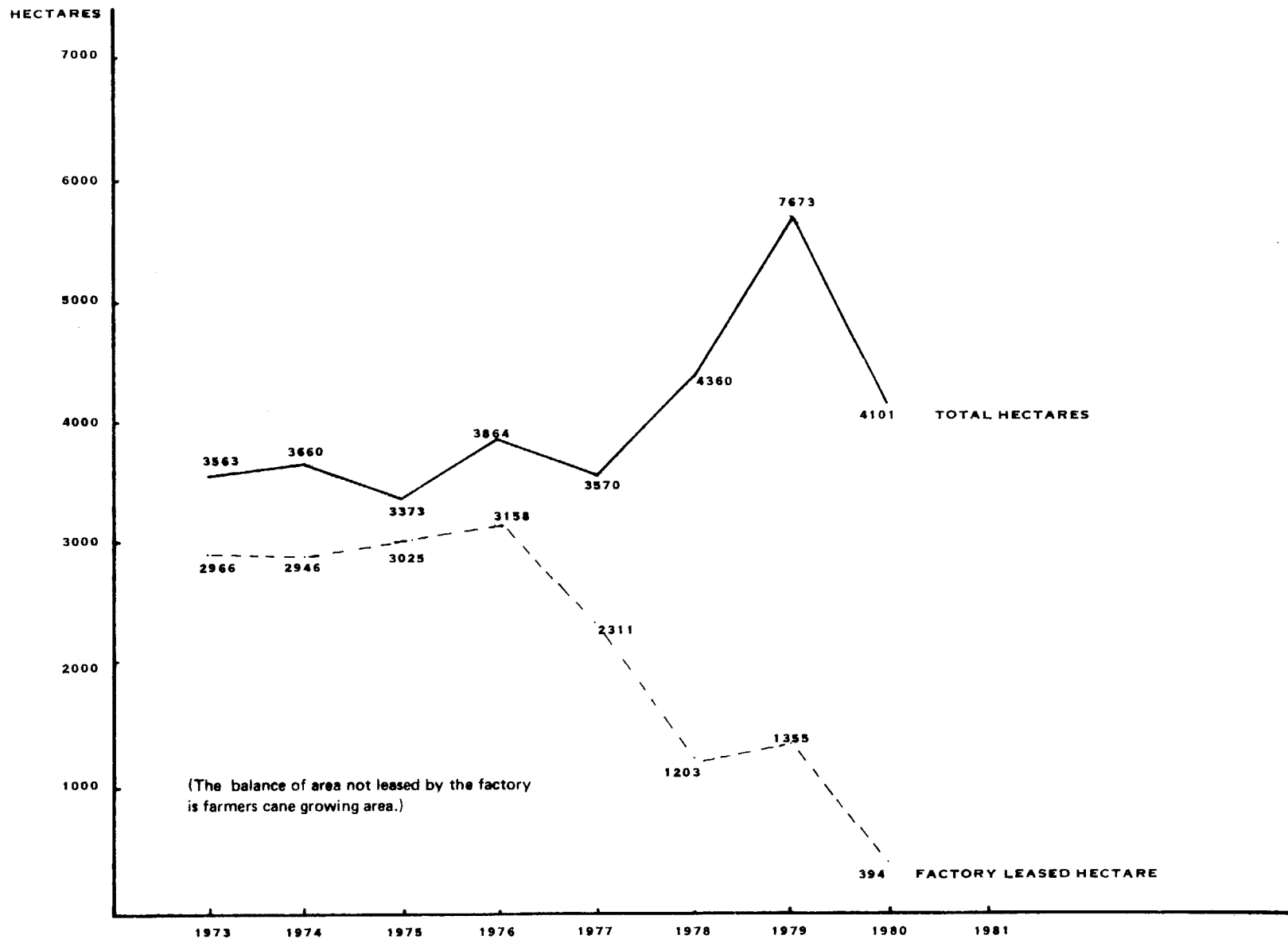
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HECTARES HARVESTED – JATIROTO



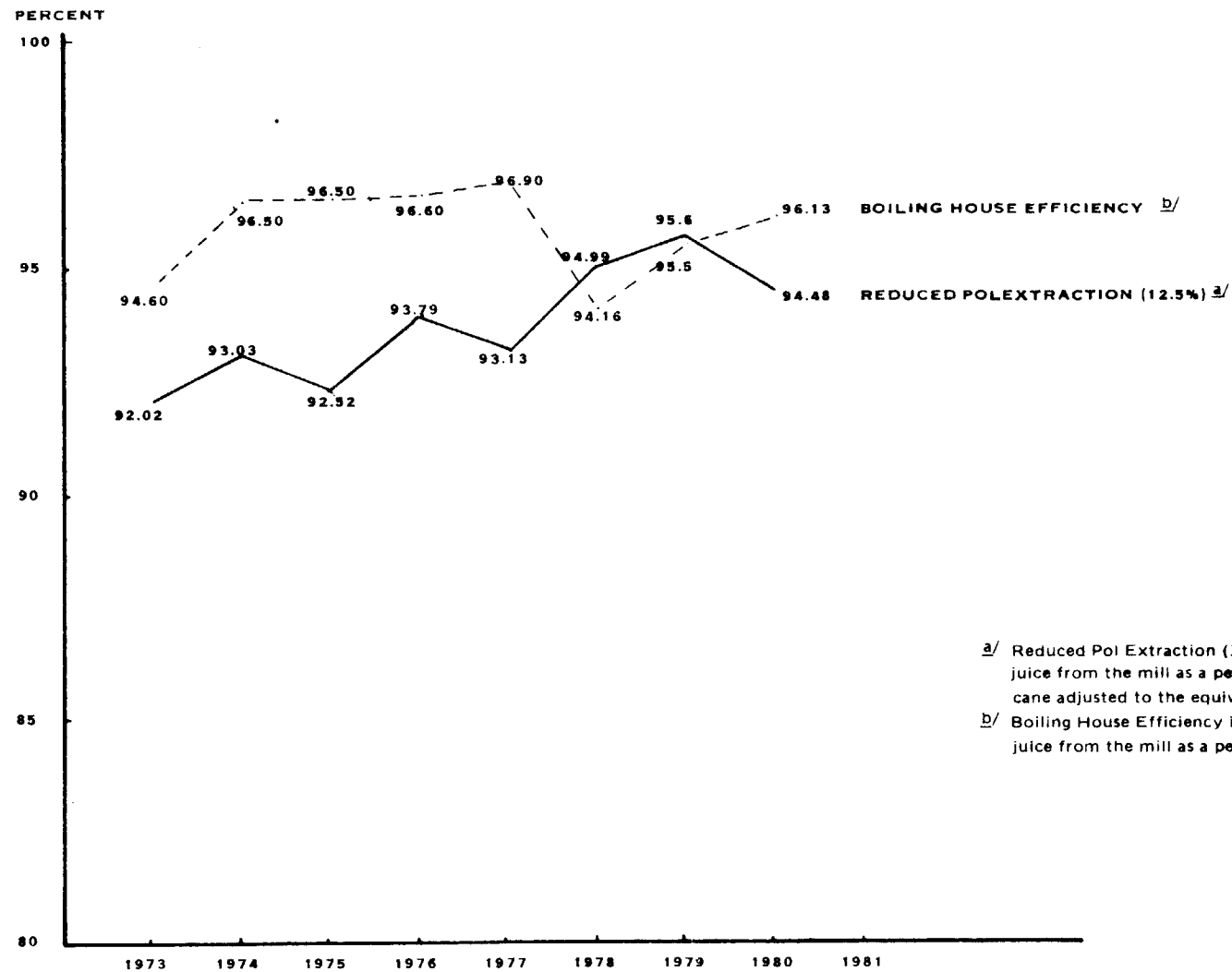
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HECTARES HARVESTED – SEMBORO



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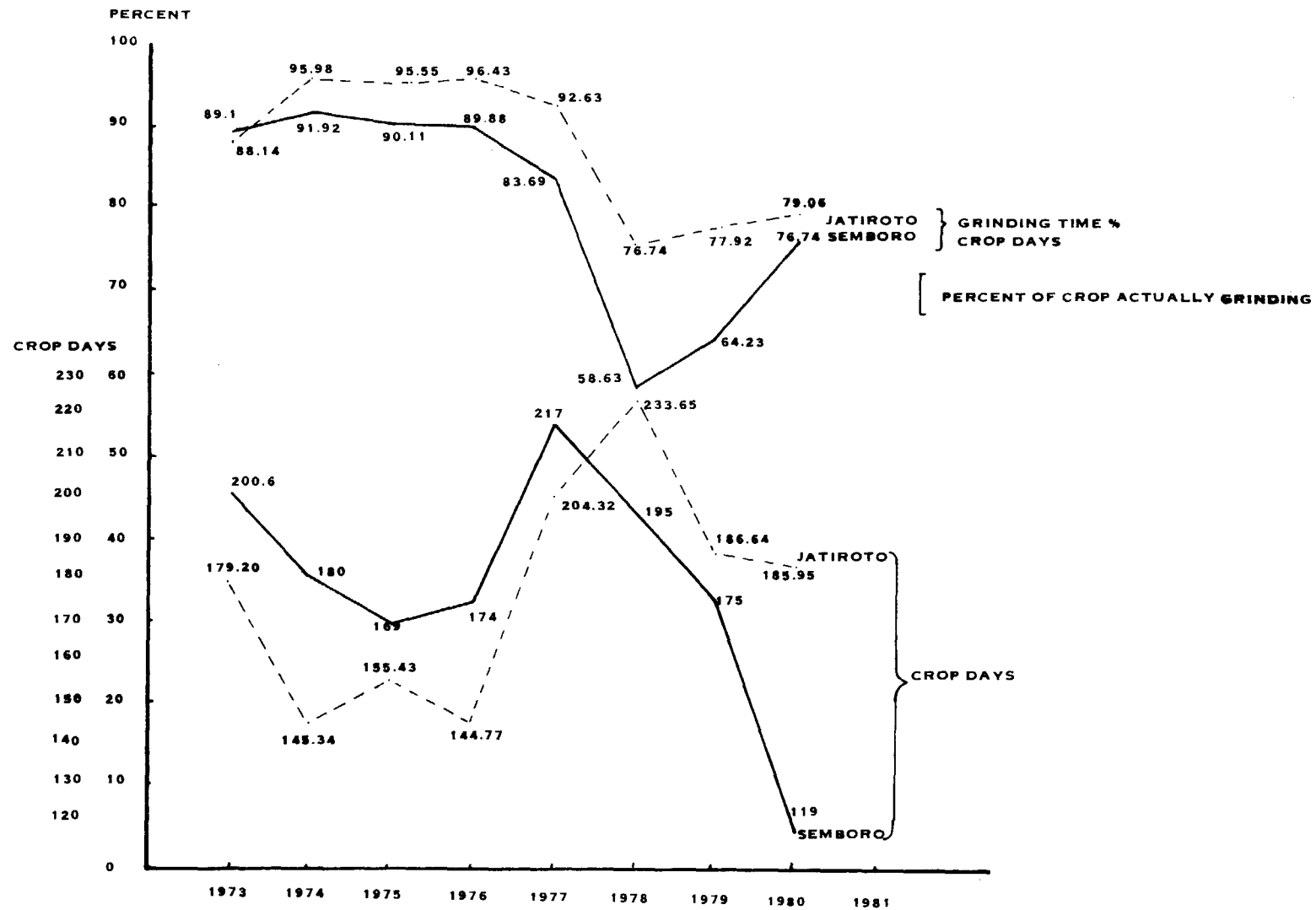
OPERATING EFFICIENCIES – JATIROTO



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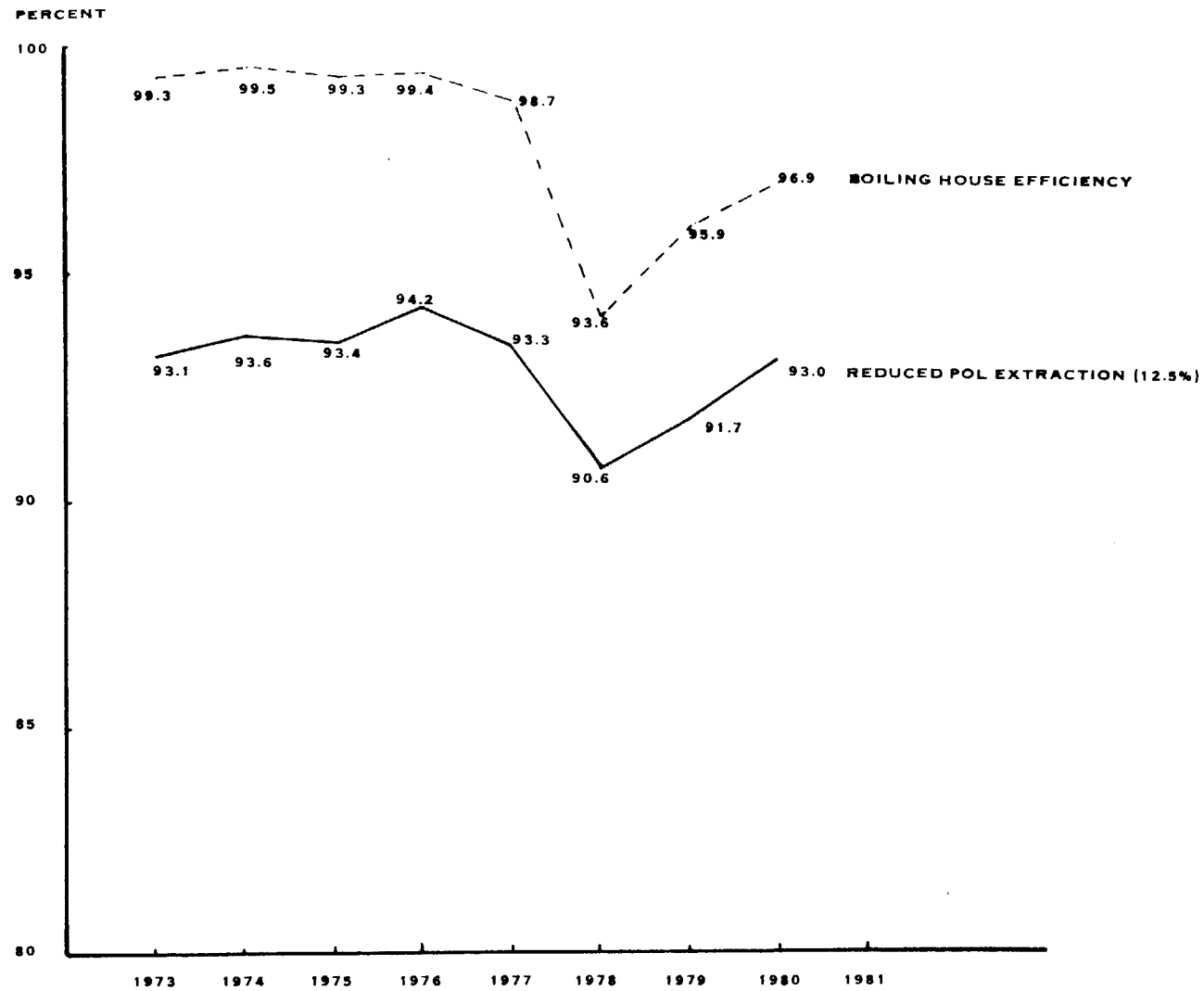
GRINDING TIME AS PERCENTAGE OF CROP DAYS

JATIROTO AND SEMBORO



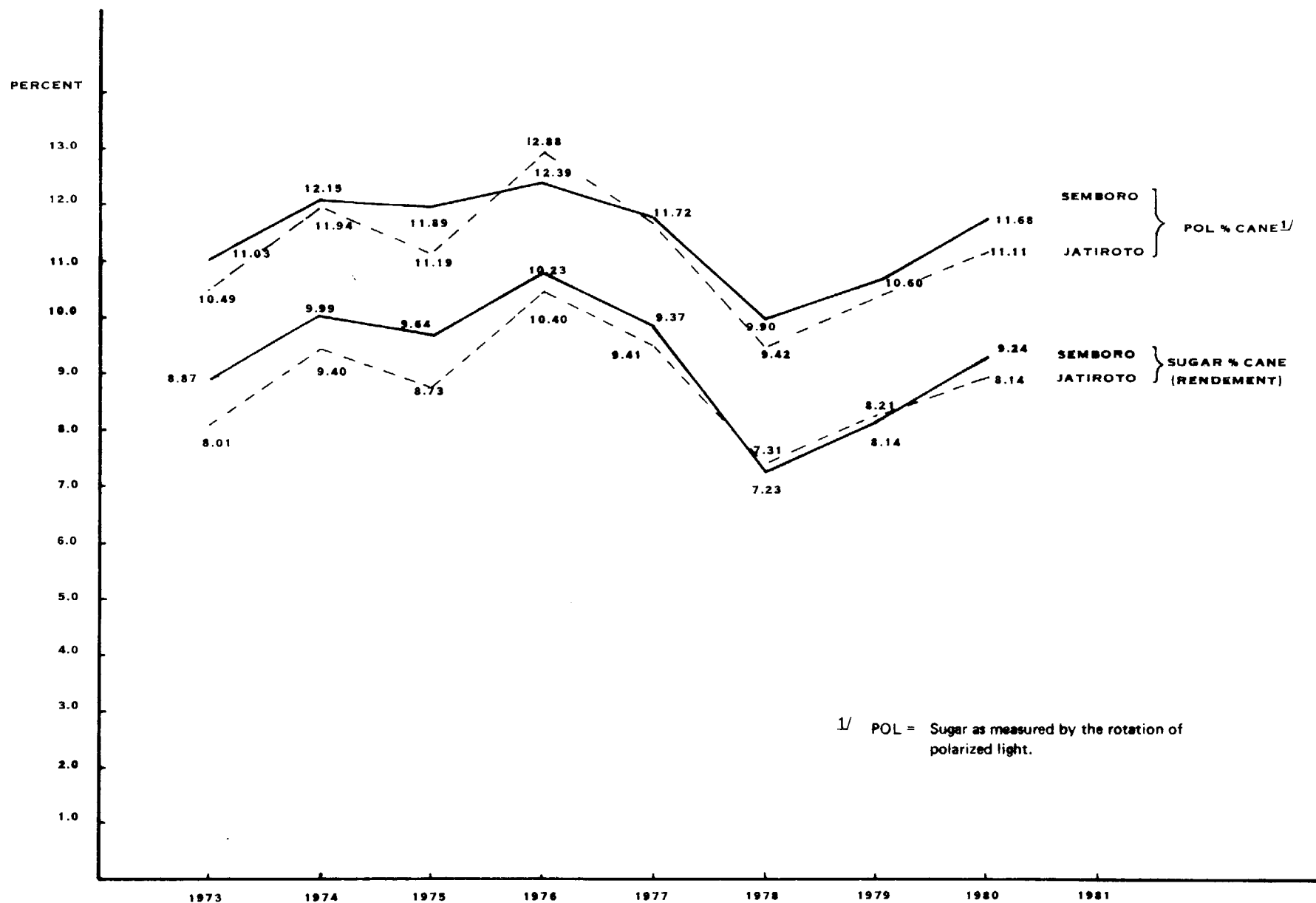
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OPERATING EFFICIENCIES – SEMBORO



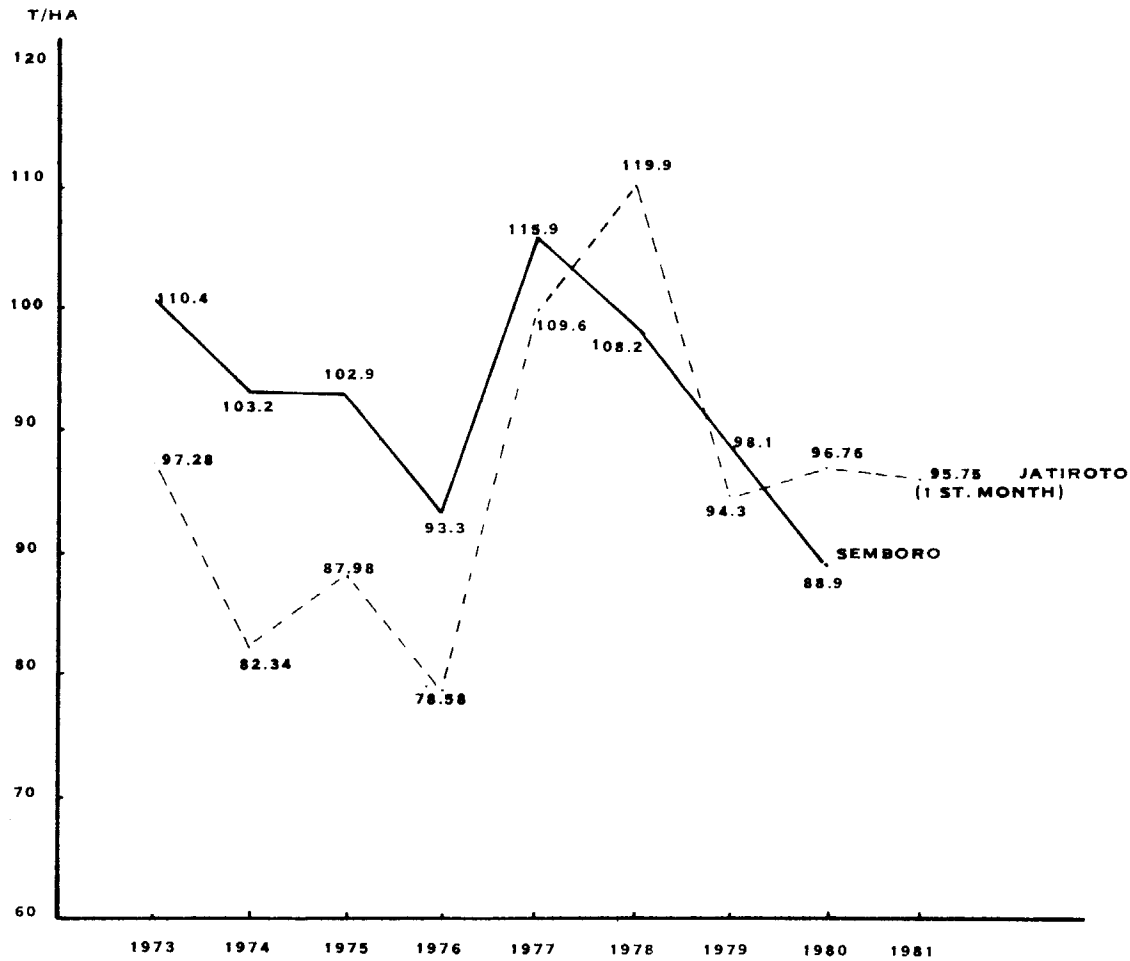
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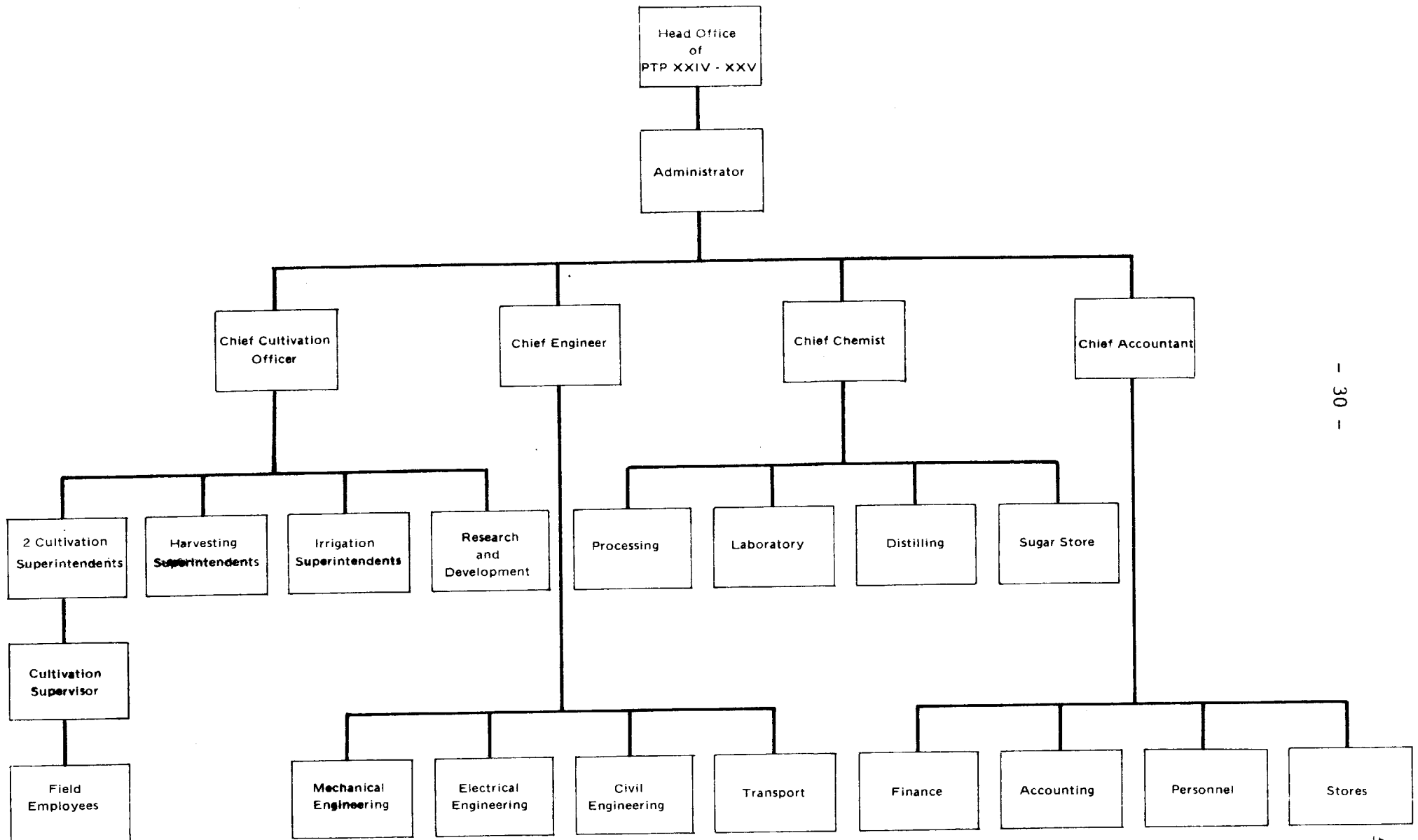
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(Reference in text: page 7, paragraph 12 and page 9, paragraph 18)

ORGANIZATIONAL CHART (JATIROTO), AS OF JUNE 1981



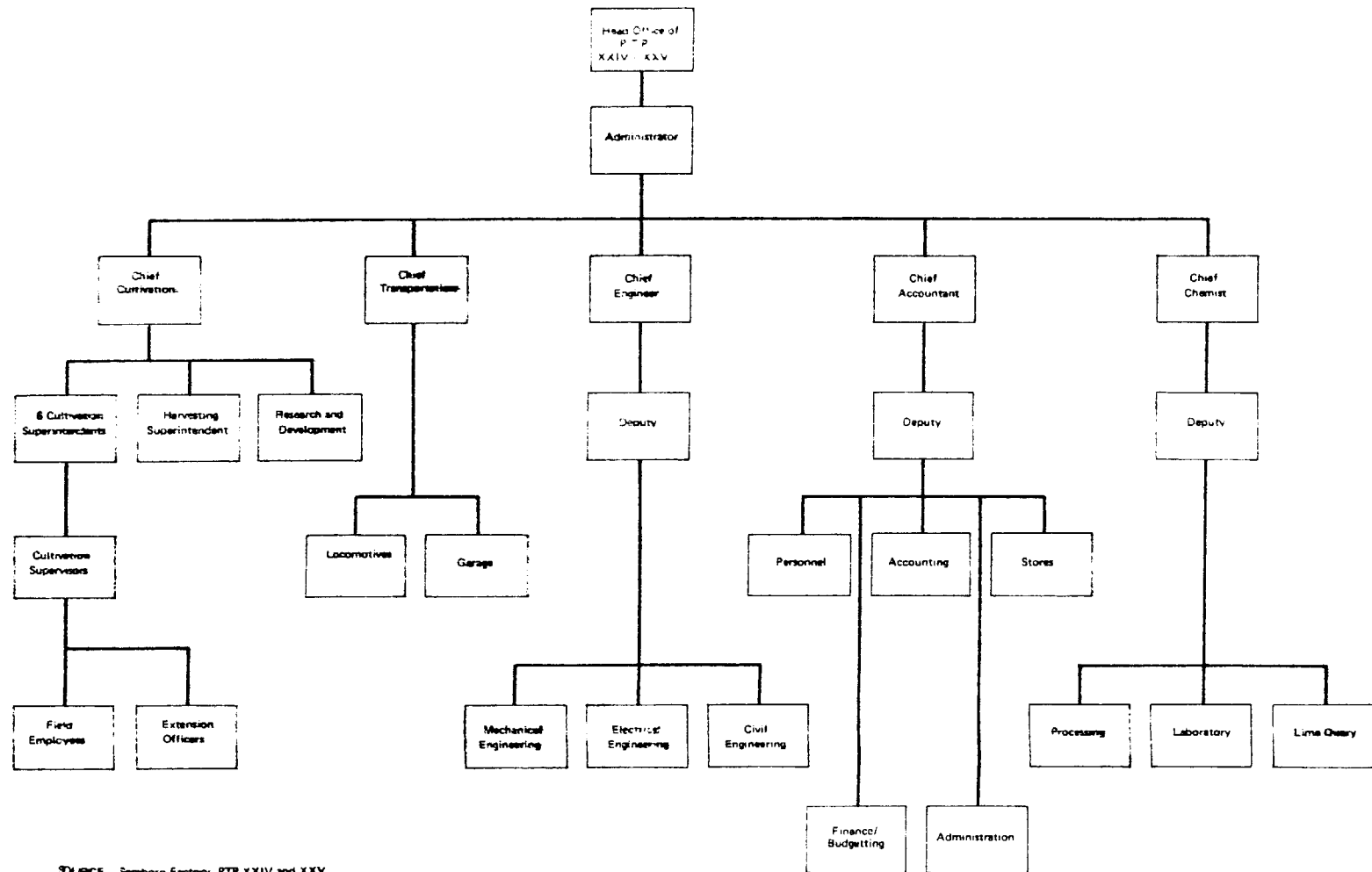
- 30 -

Appendix II

Source : Jatiroto Factory, PTP XXIV and XXV.

(Reference in text: page 11, paragraph 22)

ORGANIZATIONAL CHART (SEMBORO), AS OF JUNE 1981



SOURCE : Semboro Factory, PTP XXIV and XXV

(Reference in text: page 11, paragraph 22)

JATIROTO
FINANCIAL STATEMENT 1981
(Summary)

A. REVENUE

1.	Data - Area harvested, factory and farmer	=	8,579.6 ha
	Tons cane per hectare	=	95.7
	Tons sugar per ton cane (rendement) %	=	7.81
	Tons sugar per hectare	=	7.47
2.	Tons equivalent SHSI = 8579.6 x 957 x 7.81% x 1.004	=	64,381.9
	Tons Molasses = 8579.6 x 957 x 3.0%	=	24,632.0
3.	Value - Sugar : 64,381.9 x 358	=	23,048,720
	Molasses : 24,632.0 x 65	=	<u>1,601,080</u>
			24,649,800

B. <u>COSTS</u> ('000 Rp)	6 months to 30/6/81	Estimate July to Dec. '81	Total 1981
510. General Administration	388,380	477,730	866,110
511. Seed and Nursery	217,065	-	217,065
512. Plant Cane	2,540,356	2,916,015	5,456,371
513. Transport and Cultivation	538,631	1,593,960	2,132,591
514. Maintenance	613,827	1,193,101	1,806,928
515. Bagging	70,005	472,411	542,416
518. Depreciation	-	1,315,700	1,315,700
519. Sundries	16,431	40,604	57,035
Interest	-	842,160	842,160
Head Office Expenses	-	<u>1,152,436</u>	<u>1,152,436</u>
	<u>4,384,695</u>	<u>10,004,117</u>	<u>14,388,812</u>

C. COST PER TON SUGAR (Rp)

1.	Including Head Office Expenses	=	223,491.6
2.	Excluding Head Office Expenses	=	192,510.9

D. PROFIT BEFORE TAX

Revenue	=	24,649,800
Costs	=	<u>14,388,812</u>
Profit before tax	=	<u>10,260,988</u>

ECONOMIC INTERNAL RATE OF RETURN
EAST JAVA SUGAR PROJECT (JATIROTO AND SEMBORO)
(\$'000 in 1980 Constant Prices)

Year		Capital Cost	Factory/Field Operating Cost	Opportunity Cost of Land	Total Cost	Benefits	Net Cash Flow
1974	(1)	5,295			5,295 (5,295) <u>a/</u>	0	(5,295) (5,295) <u>b/</u>
1975	(2)	4,963			4,963 (4,963)	0	(4,963) (4,963)
1976	(3)	20,487			20,487 (20,487)	0	(20,487) (20,487)
1977	(4)	22,965			22,965 (22,965)	0	(22,965) (22,965)
1978	(5)	16,837	446	846	18,129 (17,283)	2,208	(15,921) (15,075)
1979	(6)	11,605	1,596	1,115	14,316 (13,201)	3,946	(10,370) (9,255)
1980	(7)		931	902	1,833 (931)	9,578	7,745 8,647
1981	(8)		4,461	2,550	7,011 (4,461)	14,794	7,786 10,333
1982	(9)		5,861	3,428	9,289 (5,861)	18,788	9,499 12,927
1983	(10)		7,432	4,357	11,789 (7,432)	24,957	13,160 17,525
1984	(11)		8,595	5,065	13,660 (8,595)	27,112	13,452 18,517
1985	(12)		10,206	6,879	17,085 (10,206)	30,760	13,675 20,554
1986	(13)		11,958	8,081	20,039 (11,958)	33,025	12,986 21,067
1987	(14)		15,724	10,083	25,807 (15,724)	37,555	11,748 21,831
1988-1999	(15-25)		18,988	12,256	31,244 (18,988)	46,047	14,803 27,059

EIRR - 10.42

EIRR - 15.60 (excluding opportunity cost of land)

a/ Total Cost excluding opportunity cost of land.

b/ Net Cash Flow excluding opportunity cost of land.

(Reference in text: page 13, paragraph 28)

EXPLANATORY NOTES ON THE EIRR CALCULATIONS

- (i) All prices are expressed in 1980 constant dollars.
- (ii) The capital costs consist of not only ADB loan components but also those of suppliers' credits and its corresponding domestic expenditures financed by the Executing Agency. The foreign components are converted into 1980 constant dollars by the international price index (IBRD Index, 1980), and the domestic expenditures are converted by GDP deflator.
- (iii) For the price of sugar (1980 constant), the following figures are used. (Unit: US\$/mt) a/

1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988-99
220	238	652	450	391	391	391	405	405	405	409

- (iv) Factory processing costs consist of labor, input materials (e.g. lime), fuel, spare parts, bags and other maintenance costs. Field operation costs refer to the costs incurred in nursery, planting, harvesting inclusive of fertilizer and other agro-chemicals and irrigation expenses, excluding government tax on land.
- (v) The opportunity cost of land refers to the production foregone (rice) assumed in the project area. For the calculation of net incremental produce of rice, the following is the base price (1980 constant): a/

1978	1979	1980	1981	1982	1983	1984	1985	1986	1987-1999
471	370	434	478	487	487	487	557	557	575

After quality adjustment and by deducting the costs incurred in port handling charges, transportation and related costs, economic price of rice at farm gate is estimated as follows:

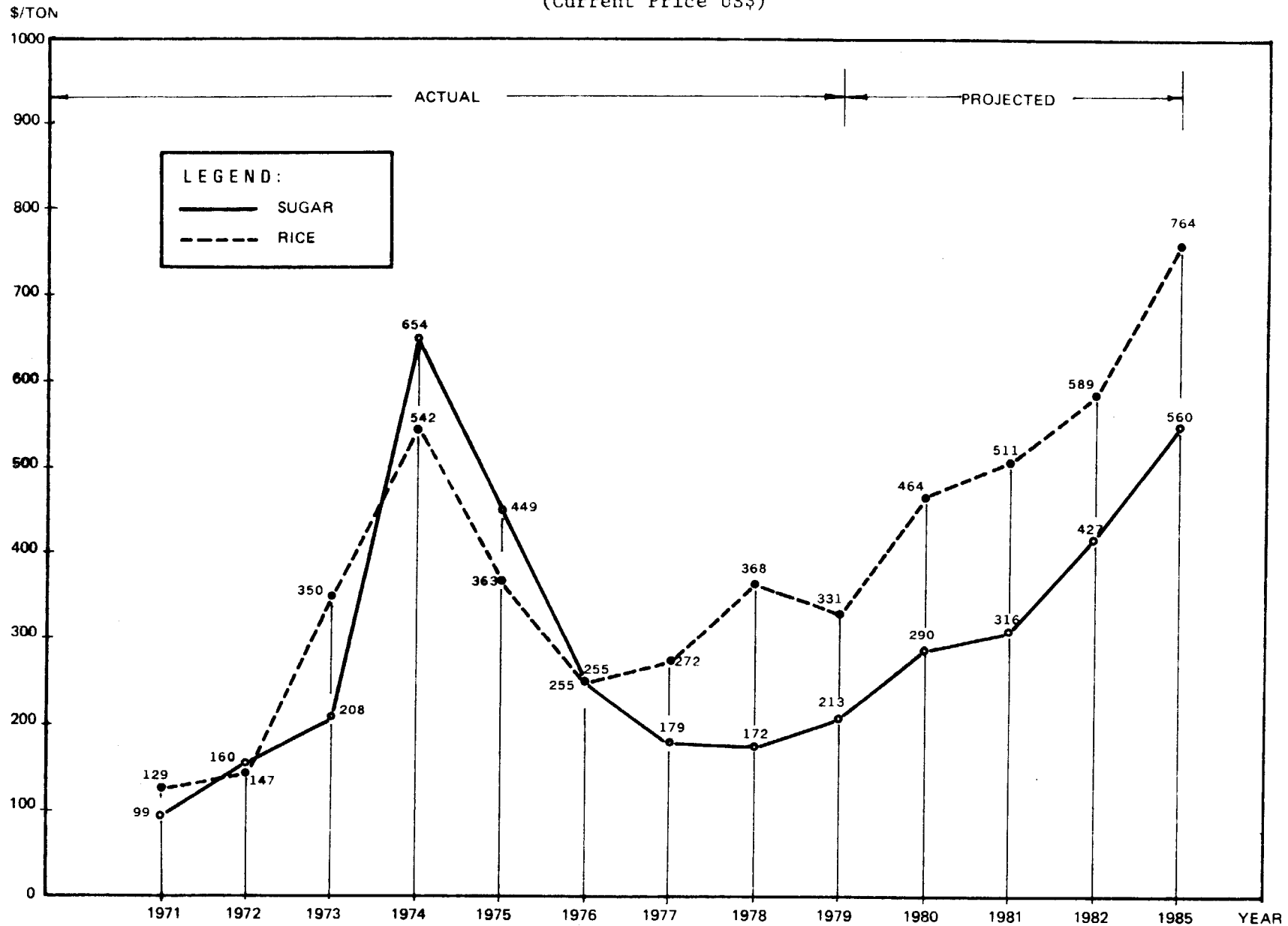
1978	1979	1980	1981	1982	1983	1984	1985	1986	1987-1999
259	204	239	263	268	268	268	306	306	316

The opportunity cost of land is calculated after deducting the production cost.

- (vi) Benefits refer to the net incremental product of sugar which is a balance of "with" and "without project" cases. For without project case, from 1978 onward, 43,248 mt/year is used for Jatiroto as set in the Appraisal Report; for Semboro, 43,160 mt/year is used. For the molasses production, 40 per cent of incremental sugar is assumed against 30 per cent used in the Appraisal Report due to the quality of cane.

a/ The figures are based on the Commodity Price Forecast - Updating (IBRD), dated June 22, 1981.

SUGAR AND RICE PRICES 1970 - 1980 ^{1/} (Current Price US\$)



^{1/} IBRD, Price Prospect for Major Primary Commodities, January 1980.

(Reference in text: page 13, paragraph 28 (i))

EAST JAVA SUGAR PROJECT
ANALYSIS OF FARM INCOME FROM SUGARCANE FARMING (1979/1980)

JATIROTO

Cases a/	Size of land holding (ha)	Total Cane Produced (mt)	Rendement (%)	Sugar for farmers (mt)	Price of Sugar (Rp/mt)	Gross Total Income (Rp)	Production Cost (Rp)	Net Income (before tax) (Rp)	Income per hectare (Rp)
Case A (Plant Cane)	10.9	1,059	10.06	65.2 (61%)	303,095.10	19,761,800	10,064,638	9,697,162	889,648
Case B (Plant Cane)	9.2	1,153	9.86	73.3 (64%)	291,240.80	21,347,951	9,944,254	11,403,697	1,239,532
Case C (Ratoon Cane)	8.4	683	9.67	40.0 (61%)	319,299.80	12,771,992	5,790,084	6,981,908	831,180
Case D (Ratoon Cane)	8.7	1,100	9.72	65.4 (61%)	345,328.00	22,584,451	8,063,831	14,520,620	1,669,037

a/ Each case consists of a group of farmers. Case B and Case D denote those at the highest income-level in the region.
Source: Jatiroto Factory, PTP XXIV and PTP XXV.

SEMBORO

Cases	Size of land holding (ha)	Total Cane Produced (mt)	Rendement (%)	Sugar for farmers (mt)	Price of Sugar (Rp/mt)	Gross Total Income (Rp)	Production Cost (Rp)	Net Income (before tax) (Rp)	Income per hectare (Rp)
Case A	17.3	1,804	9.15	102.5 (62%)	278,950	28,592,375	14,304,073	14,288,302	825,913
Case B	31.9	2,908	9.50	176.8 (64%)	298,080	52,700,544	26,725,211	25,975,333	814,274
Case C	11.8	1,198	8.75	63.9 (60%)	277,000	17,700,300	9,529,800	8,170,500	692,415
Case D	15.1	1,472	9.37	83.9 (60%)	350,000	29,365,000	12,803,595	16,561,405	1,096,782

Source: Semboro Factory, PTP XXIV and PTP XXV.

(Reference in text: page 14, paragraph 29)

ANALYSIS OF INCOME FROM RICE FARMING

For a period of 16 months, three rice crops can be grown. Paddy yields expected are five tons for the wet season crop, three tons for the intermediate crop (or cultivation of soya beans as an alternative) and three tons for the dry season crop. The present price of sugar in Indonesia is Rp 128,000/ton. a/ The cost of inputs including labor, fertilizer and other agro-chemicals would amount to about Rp 688,000 per hectare.

Gross income per hectare (12 tons x Rp 128,000)	=	Rp 1,536,000
Production Cost	=	<u>688,000</u>
Net Income to farmer/ha	=	Rp 848,000

a/ Procurement price by BULOG to the farmer's cooperatives (1980).

(Reference in text: page 14, paragraph 29)

CALCULATION OF FOREIGN EXCHANGE SAVINGS

	<u>1978</u>	<u>1980</u>
1. Gross Production of Sugar (tons)		
- Jatiroto	56,900	60,200
- Semboro	38,000	36,000
Total	94,900	96,200
2. Less:		
1972 actual (tons) <u>a/</u>	55,200	66,200
3. Net Production (tons) (1-2)	28,700	30,000
4. International Price (\$/ton) (current) <u>b/</u>	172	290
5. Gross Foreign Exchange Savings (\$)	4,900,000	8,700,000
6. Cost of Rice Production Foregone (\$) <u>c/</u>	1,595,000	1,695,000
7. Net Foreign Exchange Savings (\$)	3,305,000	7,005,000

a/ Appraisal Report estimated 1972 actual as a basis for calculation of net production of sugar (see INO: Ap-17, page 53).

b/ IBRD, Price Prospect for Major Commodities, January 1980.

c/ PEM's estimate.

(Reference in text: page 15, paragraph 32)

PRODUCTION, CONSUMPTION AND IMPORT OF SUGAR IN INDONESIA
('000 mt)

	<u>Actual</u>			<u>Projected</u>		
	<u>1975</u>	<u>1977</u>	<u>1978</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>
Production	1,000	1,100	1,128	827	1,286	1,597
Consumption	1,285	1,401	1,557	1,659	2,063	2,549
Import	66	534	460	837	780	960

Source: IBRD, Price Prospect for Major Primary Commodities,
January 1980.

(Reference in text: page 16, paragraph 33)

ACTUAL DISBURSEMENTS AND ECONOMIC COSTS OF LOAN NOS. 148-INO(SF) AND 149-INO
(Unit: US\$)

	Actual Disbursements (Current \$)			Economic Costs (1980 Constant \$) 1/		
	Local	Foreign	Total	Local	Foreign	Total
A. <u>Loan No. 148-INO(SF)</u>						
I. Factory Equipment	3,150,363.00	9,290,000.00	12,440,363.00	6,103,983.96	14,293,594.23	20,397,578.19
II. Contingency	-	-	-	-	-	-
Total	<u>3,150,363.00</u>	<u>9,290,000.00</u>	<u>12,440,363.00</u>	<u>6,103,983.96</u>	<u>14,293,594.23</u>	<u>20,397,578.19</u>
B. <u>Loan No. 149-INO</u>						
I. Transport Equipment	409,313.74	4,344,162.82	4,753,476.56	777,203.06	6,387,488.99	7,164,692.05
II. Field Mechanization Equipment	2,666.52	289,194.67	291,861.19	5,503.00	451,866.67	457,369.67
III. Irrigation and Drainage Equipment	18,581.38	160,589.04	179,170.42	25,496.41	200,736.30	226,232.71
IV. Engineering Consultants	243,335.11	950,452.53	1,193,787.64	583,483.50	1,565,176.65	2,148,660.15
V. Transport and Irrigation Specialists	0	80,600.94	80,600.94	0	114,807.00	114,807.00
VI. Management Advisors	0	405,000.00	405,000.00	0	558,070.81	558,070.81
VII. Contingencies	-	-	-	-	-	-
Total	<u>673,896.75</u>	<u>6,230,000.00</u>	<u>6,903,896.75</u>	<u>1,391,685.97</u>	<u>9,278,148.42</u>	<u>10,669,832.39</u>
Grand Total (A+B)	<u>3,824,259.75</u>	<u>15,520,000.00</u>	<u>19,344,259.75</u>	<u>7,495,669.93</u>	<u>23,571,340.65</u>	<u>31,067,741.58</u>
						(31,068,000.00)

1/ Local costs are converted into 1980 constant dollars by GDP deflator.
Foreign costs are converted by International Price Index (IBRD, 1980).

(Reference in text: page 14, paragraph 28 (iii))

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ASIAN DEVELOPMENT BANK

*This Report has been prepared for
the exclusive use of the Bank.*

PROJECT COMPLETION REPORT

OF THE

**EAST JAVA SUGAR PROJECT
(Loan Nos. 148-INO(SF); 149-INO)**

IN

INDONESIA

AUGUST 1980

CURRENCY EQUIVALENTS

Currency Unit - Indonesian Rupiah (Rp)

At the Time of Appraisal (1973)

Rp 1000 = \$2.410
\$1.00 = Rp 415

At the Time of Review (1980)

Rp 1000 = \$1.613
\$1.00 = Rp 625

G L O S S A R Y

Bagasse	-	Fibrous and pike residue from cane after sugar extraction
Molasses	-	Liquid residue from cane after separation of crystallized sugar
Ratoon	-	Cane regrowth from the stubble of a previous crop
Rendement	-	The percent of sugar extracted from cane, reflecting both the sucrose content of cane and the extraction efficiency of the factory
PNP	-	Perusahaan Negara Perkebunan. State-owned Estate Enterprises
PT	-	Perseroan Terbatas Corporations with limited liability operating under the commercial code
JSPU	-	Joint Sugar Project Unit

NOTES

- (i) In this Report "\$" refers to U.S. dollars
- (ii) Fiscal Year ends on 21 March

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PROJECT COMPLETION REPORT

EAST JAVA SUGAR PROJECT
(Loans No. 148(SF); 149-INO)

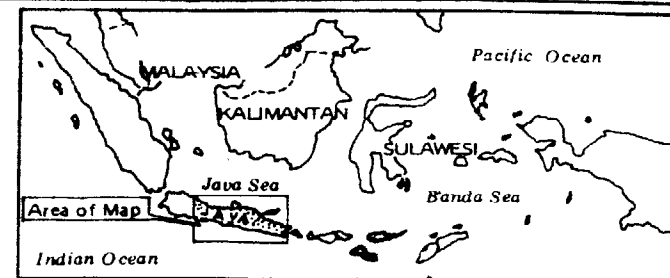
INDONESIA

NOTE: This Report was prepared by a Bank Mission that visited Indonesia from 18 February - 10 March 1980. The Mission comprised H. Habib (Project Officer) as Mission Chief; M. D. Sullivan (Sugar Factory Engineer Consultant); and M. T. Robeniol (Sugar Agronomist Consultant).

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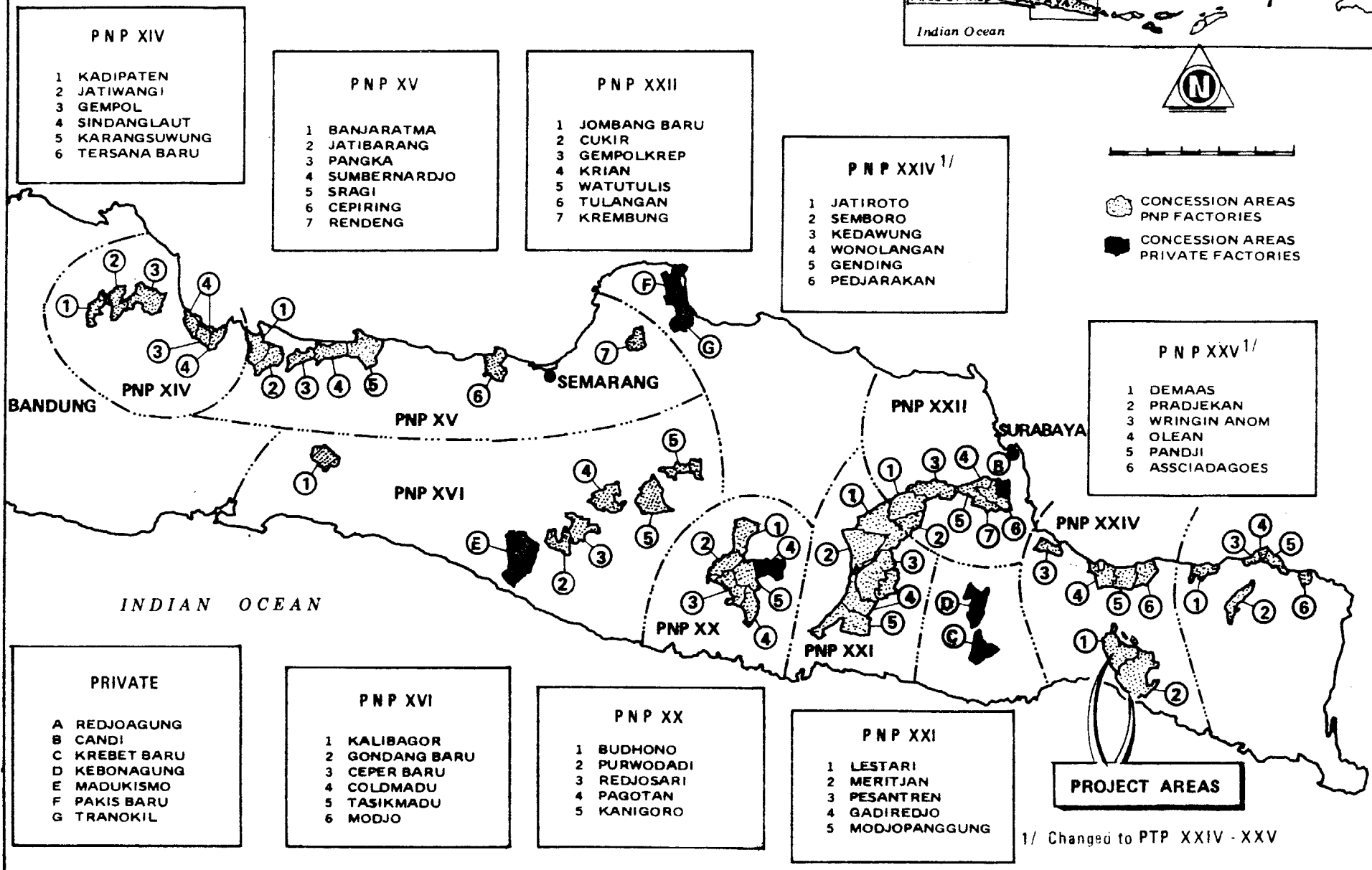
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INDONESIAN SUGAR INDUSTRY FACTORY LOCATION MAP



CONCESSION AREAS
PNP FACTORIES
CONCESSION AREAS
PRIVATE FACTORIES

A (1)



A(ii)

PART I - BASIC DATA SHEET

Country : Indonesia

Loan No./Project : Indonesia 148(SF) and 149-INO
East Java Sugar Project

Borrower : Republic of Indonesia

Executing Agency : Perusahaan Negara Perkebunan XXIV

A. Loan Data

<u>Item</u>	<u>Date/Amount</u>
Appraisal	: 28 May - 18 June 1973
Loan Negotiations	: 2-4 October 1973
Board Approval	: 20 November 1973
Loan Agreement date	: 3 December 1973
Loan Effectiveness	: 7 May 1974
Loan Closing Date: Original	: 31 May 1978
Actual	: 31 December 1978
Loan Amount	: \$17,520,000
Disbursed	: \$15,520,000 (88.58%)
Cancelled	: \$2,000,000 (11.42%)

B. Project Data

<u>Item</u>	<u>Appraisal Estimate</u>	<u>Actual/ Current Estimates</u>
Total Project Cost		
(\$ Million)	23.270	54.889 (✓136%)
Foreign Exchange Cost	17.520	38.747 (✓121%)
Local Cost	5.750	16.133 (✓180%)
Consultants recruited:		
Engineering Consultants	May 1974	June 1974
Short-term Consultants		September 1974
General Advisors (financial management expert)	Mid-1974	September 1974

A(iii)

<u>Item</u>	<u>Appraisal Estimate</u>	<u>Actual/ Current Estimates</u>
Consultants work completed:		
Engineering Consultants	-	August 1978
Short-term Consultants	-	July 1976
General Advisors (financial management expert)	-	September 1977
Procurement completed	Mid-1975	January 1978
Physical works completed	April 1977	January 1978
Disbursements completed	31 May 1978	31 December 1978
Financial Rate of Return	24.4 per cent	40 per cent

C. Mission Data

<u>Loan Administration Missions Mounted</u>	<u>No. of Missions</u>	<u>Total Man-Days</u>
Inception Mission ^{1/}	-	-
Review Mission	5	138
Special Loan Adm. Mission	5	41
PCR Mission	1	56

^{1/} Not required at that time.

PART II - DETAILED REPORT

A. INTRODUCTION

(a) Objectives

1. The major objective of the Project was to increase sugar production in order to reduce foreign exchange expenditures on sugar imports. The Project also sought to generate employment, raise incomes of a large number of small farmers, and improve the economic and social conditions of areas in the vicinity of the sugar factories.

(b) Scope

2. The scope of the Project included the expansion of production capacity at the Jatiroto factory (from 2,400 TCD ^{1/} to 4,800 TCD) and at the Semboro factory (from 2,300 TCD to 4,800 TCD). The area under cane cultivation at Jatiroto was to be increased from 3,971 ha. to 6,760 ha. and at Semboro from 3,580 ha. to 6,780 ha. The Project also included the development of irrigation, drainage, and farm mechanization at Jatiroto and related transport investment at both Jatiroto and Semboro. The Project also provided agricultural extension and credit services to farmers and consultant services to assist in Project implementation. The expansion in production capacity and cane cultivation was expected to increase annual sugar output from the prevailing level of 40,490 to 69,815 tons at Jatiroto and from 37,700 tons to 83,600 tons at Semboro.

(c) Major Project Components

3. The Project comprised the following components:

- (i) expansion of the sugar factory at Jatiroto and related irrigation, drainage, farm mechanization and transport investment;

^{1/} Tons cane per day.

- (ii) expansion of the sugar factory at Semboro and related transport investment;
- (iii) consultant services to assist in the implementation of the Project, to improve operational performance of all factories of PNP XXIV and XXV^{1/} and to prepare a possible second phase project; and
- (iv) agricultural extension and credit services to facilitate adjustment of farming activities and to improve the economic and social conditions of small farmers.

(d) Relations to Sectoral and National Development Plans

4. The agriculture sector, though rapidly losing its former dominance of the economy, accounted for about 34 per cent of gross domestic product (GDP) at constant prices in 1979. Despite its slow growth the sector remains the most important in the economy; about 83 per cent of the population live in rural areas and almost 60 per cent of the total work force is employed in agriculture.

5. Since 1966 Indonesia has been an importer of sugar in order to meet its domestic demand. In 1972 Indonesia produced 890,000 tons of sugar and imported 90,000 tons. In order to meet the demands for sugar from its domestic resources, Indonesia has tried through successive national development plans to increase sugar production. Despite such attempts Indonesia's sugar output by the end of Repelita II (1974/75 - 1978/79) was not sufficient to meet the nation's sugar requirements and the country was required to import 350,000 tons of sugar to fill the gap. Sugar is one of the nine basic commodities that the Government provides to the public under its subsidy program

^{1/} Perusahaan Negara Perkebunan. State-owned Estate Enterprises.

and as such the Government gives high priority to increasing domestic production during Repelita III (1979/80 - 1983/84).

6. As of 31 December 1979 the Bank extended 26 loans amounting to \$261.45 million to Indonesia's agriculture sector for agricultural and agro-industrial projects. Agriculture loans include irrigation and rural development, fisheries and livestock, and agricultural credit. The agro-industry projects consist of fertilizers and agro-processing projects. In the field of sugar development, the East Java Sugar Project loan is the first of its kind provided to Indonesia by the Bank; no other loan for sugar development has been given to Indonesia. Details of the loans extended in the field of agriculture to Indonesia are given in Appendix 1.

B. PROJECT FORMULATION AND APPRAISAL

7. In January 1971 the United Nations Development Programme (UNDP) commissioned the Indonesian Sugar Study to formulate a ten-year program aimed to meet domestic demand for sugar at least cost and identify projects suitable for international financing. The study was undertaken by a consortium of consultants including Tate & Lyle Ltd.; Bookers Agricultural & Technical Services; and the Economist Intelligence Unit. The executing agency for the study was IBRD. The study was completed and forwarded to the Indonesian Government in March 1972.

8. The study recommended an initial three-year investment plan including the construction of two new factories and the rehabilitation of 13 others. A joint mission composed of IBRD, the Bank and the Government of Indonesia met in Jakarta from 2-7 November 1972 to review the findings of the study. The meeting concluded that recommendations to construct new factories could not be justified. Rehabilitation and expansion of existing factories, however, was considered a faster and a cheaper means of increasing sugar production.

9. In the meeting it was also agreed that the World Bank would finance the expansion and rehabilitation of suitable factories in six of the eight estate enterprises (PNPs XIV, XV, XVI, XX, XXI and XXII) and that the Bank would assist the factories in PNPs XXIV and XXV. Thus, the Bank Mission which participated in the tripartite meeting identified and proposed that the Bank consider the expansion and rehabilitation of the two existing sugar factories in Jatiroto and Semboro both belonging to PNP XXIV.

10. On 26 December 1972, an official request for assistance regarding the Jatiroto and Semboro factories was received by the Bank from the Government of Indonesia. Project preparation was carried out from 28 March - 2 May 1973 by the Bank's consultants who also examined the other ten factories of PNPs XXIV and XXV to identify priorities for a possible second phase project. The consultants recommended that the capacity of JSF^{1/} be expanded

^{1/} Jatiroto Sugar Factor (JSF); Semboro Sugar Factory (SSF).

to 4,800 TCD and that of SSF to 4,200 TCD. The total cost was estimated at \$20 million of which \$15 million was the foreign exchange component.

11. The Project proposal made by the consultants was re-examined by a Bank Appraisal Mission which visited Indonesia from 28 May to 18 June 1973. The final appraisal report, which was prepared before detailed engineering and designs were made, was based on the findings of the consultants.

12. The Appraisal Report basically followed the consultants proposals except that the capacity of the factory in Semboro was raised from 4,200 to 4,800 TCD. The cost estimates were also revised upward to \$23,270,000 of which \$17,520,000 was the foreign currency component and the remaining was the local currency component. Taking into account the availability of land for cane cultivation, the decision to expand the Semboro factory is considered sound.

13. At the time of the appraisal, the Executing Agency was provided with the Bank's documents and guidelines on consultants, procurement and other relevant loan administration matters. The Executing Agency was also provided with sample documents to help it and the consultants in preparing tender documents. During loan negotiations a sample form for the preparation of Quarterly Progress Report was also forwarded to the Executing Agency.

14. One of the major issues that emerged during the appraisal stage was the question whether to make the conversion of the Executing Agency from PNP to PTP a condition of loan effectiveness. The significant impact of converting the Executing Agency from PNP to a commercial corporation (PT) was to enable the Executing Agency to operate on a profit-motive basis instead of operating under the state-owned enterprise system. The Appraisal Mission appropriately took the view that establishing such a condition would unduly delay the effectivity of the loan, hence, the matter of converting PNP XXIV into PTP was covenanted in the loan for compliance by 31 December 1975.

15. The loan covenants included in the Loan Agreement and Side Letters were all accepted by the Borrower with minor reservations. These reservations were noted during the loan negotiation meeting. A list of the covenants included in the loan documents together with the status of compliance by the Borrower and the Executing Agency is given as Appendix 2.

16. The Project was identified in November 1972; an official request was received in December 1972; Project preparation was completed by May 1973; appraisal took place during May-June 1973 and the Appraisal Report was completed by October 1973. No major problems were encountered during the project preparation stage. One year elapsed from the time of Project identification to the time of approval of the loan. Project appraisal was completed in about 20 days.

C. PROJECT IMPLEMENTATION

(a) Loan Effectiveness

17. According to the Loan Agreement the Loan should have been made effective on or before 3 March 1974 but actually became effective on 7 May 1974. The delay of about two months was caused by a hold up in the processing of legal authorization for the President-Director of the Executing Agency to sign the Project Agreement and subsidiary Loan Agreement. This delay was difficult to foresee at the time of the Project Appraisal as it was mainly due to internal procedures.

(b) Implementation Schedules

18. Design engineers should have begun work before the end of the first quarter of 1974, tender documents for factory equipment should have been made ready for issuance before mid-1974 and contract should have been awarded by the end of the third quarter of 1974. Civil works were envisaged to be completed during the six-month off-season period. Expansion of the Jatiroto and Semboro factories were expected to be completed by the start of the May 1977 milling season.

19. Design engineers were recruited in May 1974, tender documents for factory equipment were issued mid-1974, contracts were awarded in August/September 1975, and civil works were completed in January 1978. Expansion of the two factories was completed in time for the start of the May 1978 milling season.

20. Irrigation rehabilitation was planned to start during the course of 1974 and be completed in 2-1/2 years. It started on time and was completed within three years.

21. Procurement of related equipment should have started in 1974, expansion of railtracks and related procurement should have been completed between mid-1974 and mid-1977, and major mechanical

and transport equipment should have been procured in 1975 and 1976. The procurement of all these equipment completed in January 1978.

22. Short-term experts in specialized fields should have been employed by mid-1974 and general advisors to PNP/PTP in field and factory operations should have been recruited during 1974. Short-term experts and general advisors were recruited in September 1974.

23. Disbursements under both loans which were scheduled to be completed on or before 31 May 1978 were actually completed on 5 March 1979 and 7 March 1979 under Loans No. 148-INO(SF) and 149-INO respectively. The loans were officially closed on 31 December 1979. Hence, despite a realistic original implementation schedule, there was an overall delay in the Project of about one year.

24. The delay in the Project was mainly due to late Bank approval of proposals for the award of contracts (about nine months)^{1/} a few months delay in the recruitment of engineering consultants and some delays in the delivery and installation of equipment on the part of the suppliers. By the original target completion date, 75 per cent of the work was done. The delays had negative impact upon costs aspects of the Project.

(c) Use of Consultants

25. In view of the complexity of the Project, strong support by foreign expertise was considered as follows: (i) engineering consultants to undertake detailed design and construction supervision of the factories at Jatiroto and Semboro; (ii) short-term expertise in specialized fields i.e., irrigation and drainage, field mechanization and transport; and (iii) general advisors to PNP/PTP management in field operations and accounting management including assistance in project preparation for four additional factories.

^{1/} Contrary to the Bank's Guidelines, the proposal for award of contract in the case of two contracts were made to other than the lowest bidder. See paragraph 32.

26. For engineering consultants the services of one company throughout the construction period -- estimated at about 3-1/2 years -- was recommended in the Appraisal Report. The consultant was supposed to maintain a resident office in Surabaya, for close liaison with the Executing Agency and the Joint Sugar Project Unit, and a field office at Jatiroto/Semboro for Project site supervision. These consultants were envisaged to be recruited in May 1974. In the recruitment of consultant the Bank assisted the executing agency with providing PTP XXIV - XXV the long list of appropriate consultants, review of consultants proposals and consultants draft contract.

27. Two consulting firms, namely: HVA of the Netherlands and J. P. Mukerji of India, were engaged to carry out the engineering aspects of the Project. The consultant services began as scheduled in May 1974 with the Project Manager taking up duties in the main office of Joint Sugar Project Unit (JSPU) in Surabaya. The technical manager, the design engineer and the technologist arrived in June 1974. Subsequent to the preparation of the Appraisal Report, an assessment report was prepared by HVA for the expansion of Jatiroto and Semboro. First drafts of technical specifications were issued for discussion with JSPU and PNP XXIV at the end of June 1974.

28. With regard to the short-term expertise, three consultants from Sycip, Gorres & Velayo (comprising one general advisor in agriculture, one consultant in irrigation and drainage and one consultant for field mechanization and transport) were recruited as scheduled and they contributed significantly to the Project.

29. The financial management expert was recruited in September 1974 for a period of 27 months. The expert assisted the Executing Agency in the design and implementation of an accounting and management information system, prepared a comprehensive training program in financial management for the financial and administrative staff, and assisted in the financial control procedures for project implementation at both factories. The consultant also assisted the Executing Agency in accounting, financial management, and other related areas.

30. The performance of the consultants involved in the engineering, agricultural and financial aspects was satisfactory. Working relations between the staff of the Executing Agency and the consultants were cordial and the Executing Agency adequately supervised the work of the consultants.

(d) Procurement

31. International competitive bidding procedures (ICB) were followed in the procurement of machinery and equipment for the Project. Sixteen contracts were prepared for the procurement of factory equipment and five for agricultural machinery. Of the 16 contracts for factory equipment, 11 required foreign exchange financing.

32. Two difficulties were experienced during the procurement process. First, the Executing Agency's proposal to award two contracts for factory equipment to bidders other than complying lowest bidders was contrary to the Bank's Guidelines for procurement; therefore, \$2 million (equivalent to the cost of these two contracts) was cancelled from the loan amount.^{1/} Second, the actual total foreign exchange cost of the factory (\$25.56 million) and agricultural equipment (\$7.76 million) was considerably higher than the \$11.29 million and \$6.23 million estimated during Appraisal. The Bank, therefore, undertook financing for only three contracts under the factory equipment, amounting to \$9.290 million, and three contracts under the agricultural equipment, amounting to \$6.23 million. The remaining contracts were procured under suppliers credit arrangements.

33. The mode of procurement (ICB) followed in the acquisition of equipment under the Project (procurement was divided into several separate contracts) proved beneficial to the Executing Agency. This method, which is in accordance with the Bank's guidelines, provided the Executing Agency the opportunity to bargain with several suppliers and obtain favorable prices

^{1/} It took the Bank and the Executing Agency 9 months to resolve this problem.

for the equipment. A "package deal" method of procurement could have been more expensive to the Executing Agency.

34. The quality of a few equipment supplied for the factory were not fully satisfactory . The Executing Agency has contacted the relevant suppliers and remedial work is underway. The quality of equipment procured for the agricultural component was fully satisfactory and free of defects. Compliance with delivery and work schedules was generally satisfactory and on time.

(e) Project Changes

35. Once the loan became effective , no major changes took place in the design, scale of work or components of the Project. There were some minor adjustments in the technical and agricultural components which were made during Project implementation. The changes were carefully studied by the Bank and were found to be practically necessary for the Project and the impact of these changes were generally advantageous to the Project.

36. With reference to factory equipment, the consultants suggested some minor adjustments in the number, capacity and type of the equipment compared with that set out in Appraisal Report. These changes, however, were neither substantial nor did they increase or decrease the amount of equipment required.

37. With respect to the agricultural component, the construction of a desilting basin as part of the Jatiroto primary canal and water reservoirs ~~was~~ discontinued because of silta-tion problems in the case of the basin and the large area of productive land (10 hectares) that would be lost to the reservoirs. In the case of the latter, six shallow wells were prepared which proved more beneficial. Also, a change in the constrution of railroad tracks was necessary and justified. The changes were minor and beneficial to the Project.

(f) Project Costs

38. The total actual cost of the Project amounted to \$54.88 million, or 135 per cent higher than the original estimates made during Appraisal. Details of the cost of the Project are given in Table 1 as follows:

Table 1.
Estimated and Actual Project Costs
(\$'000)

<u>Components</u>	<u>Estimated</u>			<u>Actual</u>			<u>Total Costs Variance Underrun/(Overrun)</u>	
	<u>Foreign</u> (A)	<u>Local</u> (B)	<u>Total</u> (A + B)	<u>Foreign</u> (C)	<u>Local</u> (D)	<u>Total</u> (C + D)		
								%
(i) Factory Equipment	9,818	3,174	12,992	28,790	9,877	38,667	(25,675)	(197.6)
(ii) Agricultural Equipment	4,360	1,744	6,104	8,521	5,970	14,491	(8,387)	(137.4)
(iii) Consultants	1,305	163	1,468	1,436	218	1,654	(186)	(12.7)
(iv) Contingency	2,037	669	2,706	-	68	68	-	-
 TOTAL	<u>17,520</u>	<u>5,750</u>	<u>23,270</u>	<u>38,747</u>	<u>16,133</u>	<u>54,880</u>	<u>(31,610)</u>	<u>(135.8)</u>

The main reasons for the big increase in the total cost of the Project were: (i) the low estimate used for the cost of equipment during appraisal; (ii) the steady increase in the price of equipment caused by the hike in the price of oil from 1973 onwards; and (iii) devaluation of the Indonesian Rupee against the US dollar in 1978.

(g) Disbursements

39. There were no delays in disbursements since there were no significant delays in submitting disbursement applications on the part of the Borrower and the Borrower was fully familiar with disbursement procedures. Except for general Review and Special Loan Administration missions, no particular Disbursement missions were dispatched to the Project as disbursements continued reasonably well throughout Project implementation. Delays in contract award, however, caused the closing date of the loan to be extended from 31 May 1978 to 31 December 1978, hence, a six month extension was approved for the Project. By the original closing date 95 per cent of the total loan amount (96 per cent under Loan No. 148-INO(SF) and 94 per cent under Loan No. 149-INO) was disbursed. US \$2 million from Loan No. 148-INO (SF) was cancelled by 31 December 1978.^{1/}

40. The breakdown of actual disbursements against original allocation of each loan by major category is given in Table 2 as follows:

^{1/} The Executing Agency's proposal to award two contracts for factory equipment to bidders other than complying lowest bidders was contrary to the Bank's Guidelines, therefore, \$2.0 million was cancelled from the loan amount.

Table 2.
Actual Disbursements Against Original Allocations

A. <u>Loan No. 148-INO (SF)</u>			
(in US\$)			
<u>Category</u>	<u>Original Allocation</u>	<u>Actual Disbursements</u>	<u>Variance (over)/underrun</u>
I Factory Equipment	9,818,000	9,290,000	528,000
II Contingencies	<u>1,472,000</u>	<u>-</u>	<u>1,472,000</u>
Total	<u>11,290,000</u>	<u>9,290,000</u>	<u>2,000,000</u>
B. <u>Loan No. 149-INO</u>			
I Transport Equipment	3,449,000	4,344,162.82	(895,162.82)
II Field Mechanization Equipment	755,000	289,194.67	465,805.33
III Irrigation & Drainage Equipment	156,000	160,589.04	(4,589.04)
IV Engineering Consultants	738,000	950,452.53	(212,452.53)
V Transport & Irrigation Specialists	162,000	80,600.94	81,399.06
VI Management Advisors	405,000	405,000.00	-
VII Contingencies	<u>565,000</u>	<u>-</u>	<u>565,000.00</u>
Total	<u>6,230,000</u>	<u>6,230,000.00</u>	- 0 -

D. OPERATING PERFORMANCE

(a) Technical Performance

41. A test conducted during the 1978 milling season showed that the Jatiroto Sugar Factory crushed over 4,200 TCD. Allowing for stoppages, a capacity of 4,800 TCD was achieved. At Semboro 2,500 TCD was reached and allowing for stoppages a capacity of 3,500 TCD was achieved. While Jatiroto is performing within the estimated rated capacity, Semboro is not.

42. Under capacity performance at Semboro is mainly due to the unsatisfactory installation of cane carriers at Semboro. The carriers were transferred from the Jatiroto factory and the equipment change slates and draglers break very often resulting in production stoppages at the factory.

43. In general, the technology used is suitable to the Project. Data presenting technical performance of the two factories during 1978-79 operations are given in Appendix 3.

44. The kinds and quality of machines and equipment supplied for the agricultural component generally conform to those specified in the contract except in the case of one ditcher which has a single rotary blade instead of a double rotary blade. Single rotary blade was less suitable to the requirements of the Executing Agency. The workshop equipment conforms to specifications taking into account the total area projected for partly mechanized operations under the Project.

(b) Agricultural Performance

45. A comparison of projected and actual hectareage cultivated in Jatiroto and Semboro is given in the following table:

Table 3.
Projected & Actual Hectarage Cultivated
1974-1980

<u>1974</u>		<u>1975</u>		<u>1976</u>		<u>1977</u>		<u>1978</u>		<u>1979</u>		<u>1980</u>	
Proj.	Act.	Proj.	Act.	Proj.	Act.	Proj.	Act.	Proj.	Act.	Proj.	Act.	Proj.	Exp. ^{1/}
<u>A. Jatiroto</u>													
3971	3918	3971	4049	3971	4264	6760	4358	6760	6252	6760	6837	6760	8053
<u>Variance</u>													
-53		+78		+293		-2402		-508		+77		+1293	
<u>B. Semboro</u>													
3580	3668	3740	3422	3900	3864	5820	4754	6780	4539	6780	5630	6780	5147
<u>Variance</u>													
+88		-318		-36		-1066		-2241		-1150		-1033	
<u>Total</u>													
7551	7586	7711	7471	7871	8128	12580	9112	13540	10791	13540	12467	13540	13200
<u>Variance</u>													
+35		-240		+257		-3468		-2749		-1073		-340	

(+) More than original estimate.
(-) Less than original estimate.

^{1/} Expected.

46. In terms of total area cultivated in Jatiroto, the targets set out in the Appraisal Report were achieved and even exceeded the original estimates. In 1977, however, only 64 per cent of the projections was attained due to the delay in the procurement of tractors and implements for farm mechanization. In 1978 the actual area cultivated fell 508 ha. short of the target mainly because many of the prospective cane farmers were discouraged to plant as a consequence of the inability of the factory to mill the cane in the Jatiroto area. However, the target for 1979 was exceeded.

47. Except for the year 1974, the projected hectarage in Semboro has not been reached, and the trend shows a general increase in the shortfall. The highest hectarage achieved was in 1979 (5,630 ha.) but dropped again in 1980. The deficiency this year lies mainly in the short lease irrigated area where only 3,752 ha. of sugar cane was cultivated out of the projected 6,780 ha. A Presidential Instruction was issued in 1979 prohibiting the leasing of irrigated lands for sugar cultivation.

48. A comparison between projected and actual yields under both factories is given in Table 4 below:

Table 2. Projected & Actual Yields 1974-1980A. Jatiroto

Yields	1974		1975		1976		1977		1978		1979		1980	
	Proj.	Act.	Proj.	Act.	Proj.	Act.	Proj.	Act.	Proj.	Act.	Proj.	Act.	Proj.	Exp. ^{1/}
1. Cane (tons/ha.)	102.1	82.4	105.8	87.9	108.8	78.4	107.7	120.7	102.9	121.9	103.0	94.3	103.3	97.4
2. Sugar (tons/ha.)	10.21	7.89	10.66	7.79	11.44	8.28	10.86	10.33	10.44	8.75	10.29	7.75	10.25	8.28
3. Rendement (%)	10.00	9.46	10.08	8.73	10.09	10.40	10.25	9.55	10.05	7.31	9.86	8.18	9.71	8.50
4. Total Cane Harvested (000 tons)	405	123	418	356	428	334	710	536	696	760	705	645	719	785
5. Total Sugar Produced (000 tons)	40.5	30.2	42.0	31.5	43.2	35.3	72.8	45.0	69.6	54.6	69.6	53.0	69.8	66.7
Variance (000 tons)	-10.3		-10.5		-7.9		-27.8		-15.0		-16.6		-3.1	

^{1/} Expected.

B. Semboro

Yields	1974		1975		1976		1977		1978		1979		1980	
	Proj.	Act.	Proj.	Act.	Proj.	Act.	Proj.	Act.	Proj.	Act.	Proj.	Act.	Proj.	Expected
1. Cane (tons/ha.)	105.3	103.5	107.8	102.9	111.8	93.3	115.5	100.0	117.4	115.1	120.1	98.3	123.4	95.2
2. Sugar (tons/ha.)	10.5	10.3	10.8	9.9	11.1	9.5	11.6	10.7	11.7	7.2	12.0	7.9	12.4	4.3
3. Rendement (%)	10.0	10.0	10.0	9.6	10.0	10.2	10.0	10.7	10.0	6.3	10.0	8.0	10.0	8.5
4. Total Cane Harvested (000 tons)	377	379	403	352	432	360	672	475	796	522	814	553	837	490
5. Total Sugar Produced (000 tons)	37	37	40	34	43	37	67	51	79	33	81	44	83	42
Variance (000 tons)	0		-6		-6		-16		-46		-37		-41	

(+) More than original estimate

(-) Less than original estimate

49. As far as yields are concerned, average cane yields per ha. at the Jatiroto Sugar Factory from 1974 to 1976 were substantially lower than what was projected; the shortfall ranged from 17.9 tons in 1975 to 30.4 tons in 1976. However, actual per ha. yields in 1977 and 1978 exceeded the projections because of favorable weather. In 1979 the actual yields once again dropped below projections and is also expected to be below the target this year because of insufficient care given to the crop due to lack of labor.

50. In Semboro actual total cane and sugar yields exceeded projections made in 1974. Increase in shortfalls however were recorded from 1975 to 1979 and is expected to increase in 1980.

51. Cane production through the Cane Intensification Program -- which provides extension services and credit services to farmers -- has been carried out as planned. Area planted to cane in Jatiroto increased to 1,580 ha. in 1980. This will contribute about 140,000 tons of cane for the 1980 milling season and will enable Jatiroto to divert some of its cane supply to Semboro. This program is more important to Semboro as Semboro encountered shortage of cane because of the Presidential Decree which prohibited the leasing of irrigated lands for sugar cultivation.^{1/}

52. Comparative advantages between rice and sugarcane farming show that growing sugarcane is more profitable than rice farming even at the present production and price level.

(c) Financial Performance

53. According to the Appraisal Report, the financial rate of return (FIRR) on the investment was estimated at 19.4 per cent for Jatiroto and 23.3 per cent for Semboro. The combined rate of return on investment was 21.1 per cent. The two expanded production units were expected to generate adequate revenues for proper maintenance of production facilities for required replacements and for meeting debt service requirements after 1978. Furthermore, the two units were expected to greatly contribute to the improvement of the financial position of PNP/PTP as a whole.

^{1/} See paragraph (47).

54. The presently estimated FIRR on investment is 40 per cent each for Jatiroto and Semboro. In calculating the FIRRs the actual and estimated international market prices of sugar were used for future revenue projections throughout the Project life. During appraisal, a price of \$182 per ton of sugar was used. For sugar production, appraisal estimates have been used. On the basis of the actual production estimates the FIRR is 40 per cent for Jatiroto, 31 per cent for Semboro and 36 per cent for the combined investment.

55. The financial covenants set out did not require the Executing Agency to prepare a separate balance sheet, profit and loss account or other financial statements for each production unit. As such, no separate financial documents were prepared for the two factories which would have depicted financial performance of each factory individually.

56. Covenants entered into by the Executing Agency were sufficient to ensure smooth implementation of the Project. Out of 18 covenants, 11 were fully complied with, five were partly attended to, and two were not complied with at all (see Appendix 2). The covenants that were not complied with were generally those that involved national policy matters and, hence, were beyond the authority of the Executing Agency.

(d) Institutional Aspects

57. At the time of appraisal the existing organizational structure of the Executing Agency was complex. The areas of responsibility were not clearly defined and there was lack of profit motivation at the enterprise level. Moreover, there was no policy-making body above PNP's that was exclusively concerned with the activities of the sugar industry.

58. In practice, PNP was converted into PTP. The powers and functions of PTP were clearly defined under PT's Articles of Incorporation. A Supervisory Board representing the shareholders and the Executive Management Board responsible for the day-to-day operation of PTP XXIV-XXV were established. These changes brought

more efficiency in the organization's performance and the conversion of PNP into PTP provided PTP XXIV-XXV the opportunity to operate on a profit-making basis. The merger of two PNPs into one PTP XXIV-XXV brought the sugar factories of two separate PNPs under one single organization.

59. At the factory-level, a major deficiency that was observed during appraisal was the absence of the position of a "Factory Manager", who would be responsible for all factory operations. With regard to the field operations, the need for the creation of the position of a Chief Cultivation Officer was felt. In practice, the position of Factory Manager was not established, though a Chief Cultivation Officer was appointed.

60. Although the overall operational and management performance of PNP XXIV and XXV was considered to be generally satisfactory during appraisal, managerial staff were planned to undergo intensive training in order to assume increased responsibility. The training was envisaged to be short-term on-the-job training. The Executing Agency followed the training program satisfactorily, with the result that 675 persons -- including administrative and technical staff -- were trained during the Project period.

61. Moreover, urgent need was felt for short-term financial management specialists to examine and modernize the cost accounting and management reporting system applied throughout the industry. Hence, in the financial and accounting fields, because of the assistance provided to the executing agency under the Project, encouraging improvements took place, and the training programs provided for accounting, management and technical personnel all proved useful.

62. Upon completion of the Jatiroto and Semboro factories, the Executing Agency employed an outside expert to make a technical assessment of the two factories. This study was carried out from 15 to 30 September 1978 and submitted to the Executing Agency

on 21 October 1978. The major finding of the report was that the rated capacity of 4,800 TCD for the Jatiroto factory would be achieved and that the Semboro factory would require further improvements in order to reach the estimated rated capacity of 4,800 TCD.^{1/} The management consultant's study, provided for under the loan was not carried out as a management study for the entire PTP and PNPs was envisaged to be undertaken by the Government for all estate-owned enterprises and PTPs.

^{1/} For cost saving purposes, some equipment including cane carriers, etc. which were transferred from JSF and installed in SSF did not function smoothly.

E. ECONOMIC AND SOCIAL EVALUATION

63. The major objectives of the Project were:

- (i) to increase sugar production of the two factories from about 66,000 tons in 1973 to 149,000 tons by 1978 and 187,000 tons by 1985 resulting in annual net foreign exchange savings of \$10 million initially and \$17 million by 1985;
- (ii) to provide year round additional jobs for workers and staff;
- (iii) to provide an opportunity for farmers to increase their income substantially; and
- (iv) to result in other social benefits to the people living in the Project area.

64. By 1977/78 and 1979/80, the production of sugar from both factories amounted to 87,100 tons and 108,700 tons, respectively. Hence, on an actual international market price basis, gross foreign exchange saved amounted to \$18.7 million in 1977/78 and \$25.5 million in 1979/80.

65. While total actual production was 41 per cent short of projected estimates in 1977/78 and 29 per cent short in 1979/80, the foreign exchange savings exceeded the 1977/78 appraisal estimates. This is due to the difference between the projected price of sugar (\$182/ton) which was assumed during appraisal and the actual international market price (\$215/ton) in 1978.

66. At present PTP XXIV-XXV (including the Jatiroto and Semboro factories) employs 3,077 workers and staff. In 1975 total workers and staff of PNP XXIV - PNP XXV were 2,462. This excludes the job opportunities that the Project provided on the agricultural side.

67. The Project also provides an opportunity for farmers to increase their incomes by engaging in more profitable cane farming as opposed to rice farming. For example, a farmer can earn a net income of Rp 101,150 (\$162) per hectare of cane cultivation compared with Rp 68,220 (\$109) per hectare of rice cultivation.

68. The Project has also provided other social services such as hospital facilities, housing, etc., assisted in water supply facilities and school buildings and participated in other charitable affairs in the Project area.

F. BANK PERFORMANCE

(a) Project Formulation and Preparation

69. The Borrower's plans and priorities in respect of sugar production and its impact upon the economy through savings in foreign exchange and the provision of sugar to Indonesia, were correctly interpreted by the Bank and the priority given to the Project was, therefore, fully justified. Based on present conditions, the size, complexity, and timing of the Project are appropriate. The Bank did not encounter any problems or difficulties in the preparation and appraisal of the Project, and the expertise provided by the Bank to prepare the Project is considered adequate.

(b) Project Implementation

70. The Bank requirements for speedy implementation of the loan included the provision of guidelines for implementation of the loan; the provision of consultants; and the preparation of the time schedule for the implementation of various Project components. Nearly all of the requirements were complied with and loan implementation was reasonably justified. The Bank took all of the steps necessary to expedite Project implementation and these measures have worked out satisfactorily. Delays in procurement were, of course, an exceptional case due to the failure of the Government to follow Bank's Guidelines on Procurement. (See paragraph 32).

71. The Bank supervised Project implementation through the dispatch of 11 missions including Review and Special Loan Administration missions, however, no Project Inception Mission was mounted as this kind of mission was not required until 1975. The Bank included the proper expertise in each mission, and the scope and timing of the Review Missions are considered adequate. The missions that have visited the East Java Sugar Project have been effective in solving particular problems which emerged during Project implementation.

72. The recruitment of consultants, procurement and disbursements were closely monitored by Bank staff and Project development was generally reviewed through the submission of quarterly progress reports by the Executing Agency and from the back-to-office reports submitted by the Review Missions.

73. No difficulties arose in relations between the Bank and the Borrower. Missions were always welcome, necessary information was regularly provided to the review missions and Bank recommendations were generally implemented. Except for non-compliance of certain covenants of the loan that is beyond the authority of the Executing Agency no major issues remain unresolved between the Bank and the Borrower.

G. CONCLUSIONS

74. The 1972 Indonesian Sugar Study estimated that Indonesia's sugar imports would amount to about 305,000 tons in 1980 and 936,000 tons in 1985. In view of this Repelita II (1974/75 - 1978/79) and Repelita III (1979/80 - 1983/84) have emphasized the need to increase domestic sugar production. Thus, the objectives and goals of the Project, as outlined in the Appraisal Report, are relevant and conform to the country's national development plans and priorities. However, domestic sugar production in Indonesia did not reach the planned level since the Government did not vigorously pursue the sugar production program because sugar prices in the world market dropped continuously.

75. On the factory side, Jatiroto Factory achieved the projected rated capacity of 4,800 TCD while Semboro Factory only reached a rated capacity of 3,500 TCD, or a 1,300 TCD below appraisal projections. In 1979 sugar production in both factories totalled 97,000 tons -- or 53,000 tons less -- than the 150,000 tons projected in the Appraisal Report.

76. On agricultural side, the Appraisal Report estimated that the total area under cultivation for both factories would increase from 7,551 ha. in 1974 to 13,540 ha. by the end of the Project. By 1980 the total area under cultivation was 13,200 ha. Yields were envisaged to increase from about 93 tons/ha. to 96 tons/ha.^{1/} The actual yield for 1980 is expected to amount to about 96 tons per ha. thereby keeping performance in line with the appraisal estimate.

77. Gross foreign exchange savings amounted to \$75 million in 1979 and 3,077 people were employed in the headquarters of PTP XXIV-XXV and the Jatiroto and Semboro factories. This excludes the additional employment that was created by the Project on the agricultural side. Opportunities to increase income were

^{1/} Average figures for both factories.

made available to the farmers through the growing of cane instead of rice. Other social services such as expanded hospital and medical services, housing, water supply and assistance to schools and other charitable services were provided to the people living in the Project area.

78. Improvements in the organization, training of technical and administrative staff, and the provision of foreign expertise to strengthen the management and accounting aspects of the Executing Agency paved the way towards successful completion of the Project. The strategies adopted and the technology designed to bring the Project to fruition were suitable and conducive to the successful implementation of the Project and the major objectives of the Project were achieved.

79. For the Semboro factory it is recommended that the cane carrier be modified with steel slates, new chain and sprockets and that the intermediate carriers be replaced with newly designed carriers. Also, the position of the Factory Manager -- who will be responsible for all factory operations -- should be established at both the Jatiroto and Semboro factories. Finally, for better technical performance at the factory level more training of technical staff is recommended.

80. The replacement of the cane carriers and appointment of Factory Managers should be followed up with the Executing Agency.

81. The lesson that should be learned is that in the future projects, when two separate factories are to be constructed or rehabilitated, the Executing Agency should be requested to prepare separate balance sheets, profit and loss accounts and other financial statements for each production unit. This would enable the management of the factories to assess the financial viability of the units individually. Separate financial reports can also be used as an effective management tool for decision making.

Appendix 1

Loan Approvals to Indonesia
(Agricultural Sector)
(as of 31 December 1979)

<u>Agriculture & Agro-Industry</u>		<u>Loan (US \$ million)</u>	
<u>A. Agriculture</u>		<u>SF</u>	<u>OCR</u>
a) <u>Irrigation & Rural Development</u>			
1. Tadjum Irrigation	0.99		
2. Gambarsari Pesanggrahan	2.70		
3. Sempor Dam Irrigation	9.20		
4. Wampu River Flood Control	5.94		
5. Karangsambung Multipurpose			2.90
6. Teluk Lada Area Development			12.20
7. S. E. Sulawesi Transmigration			0.28 a/
8. Lodoyo Irrigation			20.50
9. Bali Irrigation			18.00
10. Teluk Lada Phase II			3.41
11. S.E. Sulawesi Transmigration			34.30
12. Tulungagung Drainage			39.00
	<u>18.83</u>		<u>130.59</u>
	Sub-total		<u>149.42</u>
b) <u>Fisheries & Livestock</u>			
1. Riau Fisheries	2.50		
2. Irian Jaya Fisheries	5.15		
3. Irian Jaya Fisheries			2.75
4. Java Fisheries			13.20
5. South Kalimantan Livestock Dev.			20.50
	<u>7.65</u>		<u>36.45</u>
	Sub-total		<u>44.10</u>

a/ Refinanced by Item A.a)11.

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c) <u>Agricultural Credit</u>	<u>Loan (US\$ million)</u>	
	<u>SF</u>	<u>OCR</u>
1. BRI Modernization	3.40	
2. East Java Agricultural Credit	<u>2.70</u>	
	Sub-total	<u>6.10</u>

B. Agro-Industry

a) Fertilizer

1. Pusri Fertilizer	10.00	
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b) Agro-Processing

1. Sawit Sebarang Oil	2.40	
2. North Sumatra Rubber	7.41	
3. East Java Sugar	11.29	
4. East Java Sugar		6.23
5. Fiber Production & Processing		13.20
6. Gohor Lama Palm Oil		<u>11.30</u>

	<u>31.10</u>	<u>30.73</u>
	Sub-total	<u>61.83</u>

TOTAL	<u>261.45</u> ^{a/}
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^{a/} Of which \$0.28 million was refinanced.

LOAN NOS. 148-INO(SF)/149 -INO: EAST JAVA SUGAR PROJECT

COMPLIANCE WITH LOAN COVENANTS

<u>Covenant</u>	<u>Reference to Loan Documents</u>	<u>Compliance with Loan Documents</u>
(i) PNP XXIV and PNP XXV will be consolidated and converted into a PT as soon as possible but in no event later than 31 December 1974.	S. L. No. 4, para. 2	Complied
(ii) Before the formation of the above-mentioned PT, the assets of PNP XXIV and XXV will be revalued in accordance with sound accounting and business principles and liquidation balance sheets for the PNPs and the draft opening balance sheet of the proposed PT will be submitted to the Bank, together with detailed notes on paid-up capital, capital reserves, long-term debt and revaluation of real assets.	S. L. No. 4, para. 2	Complied
(iii) An independent auditor acceptable to the Bank shall be appointed for the PT within three months after its formation.	S. L. No. 4, para. 2	Complied
(iv) Before any appointment is made to the positions in the Supervisory Board (Dewan Komisaris) and the Board of Executive Management (Direksi) of the PT, the Bank will be informed of the name, qualifications and experience of the persons being considered for such positions and afford the Bank a reasonable opportunity to exchange views with the Borrower on the qualifications and experience of such persons.	S. L. No. 4, para. 3	Partly complied

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<u>Covenant</u>	<u>Reference to Loan Documents</u>	<u>Compliance with Loan Documents</u>
(v) An East Java Project Department will be established under the Joint Sugar Project Unit (JSPU) to assist PNP XXIV in the implementation of the Project. The East Java Project Department will be headed by a Manager and will be supported by adequate staff.	S.L. No. 4, para. 4	Complied
(vi) The irrigation and drainage facilities in the Project areas, including the long lease area of Jatiroto factory, will be rehabilitated to their design capacities and all necessary improvements will be made as required. Necessary local currency funds will be made available for such purpose.	S.L. No. 4, para. 5	Partly complied. Presidential Decree issued in 1979 prohibited the leasing of rice lands for sugar cultivation
(vii) In order to increase the efficiency and coordination of all factory operations the position of a "Factory Manager" will be created at both Jatiroto and Semboro factories. The responsibility for transportation of cane will be transferred from the Factory Department to the Field Department and to introduce organizational changes on the field and administrative sides to ensure efficient operation and cost control.	S.L. No. 4, para. 6	Partly complied. The positions of Factory Managers were not attended to. Other organizational changes were observed.
(viii) A Standing Committee for Sugar (SCS) will be established by 1 January 1974 to make recommendations to the Government on policy matters (including price) affecting	S.L. No. 4, para. 7	Partly complied. A community to fix sugar prices exists but not as outlined in the loan documents.

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<u>Covenant</u>	<u>Reference to Loan Documents</u>	<u>Compliance with Loan Documents</u>
the sugar industry. The SCS will be headed by the Director General of Estates and consist of the representatives of the Ministries of Agriculture, Finance, State Affairs and Trade, as well as that of BAPPENAS, Bank Indonesia and BULOG. The SCS will be supported by a permanent secretariat in Jakarta. The Bank will be kept informed of recommendations made by SCS, including the price set for sugar.		
(ix) The price of sugar will be set in such a way as to provide an adequate and stable income to sugar factories, cane farmers and landowners leasing land for sugar cane production and to provide consumers with sugar at stable and equitable prices. Necessary measures will be taken to improve the efficiency of marketing sugar and suitable measures will continue to be taken to discourage abuses of the sugar marketing system. The Bank will be kept informed of the Borrower's action in this regard.	S.L. No. 4, para. 8 ^{1/}	Complied
		Not complied
(x) The Bank will be kept informed of the lease rental levels as set by regulations of the Ministry of Home Affairs for each planting season.	S.L. No. 4, para. 9	Complied. Presidential Decree issued in 1979 prohibited the leasing of rice lands for sugar cultivation.

^{1/} The covenant is partly complied.

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<u>Covenant</u>	<u>Reference to Loan Documents</u>	<u>Compliance with Loan Documents</u>
(xi) Arrangements will be made for the provision of credit and technical advice to cane farmers in the Project areas with a view to encouraging the supply of cane to the factories concerned and improving the yield and quality of such cane. Views will be exchanged with the Bank on such arrangements.	S.L. No. 4, para. 10	Complied
(xii) Equipment imported under the Project will be exempted from customs duties by virtue of Decree No. Kep. 264/MK/IV/51 1970 of May 6, 1970 of the Minister of Finance.	S.L. No. 4, para. 11	Complied
(xiii) The Bank will be consulted on the need for engaging the services of visiting advisors after the consultants financed under the Loans have completed their assignments. It was envisioned that such services will be engaged and financed jointly by the future sugar PTs to promote the efficiency of the sugar industry with special reference to the rehabilitation and expanded factory units.	S.L. No. 4, para. 12	Not implemented
(xiv) Until the Project has been completed, the Joint Sugar Projects Unit shall, on behalf of PNP XXIV, submit to the Bank within 15 days after the end of each calendar quarter a review of progress made with respect to the Project during	S.L. No. 4, para. 13	Complied

Appendix 2
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<u>Covenant</u>	<u>Reference to Loan Documents</u>	<u>Compliance with Loan Documents</u>
such quarter, a program indicating what action will be taken to remedy any problems arising during the quarter under review and an implementation program to be followed during the subsequent quarter.		
(xv) In the carrying out of the Project, PNP XXIV shall employ competent and experienced consultants acceptable to the Bank, to an extent and upon terms and conditions acceptable to the Bank.	P.A., Section 2.03(a)	Complied
(xvi) PNP XXIV shall carry out the Project in accordance with plans, design standards, specifications, work schedules and construction methods acceptable to the Bank. Upon request from time to time by the Bank, PNP XXIV shall promptly furnish or cause to be furnished to the Bank such plans, design standards, specifications and work schedules, and any material modifications subsequently made therein, in such detail as the Bank shall reasonably request.	P.A., Section 2.03(b)	Complied
(xvii) PNP XXIV shall have its accounts and financial statements (balance sheet, statement of income and expenses and related statements) audited annually, in accordance with sound and consistently applied	P.A., Section 2.08	Complied

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<u>Covenant</u>	<u>Reference to Loan Documents</u>	<u>Compliance with Loan Documents</u>
auditing principles, by independent auditors acceptable to the Bank, and shall promptly after their preparation and in any event not later than 6 months after the close of the fiscal year to which they relate, furnish to the Bank (a) certified copies of such audited financial statements and (b) the report of the auditors relating thereto, all in the English language.		
(xviii) PNP XXIV shall at all times conduct its business and carry on its operations in accordance with sound administrative, financial and agricultural practices and under the supervision of experienced management and personnel, and shall afford the Bank an adequate opportunity to comment on any proposals for the change in the positions of the members of the Executive Management Board prior to taking any action on such proposals	P.A., Section 2.11(b)	Complied

PERFORMANCE DATA

No.	Remarks	S. F. Jatiroto		S. F. Semboro	
		1978	1979	1978	1979
<u>CANE</u>					
1.	Total cane crushed in ton	778.045	665.176	457.857	566.158
2.	Pol % cane	9,42	10,32	9,90	10,60
3.	Brix % cane	12,31	13,41	13,10	14,10
4.	Fiber % cane	15,37	16,07	15,00	13,70
5.	Absolute juice purity	76,5	76,9	77,3	75,7
6.	Juice % cane	80,0	76,8	78,8	79,7
<u>CAPACITY</u>					
1.	Total milling days	182	153	137	128
2.	Capacity not included stop hours in ton	4252	4263	3291	4341
3.	Capacity included stop hours in ton	3479	3564	2362	3259
<u>STOP HOURS</u>					
1.	Stop hours % milling hours	22,42	20,02	39,91	33,85
2.	Shortaged on cane in hours	248,43	274,56	49,28	214,41
3.	Processing troubled in hours	86,99	1,08	80,62	81,72
4.	Mill reparation in hours	344,54	317,13	292,88	222,59
5.	Evaporators troubled in hours	86,24	0,23	80,16	82,69
6.	Vacuum pan troubled	-	-	135,90	7,16

No.	Remarks	S.F. Jatiroto		S.F. Semboro	
		1978	1979	1978	1979

MILL STATION

1.	Brix % first expressed juice	15,39	17,46	16,60	17,50
2.	Brix % mixed juice	13,18	14,69	13,70	14,60
	Mixed juice purity	77,1	77,6	77,30	76,20
3.	Pol % bagasse	1,83	1,80	3,42	3,23
4.	Reduced pol extraction	95	95,6	90,6	91,7
5.	Last mill juice purity	69,3	67,7	65,0	65,9
6.	Imbibition % fiber	130	121	111	145
7.	Mixed juice % cane	87	85	83	90

RECOVERIES

1.	Reduced Boiling House Recovery ESC.	89,96	90,52	89,60	90,78
2.	Overall Recovery	77,85	79,58	73,16	76,85

BOILING HOUSE

1.	A-massecuite % cane	26,50	33,41	22,82	23,96
2.	C-massecuite % cane	10,30	12,57	8,90	9,69
3.	D-massecuite % cane	9,27	9,55	9,19	8,69