

CAPITAL ASSISTANCE FUND

Proposal and Recommendations
FOR THE REVIEW OF THE
Development Loan Committee

INDONESIA - ^{PUSRI} ~~PERI~~ FERTILIZER PLANT EXPANSION
INDONESIA - ~~PERI~~ FERTILIZER PLANT EXPANSION

AID-DIG/P- 301

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

UNCLASSIFIED

May 14, 1970

AID-DLC/P-901

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: INDONESIA - Pursi Fertilizer Plant Expansion

Attached for your review are the recommendations for authorization of a loan in an amount not to exceed \$20,000,000 to the Government of the Republic of Indonesia to assist in financing the foreign exchange cost of a urea fertilizer plant to be owned and operated by P.T. Pupuk Sriwidjadja near Palembang, Sumatra.

Please note it is desired to achieve a DLC vote either during the meeting on Wednesday, May 20, 1970 or as soon after the DLSC meeting as possible.

Rachel C. Rogers
Secretary
Development Loan Committee

Attachments:

- Summary and Recommendations
- Project Analysis
- ANNEXES I - XXIII

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INDONESIA

PUSRI FERTILIZER PLANT EXPANSION PROJECT

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Sections I through IX (pages 1-31); Annexes 1 through 16 and 19; and all Maps were prepared by members of the International Finance Corporation, the Asian Development Bank, and the International Development Association. The documents contained in Annexes 20, 21, and 22 resulted from the IDA/ADB loan negotiations and were drafted by various parties thereto. The Summary and Recommendations, Sections X through XIII (pages 32-56) and Annexes 17, 18 and 23 were prepared by A.I.D.

CAPITAL ASSISTANCE PAPER

INDONESIA: PUSRI FERTILIZER PLANT EXPANSION

PREFACE

At the request of the Government of Indonesia, the IBRD took the lead in preparing this project, appraising it and developing a financing plan which now includes the International Development Association (IDA), the Asian Development Bank (ADB), the Government of Japan and A.I.D. Accordingly, A.I.D.'s role as a lender is somewhat different than in a conventional bilateral loan situation. IBRD/ADB made the on-site evaluations, structured the project, and have written the appraisal and analyses contained in this paper, except as otherwise identified in the Table of Contents. The A.I.D. Project Committee has assisted and consulted with the IDA/ADB on all aspects of the project; reviewed their findings, conclusions and recommendations; and satisfied itself as to the project's economic, technical and financial viability, and its compliance with A.I.D. statutes, pertinent regulations and lending criteria.

Under IDA/ADB lending procedures, loan negotiations are usually completed before a project is presented for Board consideration. This procedure was followed for the Pusri project and negotiations were conducted in Washington, D.C. March 23 thru April 8, 1970, among the IDA/ADB and the several Indonesian sub-borrowers. Representatives of the GOI and A.I.D. Project Committee participated in these negotiations and the establishment of the terms and conditions on which this project is based and on which it will be implemented. Such terms and conditions are reflected in this paper as negotiated arrangements between the IDA/ADB and the several borrowers which are acceptable to the A.I.D. Project Committee.

IDA in conjunction with the ADB will continue to act as project coordinator on behalf of all the lenders during the implementation stages of the project.

SPECIAL NOTE

After this appraisal report was completed, the Government of Indonesia adopted an exchange reform which substantially unified its exchange rate system and resulted in some reduction in the dollar equivalent of the Rupiah insofar as most foreign exchange transactions are concerned. An exchange rate of 378 Rp per U.S. dollar is now applicable to this project. Foreign exchange costs will not be effected, although its Rupiah equivalent will increase by 16%. The local cost component of the project, being financed by Indonesian sources, should not be immediately effected by the exchange rate adjustment. However, over the longer term it is reasonable to assume some general increases in prices, including the price of fertilizer, as a result of the exchange rate change. The overall return on the investment is expected to remain substantially as stated herein. Annex 19 provides additional detail.

CAPITAL ASSISTANCE PAPER

INDONESIA: PUSRI FERTILIZER PLANT EXPANSION

SUMMARY AND RECOMMENDATIONS

- A. Application: Borrower: Government of Indonesia ((Government))
- Beneficiary: P.N. Pupuk Sriwidjaja (PUSRI), an existing state enterprise wholly owned by the Government, located near Palembang, Sumatra, Indonesia; with existing ammonia/urea plant facilities capable of producing 100,000 tons/year of urea.
- B. Loan Amount: \$20 million.
- C. Loan Terms:
- To the Government: 40 years, including a 10-year grace period on the repayment of principal with interest at 2% per annum during the grace period and 3% per annum thereafter.
- To PUSRI: 16-1/2 years, including a 4-1/2 year grace period on the repayment of principal with interest at 12% per annum. Interest during construction and start up (first 3-1/2 years) will not be compounded and interest payable at the end of the period will be capitalized.
- D. Purpose: To assist PUSRI in financing the foreign exchange costs required to construct a new fertilizer plant capable of producing 380,000 tons/year of urea, related offsite utilities, and the provision of technical assistance for PUSRI management.

E. Background:

In 1967 the Government of Indonesia asked for assistance in financing the expansion of the PUSRI fertilizer plant from a present annual urea capacity of about 100,000 metric tons to 480,000 metric tons. The plant, which is located near Palembang in South Sumatra (Annex 1), was built in 1963 and consists of an ammonia and urea production unit. Apart from some start-up help, it has been operating largely without outside assistance, and, over the past few years, at near capacity. The IBRD agreed to the Government's request to take the lead in project preparation and appraisal and in firming up the financing; to this end the IDA, the ADB, and A.I.D. have worked closely together. In May 1968, an IDA mission visited Indonesia mainly to make a preliminary assessment of the availability of natural gas for the project. In June 1968, at the GOI request, A.I.D. financed the costs of a U.S. consulting firm, to make a feasibility study of the project. Subsequently, joint IDA/ADB missions made two appraisals of the project in the field. In July 1969, the IDA reviewed in the field the feasibility of the gas conservation and transmission project. A Japanese mission examined the project in late 1969.

F. Project Description:

This project consists of two major parts:

Part A. The construction of new ammonia/urea facilities with daily capacities of 660 tons of ammonia and 1150 tons of urea (380,000 tons per annum), adjacent to the existing PUSRI plant at Palembang in South Sumatra. Also included in the construction of a gas scrubbing unit, the usual off-site facilities and utilities required to support such plant, and the provision of technical services to assist PUSRI's management in carrying out the project, training local personnel, marketing of PUSRI's products and in management, planning, financial control, accounting and executive staff training. A.I.D. financing will be confined to this part of the project.

Part B. The construction of a gas conservation and transmission system to be owned by P.N. Pertamina (PERTAMINA), a Government-owned oil company, together with technical assistance to help PERTAMINA's management in carrying out the project, training local personnel, planning gas operations and training the executive staff.

Natural gas from oil and gas fields about 65 miles to the southwest will serve, as for the present plant, as feedstock for ammonia production and as fuel, and will be made available to PUSRI by PERTAMINA on a take-or-pay contract. PERTAMINA owns and operates extensive oil and gas fields in the area and is presently flaring natural gas for which there is no economic use. The project includes, therefore, construction of a 65 mile gas transmission pipeline to bring additional gas to the plant site; and a gas conservation system, comprising a gas pipeline network of about 110 miles connecting PERTAMINA's existing

wells and four compressor stations, which will prevent further depletion of the existing reserves in the South Sumatra fields.

G. Project Implementation:

Part A of the project will have three major contracts. A consulting firm experienced in ammonia and urea plant technology (Technical Advisor) will assist PUSRI in implementing the project and act as an extension of PUSRI's own technical staff. This contractor will be selected on the basis of IDA procedures and financed by the IDA, with the concurrence of the other lenders, and will be generally responsible for assistance in the selection of the following contracts.

→ A general contractor will have overall responsibility for Part A of the project, as well as specific responsibility for the design and procurement of the ammonia plant and all utilities and off-site facilities, and for equipment procurement, site erection and construction work, including that on the urea plant. This contractor will be restricted to pre-qualified U.S. firms, and selected and financed by A.I.D. on the basis of competitive bidding in the U.S.

→ A urea plant contractor will be responsible for supplying the components of the urea plant on a package basis and will be selected from pre-qualified Japanese firms on the basis of competitive bidding in Japan.

All other imported materials and services will be procured on the basis of international competition. Financing for such materials and equipment will be attributed to an appropriate lender after bids are tendered and the source and origin of the materials and equipment can be established. (Other lenders have source/origin requirements which must also be observed.) In cases where it is considered that more economic procurement would result, additional items may be preallocated for national competitive bidding.

Part B of the project will be implemented by separate technical advisors and construction firms. Procurement of equipment and services will be financed out of IDA and ADB funds and conducted in accordance with their procedures.

H. Project Cost:

The total financial requirements for the project are as follows:

(\$ million equivalent)

	<u>Foreign Exchange</u>	<u>Local Currency</u>	<u>Total</u>
Ammonia/Urea Facilities			
Materials & Services	\$43.5	\$6.8	\$50.3
Pre-operating Expenses	2.9	1.4	4.3
Contingency & Escalation	8.8	1.6	10.4
Working Capital	1.5	1.9	3.4
Construction Interest	-	5.3	5.3
Sub-total	56.7	17.0	73.7
Gas Conservation & Transmission			
Materials & Services	9.7	4.3	14.0
Construction Interest	-	1.1	1.1
Sub-total	9.7	5.4	15.1
Management Assistance	1.6	.4	2.0
Total Project Cost	\$68.0	\$22.8	\$90.8

I. Financial Plan:

Total financing requirements of \$90.8 million will be met thru the following plan:

1. The co-lenders will make available funds to the Government on the following terms:

	(\$million equivalent)	
A.I.D.	\$20	As set forth herein.
IDA	30	50 years, including a 10-year grace period on the repayment of principal and interest, with interest at 1/2 of 1% for the next ten years and 1-1/2% thereafter, available for procurement from member countries.
ADB	10	30 years, including an 8-year grace period with interest at 2-1/2%, usable only in countries which have contributed to its Special Fund.
GOJ	8	20 years, including a grace period of 7 years, with interest at 3-1/2%. Titled to procurement in Japan. The loan will be made through the Overseas Economic Cooperation Fund, an Agency of the GOJ.
Total	\$68	

Japan

405-7

2. The Government will contribute \$10.3 million equivalent in local currency, \$6.4 million in capitalized construction interest, and assume responsibility for any cost overruns which may occur.

3. PUSRI will provide \$6.1 million through cash generations from existing operations.

Thus the external financing to the project will amount to \$68 million from the co-lenders and \$16.7 million from the Government, a total of \$84.7 million. Of this amount \$2.0 million will be set aside for management assistance during the start-up period and the balance of \$82.7 million capitalized, and made available to the beneficiaries, as follows:

- To PUSRI:
 - (i) \$6.1 million equivalent in the form of equity;
 - (ii) \$48.3 million equivalent in the form of a senior loan at 12% interest per annum for 16-1/2 years including 4-1/2 years of grace; and
 - (iii) \$13.2 million equivalent, in the form of a subordinated loan, for 16-1/2 years at 12% interest per annum, with interest to accrue after May 1, 1974 and repayments to begin 3 years later.

To PERTAMINA: \$15.1 million equivalent, including \$9.7 million of the foreign exchange, in the form of a loan for 23 years, including 3 years of grace, at 12% interest per annum.

The foregoing loans are repayable to the Government in Rupiahs and provide for maintenance of value in terms of U.S. dollars. The A.I.D. loan proceeds will be attributed to the senior loan to PUSRI on terms set forth in 3 (ii) above.

J. Alternate Sources of Financing:

This project has been agreed to as part of the U.S. assistance to Indonesia committed through the Inter Governmental Group for Indonesia. The Export-Import Bank advised on April 20, 1970, that it was not interested in financing this project.

K. Mission Views:

The country team supports this project and recommends approval of the A.I.D. loan. Pursuant to Section 611(e) of the Foreign Assistance Act of 1961, as amended, the certification of the Director, USAID/Indonesia, is attached as Annex 18.

L. Statutory Criteria:

All applicable statutory criteria are met. See Annex 17.

M. Issues:

None.

N. Recommendations:

It is recommended that a \$20 million loan to the Government of Indonesia be authorized for the purpose and on the terms and under the conditions set forth in the draft loan authorization included as Annex 23.

Project Committee

Chairman and Loan Officer	::	Dalton A. Griffith
Legal Adviser	::	Stanley B. Kay
Engineering Adviser	::	James Cooperman
Procurement Adviser	::	Robert A. Cahn
Desk Officer	::	Gerald L. Kamens

I. INTRODUCTION

I.01 The Government of Indonesia (the Government) has asked for assistance in financing a new fertilizer plant of P.T. Pupuk Sriwidjaja (PUSRI) to produce 380,000 tons of urea per year. The new plant would increase PUSRI's urea capacity from presently 100,000 to 480,000 tons per year and would be built adjacent to the existing plant near Palembang in South Sumatra (Map 1). PUSRI is a State enterprise wholly owned by the Government. The existing plant consists of an ammonia and urea unit. It is situated on the bank of the Musi river permitting coastal and inter-island shipments of its output. Apart from some start-up help it has been operating largely without outside assistance and, over the past few years, at near capacity, except for the first half of 1969 when production was reduced due to technical difficulties.

I.02 The Association therefore agreed to the Government's request that the Bank group take the lead in project preparation and appraisal and in firming up the financing: to this end the Association, the Asian Development Bank (ADB) and the U.S. Agency for International Development (USAID) have worked closely together. In May 1968, an IFC mission visited Indonesia mainly to make a preliminary assessment of the availability of natural gas for the project. In June 1968, under contract with USAID, the Government commissioned John van der Valk and Associates, a U.S. consulting firm, to make a feasibility study of the project. This study ^{1/} was completed in April 1969. Subsequently a joint IDA/ADB mission made an appraisal of the project in the field, followed up by another mission in August/September 1969. Also, in July, the Association reviewed in the field the feasibility of the gas conservation and transmission project. A Japanese mission examined the project in October/November 1969.

I.03 The proposed expansion project consists of new ammonia-urea facilities with daily capacities of 660 tons of ammonia and 1,150 tons of urea respectively, and is to be built adjacent to the existing plant. This plant size was chosen among various alternatives that had been considered as the most appropriate in the light of the relevant technical, marketing and financial considerations. Natural gas from oil and gas fields some 115 km. to the southwest will serve, as for the present plant, as feedstock for ammonia production and as fuel. The gas will be made available by P.N. Pertamina (PERTAMINA), a Government-owned oil company and N.V. Standard Vacuum Petroleum Maatschappij (STANVAC), a joint venture of Standard Oil Company of New Jersey and Mobil Oil. Both PERTAMINA and STANVAC own and operate extensive oil and gas fields in the area. The Association, and ADB, from the beginning of their involvement in the project, have recognized the urgent need to preserve for future use gas which is presently flared on the PERTAMINA and STANVAC fields to the extent that an economic use could be found for it. The project includes, therefore, not only the necessary transmission facilities to bring the additional gas to the fertilizer plant but also a gas conservation scheme.

1/ Hereinafter referred to as the van der Valk report.

II. THE FERTILIZER MARKET IN INDONESIA

A. Agriculture in Indonesia

2.01 Indonesia is an archipelago of more than 13,000 islands stretching along the equator. Some 1,000 of these islands are inhabited, the rest being too small or too barren to support a population. Of a total land area of about 180 million hectares (ha), about 18 million ha are under cultivation; the rest is covered by forests or jungle, is mountainous or built-up. With the exception of a relatively few large estates of, together, about one million ha, most of the cultivated land is extensively subdivided with most farmers working less than one ha.

2.02 The country's population is approximately 118 million and has been growing at a rate of 2.4% per annum. About two-thirds of the people are crowded upon the island of Java, which contains only 7% of the land area, making it one of the most densely populated areas in the world with almost six persons per ha.

2.03 Agriculture occupies perhaps 80% of the population. Reliable statistics are few in Indonesia, but available data indicate that in 1968 agriculture contributed almost half of the national income, while manufacturing and trade contributed slightly more than a quarter. The principal crops are rice, maize, cassava, groundnuts, soya beans, sweet potatoes, tobacco, coffee, rubber, cinchona, pepper, kapok, fibers, coconut products, palm oil, tea, sugar and indigo. Rice is by far the most important crop. Its cultivation occupies about 55% of the total area in food crops. Close to 60% of the country's rice is grown on Java, where practically every hectare of usable land is already under cultivation and where any immediate increase in agricultural output will have to be obtained largely by more intensive farming.

B. Past Consumption of Fertilizer

2.04 Statistics of past consumption in Indonesia of nitrogen, phosphate and potash are not precise, but it is evident that there was no significant or consistent increase during the 1960's at least up to 1967/68. The van der Valk report has estimated that, over the seven-year period April 1961 to March 1968 1/, yearly consumption of the three fertilizer nutrients has averaged:

1/ Fertilizer year: April 1 through March 31.

Nitrogen as N	91,000 tons
Phosphate as P ₂ O ₅	36,000 tons
Potash as K ₂ O	5,000 tons

2.05 Roughly half of the foregoing amounts of nitrogen, mostly in the form of urea with 46% of N, may have been applied to rice. Since most of Indonesia's rice is grown without benefit of chemical fertilizer, rice yields are low and average only about 1.3 tons of milled rice per ha (see Annex 1 for definition of term). Statistical information on this point is inadequate so that the amount of fertilizer actually applied to rice is not known. Such information as has been collected indicates that over the past few years some 45,000 tons of fertilizer nitrogen (N) has been applied annually to rice. On the assumption that under the conditions then existing including the use of traditional varieties of rice, one ton of fertilizer nitrogen produced an additional 10 tons of milled rice (or one ton of urea produced 5 tons of milled rice), rice production attributable to fertilizer usage was only about half a million tons out of the approximately 10 million tons of milled rice produced. Thus a very low proportion of the potential increase in rice production through the use of fertilizer has been realized.

2.06 Under the impetus of Government programs described in later paragraphs, apparent fertilizer nitrogen consumption is gradually increasing, and is reported to have been about 100,000 tons in 1967/68 and 120,000 tons in 1968/69. ^{1/} However, not all of the fertilizer nitrogen was in the form of urea. Some ammonium sulfate and other fertilizer were used. Furthermore, present stocks of urea are reported to be in excess of 300,000 tons, an indication that part of the apparent consumption went into inventory. Actual urea consumption for 1968/69 is therefore estimated to have been between 180,000 and 200,000 tons. Data for the crop year 1969/70 are not yet available, but consumption is expected to be approximately 240,000 tons. Phosphate consumption continues at about one-third that of nitrogen. Potash consumption, mostly restricted to crops other than rice, has not increased. There seems to be little need for potash application at present in the predominantly volcanic soils of Indonesia.

C. Present and Future Rice Production

2.07 The level and quality of food nutrients in Indonesia is low by world standards. Average per capita daily intake is estimated at only 1,980 calories including 40 grams of protein. The Government, in its current Five-Year Plan (1969/70-1973/74) plans to increase the average per capita calorie intake to 2,300 calories per day, to improve the nutritional balance by increasing the share of protein and to make the nation self-sufficient in food.

2.08 The Plan stipulates two major targets: one for the production of rice and the other for over-all food supply. The following table compares these targets with actual achievements in 1968:

^{1/} "Current Economic Position and Prospects of Indonesia" (EAP-10a) dated Nov. 14, 1969.

	<u>Actual 1968</u>	<u>Target 1973/74</u>
Milled rice (in million tons)		
Production	10.3	15.4
Imports	0.6	-
Total milled rice	<u>10.9</u>	<u>15.4</u>
Over-all food supply (kg per capita expressed in rice equivalent)	142	178

The Bank's latest Economic Report expresses doubt that this rice target is either necessary or feasible. A more realistic rice production target consistent with an annual per capita income growth of 2%, an income elasticity of demand for rice of 0.6 and a population increase of 2.4% per year would be 13.5 million tons of milled rice in 1973/74, or an increase of 3.2 million tons over the 1968/69 output.

2.09 To attain this level of rice production within the time envisaged will require the use of high yielding rice varieties which need good irrigation and substantial amounts of fertilizer. Such varieties are already being introduced under the BIMAS and INMAS programs, described in Annex 2.

2.10 About two-thirds of the rice land is irrigated. Many of the irrigation works have fallen into disrepair. Their rehabilitation is among the important tasks in raising rice production. Access roads, also, have deteriorated substantially in many areas. The Department of Public Works intends, during the current Five-Year Plan, to upgrade some 6,120 km of roads and to recondition another 11,280 km. The Association and ADB have so far lent \$54 million (including the proposed \$20 million IDA credit for Djatiluhur irrigation) for the rehabilitation of roads and irrigation facilities and further projects are in preparation.

D. Future Demand for Fertilizer

2.11 Fertilizer usage in Indonesia is very low compared to usage in some other rice producing countries.

Fertilizer Consumption in Some Rice Growing Countries

Average Usage-Kg/ha of Arable Land - 1966/67 ^{1/1}

<u>Country</u>	<u>N</u>	<u>P₂O₅</u>	<u>K₂O</u>	<u>N Expressed in Equivalent Urea</u>
Burma ^{1/2}	0.4	0.1	-	0.9
Japan	146	146	-	308
Korea	104	54	25	226
Pakistan	60	11	3	131
Philippines	8	3	2	17
Taiwan	178	42	58	387
Thailand	3	2	0.7	7
Indonesia	5	1.7	-	11

^{1/1} Data from FAO: Fertilizers 1968. Data is for 1966/67.
^{1/2} Questionable figures, but quoted in several sources.

Even if it is assumed that all of the nitrogen used in Indonesia was applied only to the wet land (4.6 million ha irrigated plus 1.2 million ha rain fed) the average consumption would have been approximately 16 Kg of nitrogen per ha, equivalent to 35 Kg of urea per ha. Under the BIMAS and INMAS programs the Government is aiming at urea applications of 100 Kg to 200 Kg of urea per ha on the new rice varieties. Even these applications are reasonable when compared to the usage in some other rice producing countries.

2.12 The projected increase of 3.2 million tons of rice is expected to be achieved in two ways. First, irrigated crop acreage is expected to increase by 600,000 ha during the next four years. If planted in rice this would produce close to 800,000 tons per year without fertilizer. For the remaining 2.4 million tons of rice the farmers will have to resort to the use of the BIMAS type inputs, roads and irrigation systems will have to be improved and extended and agricultural extension work will have to be stepped up. Under these conditions it is safe to forecast that one ton of urea will produce an incremental increase of 7 tons of milled rice (instead of the 5 tons estimated in para. 2.05) ^{1/}. Hence about 340,000 tons of urea would be needed for added rice production. This would be in addition to the 200,000 tons now being used. Another 40-50,000 tons would be needed for crops other than rice, so that total urea needs in 1973/74 might come to 600,000 tons at the outside.

2.13 Additional phosphate fertilizer will also be needed in order to assure the continued effectiveness of such a substantial increase in nitrogen application. Ultimately phosphate (P_2O_5) tonnage is expected to be about half of the nitrogen (N) tonnage. A phosphate fertilizer plant is now being built near Tjilitjap on Java and is designed to produce some 20,000 tons/year of P_2O_5 - far below what is expected to be required within the next five years or so. Since Indonesia has no commercially exploitable phosphate deposits, additional P_2O_5 must be imported either as raw material or as finished fertilizer.

2.14 If the urea demand shown in 2.12 above is to be realized in 1973/74 actions will have to be taken to overcome a number of constraints to the growth in fertilizer consumption. Among these actions are the rehabilitation of the irrigation system, and its extension to unirrigated crop land, the provision of high-yielding seed varieties and plant protection materials, the education of the farmer in improved practices, the provision of the necessary distribution system for fertilizer, the marketing of the crop, the establishment of an improved credit system for rice and improved processing, storage and marketing facilities.

^{1/} This ratio is based on recent experience under BIMAS programs where urea was part of a package which ranged from 100 Kg urea and 35 Kg triple superphosphate (TSP) to 200 Kg urea and 50 Kg TSP plus insecticides and trace elements and includes ample irrigation.

2.15 Of prime importance among the various constraints to increased use of fertilizers is the fact that rice prices have been fluctuating widely in the past, thus making it difficult for the farmer to know what he can reasonably expect to receive for his crop. Also the differential between the price of fertilizer and the receipts for his crop has been lower than in other fertilizer projects in which the Bank Group has participated.

2.16 The Government is aware of these obstacles and a number of policy decisions have been taken leading to a concentrated program designed to overcome them. The major components of this program described in more detail in the Bank's latest Economic Report ^{1/} are the establishment of support prices for rice and the implementation of a purchasing program at these prices; improvement in the fertilizer distribution apparatus; the provision of better credit facilities and institutions; an intensified research program for the development of satisfactory high-yielding seed and a program for large scale production and distribution of these seeds; improvement of extension services; and the rehabilitation, improvement and expansion of irrigation, transport, processing and storage facilities. While these policy decisions have been taken, implementation of them has just started and most of the work yet remains to be done.

2.17 The Government and the Association have agreed that a National Fertilizer Study is needed to provide more data on market growth potential and make recommendations on distribution and marketing of fertilizers, and most importantly, on implementation of policies to provide the farmer with the means of obtaining fertilizer and an incentive to use it. The Study will be financed from IDA's Technical Assistance Credit of \$2.0 million equivalent made in December, 1968. The Government has obtained offers from suitable consulting firms and the study is expected to be completed in the latter part of 1971. During negotiations a commitment from the Government was obtained to undertake and complete the National Fertilizer Study and to implement its recommendations as agreed between the Government and the lenders.

2.18 Obviously any realistic forecast of future urea consumption in Indonesia must take into account present constraints and the time required to overcome them. It is very difficult to quantify with any degree of certainty their effect on fertilizer requirements of 600,000 tons of urea estimated for 1973-74 (2.12). An over-estimate draws penalties due to an initial under-use of capacity of too large a plant. An under-estimate would simply advance the date at which the next fertilizer plant (for which the Government has received several offers of collaboration), would have to be built. The Association and ADB therefore concluded that a conservative approach in estimating sales should be chosen as a least risk solution for the economy of Indonesia and have assumed urea consumption to develop as follows.

^{1/} Ibid, page 60-63.

Estimated Consumption of Urea
(in '000 tons)

<u>Year</u>	<u>1969/70</u>	<u>1970/71</u>	<u>1971/72</u>	<u>1972/73</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>
Consumption	240	275	315	360	410	470	540

The forecast corresponds to an average annual growth rate of 14%. While this is a vigorous growth rate, countries such as Pakistan have achieved sustained rates of close to 20% per year; hence, and since Indonesia at present consumes very little nitrogen (as an example less than 10% of nitrogen consumption in Pakistan per unit of arable land), the above rate forecast for Indonesia is expected to be obtainable.

E. Domestic Production of Nitrogenous Fertilizer

2.19 PUSRI is presently implementing a program to improve the operating efficiency of its existing plant. The program is expected to bring annual output from the current 95,000 tons of urea to the rated capacity of 100,000 tons by 1971/72.

2.20 A second Government-owned nitrogenous fertilizer plant, known as the "PETROKIMIA Project", for the production of urea and ammonium sulfate is under construction near Surabaya on Java and is due for completion by August/September 1970. Construction was started in 1964 but lack of local currency caused an interruption. Work has been resumed and progress suggests that the plant will commence commercial production in early 1971.

2.21 The PETROKIMIA plant, which uses the Shell partial oxidation process on heavy fuel oil feedstock, is designed for an ammonia capacity of 220 tons/day. Assuming that the urea plant will be operated on partial recycle to obtain maximum nitrogen output, annual production of the plant from 1971/72 would be 55,000 tons of urea and 123,000 tons of ammonium sulfate (equivalent to 57,000 tons of urea in terms of N). On these assumptions the domestic production of urea could be expected to develop as shown in the following table. The table also compares domestic output with the consumption estimate given in 2.18 above. For purposes of this comparison ammonium sulfate has been converted into urea equivalents.

Production and Sales of Urea
(In '000 tons)

<u>Year</u>	<u>69/70</u>	<u>70/71</u>	<u>71/72</u>	<u>72/73</u>	<u>73/74</u>	<u>74/75</u>	<u>75/76</u>	<u>Rated plant capac.</u>
<u>Consumption</u>	240	275	315	360	410	470	540	
<u>Production</u>								
<u>PETROKIMIA</u>								
Urea								
Ammonium Sulfate expressed in urea equivalent	=	14	55	55	55	55	55	60
		14	57	57	57	57	57	57
<u>PUSRI</u>								
Existing Plant	95	95	100	100	100	100	100	100
Expansion	=	=	=	=	194	336	366	380
<u>Total</u>	95	123	212	212	406	548	578	597
<u>Surplus (deficiency)</u>	(145)	(152)	(103)	(148)	(4)	78	38	

The table indicates that up to 1972/73 there will be a substantial deficit. In 1973/74 - the year in which PUSRI's new plant is to come on stream - supply and demand is expected to be about in balance. Surpluses shown for the following years would be used to rebuild stocks which will have been drawn down from the substantial level presently available to cover part of the deficit. Restriction in fertilizer consumption over the next three coming years 1970/71-1972/73 would adversely affect the market build-up on which the project relies and assurances were received from the Government during negotiations that fertilizers will be imported as required by the market, including seeding programs that are presently being developed by the various distributors.

2.22 The timing of additional nitrogenous fertilizer manufacturing capacity for which proposals have been made by various parties will depend on market growth. Assurances have been received that the Government will consult with the lenders before commitments are made in regard to additional plant capacity.

III. PUSRI'S EXISTING OPERATIONS

A. Outline of Existing Operations

3.01 PUSRI was established in 1959 as a Government-owned limited liability company (P.T.C.) governed under the Commercial Code to manufacture nitrogenous fertilizer. Commercial operations started in January 1964 with daily capacities of 180 tons of ammonia and 300 tons of urea. In accordance

with the Government's general policy PUSRI, in 1964, was converted to P.N. status (State enterprise governed under special regulations). The Government initially contributed Rp 17,731 million as equity, which included the proceeds of a \$33.2 million loan from the Export-Import Bank of Washington. While the cost of the plant cannot precisely be established, it is believed to have been on the order of \$40 million based on the rates of exchange prevailing at the time of completion. The plant was engineered by H.K. Ferguson Company, a subsidiary of Morrison-Knudsen (U.S.), with Girdler Corporation (U.S.) providing the ammonia process and Toyo Engineering (Japan) the urea process.

3.02 For start-up and for commercial operations the Company had the assistance of Morrison-Knudsen through March 1965 but thereafter it has been operating largely under Indonesian management. Despite the difficulties experienced in the supply of spare parts, the plant has been producing at high rates of utilization (at 95% of design capacity) except in the first half of 1969 when mechanical problems in the urea section interrupted production for a few weeks. Plant maintenance is good and plant management has been effective. Urea is packed in multi-wall paper bags and shipped mostly to Java from PUSRI's pier on the Musi River in small coastal vessels or barges of normally less than 2,000 tons carrying capacity.

3.03 The plant is small by present day standards and uses reciprocating compressors in its two ammonia trains and gas engines to generate power and as compressor drives. These design concepts and the relatively small size make the plant inherently a high-cost producer compared to modern large scale plants employing centrifugal compressors and other modern technology. As was mentioned before, the Company is now implementing, with outside assistance, a program to further improve operations and increase output to the rated capacity of 100,000 tons per year.

B. Past Financial Results

3.04 The inflation in Indonesia which reduced the value of the Rupiah by more than one thousand times since PUSRI started operations, and which necessitated a number of revaluations of the company's assets, makes a meaningful analysis of PUSRI's financial statements impossible. However, an approximation of its historical performance has been attempted in Annex 3. Annex 4 summarizes the approximate effect of revaluations and currency devaluation on the book value of the company's fixed assets and the related provisions for depreciation and amortization from the plant's inception to June 30, 1969. In view of these complexities and the fact that the financial statements of PUSRI were never audited by independent auditors, the firm of Peat, Marwick, Mitchell & Company was requested to review the accounts.

3.05 Their review revealed among other things that, although PUSRI's income statements indicate profits in recent years, these are overstated due to inadequate depreciation charges. Whereas PUSRI has been depreciating plant and equipment on a straightline basis over an assumed service life of 25 years, the normal accounting practice for this type plant would be to

depreciate over a period of 8 to 12 years. If PUSRI's accounts were to be adjusted on the basis of a 10 year depreciation period, PUSRI would, in fact, have shown losses in recent years. Primarily responsible for unprofitable factory operations is PUSRI's urea pricing policy under which urea is sold at a price as low as Rp. 22,000 (\$67.50) per ton f.o.b. Palembang. In comparison, prices for imported urea c.i.f. Djakarta have recently been ranging between \$78 and \$81 per ton and average ex-plant prices in Europe and the U.S. are being quoted at between \$75 and \$80. While such a policy is mainly motivated by the Government's desire to keep rice prices at low levels, it is at variance with the high cost structure inherent in the present operation and has thus been depressing PUSRI's profitability.

3.06. The comparative balance sheets as of December 31, 1968, June 30, 1969 and January 3, 1970 shown in Annex 5 reveal that the company has maintained a liquid financial position. However, included in the June 30, 1969 balance sheet were materials and spare parts which contained non-current and obsolete items. Also, the net plant was overstated on the books due to the inadequate depreciation charges. PUSRI has accordingly adjusted these items downward at the year end to place them on a more realistic basis and has also charged off deferred start-up expenses. The company now proposes to charge depreciation at a rate to fully write off the plant by the end of 1975.

3.07 As Annex 5 indicates, the Government's initial contribution of Rp. 17.7 billion had been revised by June 30, 1969 to Rp. 17.7 million to reflect changes in currency denomination. In adjusting its assets as above, PUSRI capitalized the remaining portion of its revaluation surplus so that the capital account at January 3, 1970 stood at Rp. 7 billion. As of that date, PUSRI had no long-term debt outstanding; the foreign exchange loan from the Export-Import Bank is a direct obligation of the Government and all payments of principal and interest have been made by the Government. There have never been any distributions of earnings on equity.

C. Organization and Management

3.08 The organization chart of PUSRI is attached as Annex 6. PUSRI presently employs approximately 1,500 people of whom some 800 are engaged in production. About 50 members of staff have been trained abroad. PUSRI is generally considered as one of the few industrial enterprises in Indonesia that is well managed. It is expected that a major portion of the staff requirements of the new plant can be met out of the existing labor force. The company does not anticipate any difficulties in obtaining the supplemental labor as required. Certain measures to assist PUSRI management in carrying out the expansion project are discussed in paragraphs 5.11 to 5.14.

3.09 Managerial responsibility for PUSRI's operations is now vested in a three-man management board, consisting of a President Director and two Directors, all of whom were appointed by the Government. The President Director reports directly to the Minister of Industry who has the authority to approve the budgets and annual accounts of PUSRI.

3.10 In order to improve the efficiency of the existing operation and to put it on a sounder basis, the Government decided in 1969 to convert PUSRI into a limited liability company (P.T.G.) to be regulated under the commercial code of Indonesia. The conversion took place in January 1970. While the new company will continue to be owned fully by the state, the charter has been generally drafted so as to be conducive to efficiency and sound corporate structure and not to preclude future private participation. However, there still remain two classes of common shares with unequal rights and, to remedy this, it was agreed during negotiations to remove from the charter of PUSRI the provisions relating to priority shares and to convert the present priority shares into common shares having the same characteristics as the existing common shares of PUSRI.

3.11 The proposed managerial structure of the new company follows Dutch Corporate practice and provides for a management board and a supervisory board. Responsibility for day-to-day operation will be vested in the management board (Direksi) which will be subject to review by the supervisory board, (Dewan Komisaris). The management board consists of a President Director and three directors, whereas the supervisory board will comprise a chairman and four members. The respective board chairmen will be appointed by the Minister of Finance upon consultation with the Minister of Industry. Other members of the board will be elected by the shareholders to whom both boards are jointly responsible.

3.12 Presently the management board comprises General H. Hasan Kasim, a retired military officer, as President Director. He has been the President Director of the company since May 1966. There are two other Directors working under his supervision; Mr. Dalil Hasin, Financial Director, in charge of finance, accounting, sales, purchases, and administration, and Mr. Kotan Pasaman, Director in charge of technical operations. As the new organization expands the third member of the management board will be appointed. Appointments for the supervisory board are expected to be made shortly. Assurance has been obtained from the Government that appointments to both the boards would be made in consultation with IDA and ADB.

IV. GAS CONSERVATION AND SUPPLY

A. The Indonesian Petroleum Sector and PERTAMINA

4.01 The Indonesian petroleum sector is operated under the supervision of the Directorate-General of Oil and Gas in the Ministry of Mines. PERTAMINA is a state enterprise and is involved in exploration, production, refining, sea transportation, local marketing and exporting. PERTAMINA operates in all major areas of the country and runs the former installations of Shell which were taken over by purchase in 1965. It operates six refineries which provide all of Indonesia's refined output. Shell continues to supply technical assistance and participates in international marketing. In 1968 PERTAMINA's output of crude oil amounted to some 15% of total Indonesian production and it provided 10% of gross oil exports. Gross revenues from oil were about \$80 million.

4.02 PERTAMINA is also the intermediary between the Government and foreign oil companies. Two of the latter, CALTEX 1/ and STANVAC work under so-called profit-sharing contracts, or under cost-sharing arrangements. Other companies, of which about 30 have started exploration in Indonesia since that time, are operating on a production-sharing basis. All arrangements between foreign oil companies and the Government are made through PERTAMINA including the payment of the Government's share in profits or production from foreign companies' operations. PERTAMINA therefore has its own accounts in foreign exchange both in and outside Indonesia, although it needs the approval of the foreign exchange authorities for its foreign exchange expenditures.

B. Gas Reserves, Production and Use in South Sumatra

4.03 Oil and natural gas have been found in South Sumatra since prior to the turn of the century. While ample data on known oil reserves have been accumulated, little has been done to estimate gas reserves as few uses for gas other than for fuel and gas lift 2/ have existed until recently. Two oil and gas producers are active in the South Sumatra fields (Map 2). One, STANVAC, has large leases based on fields discovered and developed in the 1920's and 1930's. Additional leases in South Sumatra were granted to STANVAC in 1969. In late 1969, STANVAC's refinery at Pladju, near Palembang, was sold to PERTAMINA, which already owns a refinery there. Gas from STANVAC fields will continue to be piped to the refinery and to PUSRI's fertilizer plant at Palembang (see para 4.07).

4.04 PERTAMINA and STANVAC together produced over 80 billion Standard Cubic Feet (SCF) of gas in 1968, of which 60 billion SCF -- over 70 percent of the total -- was either flared immediately or used in gas lift operations and subsequently flared. PERTAMINA's flared gas and its reserves are a potential source of supply for the enlarged fertilizer plant of PUSRI. No gas conservation is presently planned for STANVAC's field because no economic use for the gas is in sight.

4.05 As of January 1, 1968, net proven reserves of PERTAMINA and STANVAC amounted to almost 760 billion SCF of gas of which PERTAMINA held 540 billion SCF. In addition, PERTAMINA has another 132 billion SCF of discounted probable and possible reserves. The requirements to be met by PERTAMINA's reserves are discussed in paras 4.07 to 4.09 below.

1/ CALTEX is a joint venture of Standard Oil Company of California and Texaco.

2/ Gas lift is an operation in which high pressure gas is injected into the tubing-casing annulus of a well for the purpose of aiding the flow of fluid through the tubing. The gas enters the tubing through one or more check valves and helps to lift oil by decreasing its density and thus the weight of the fluid column in the tubing.

not PUSRI involve

STANVAC

4.06 ~~STANVAC has contracted to supply the requirements of the existing plant to 1983, i.e. its 20th year of operations, with up to 7.5 billion SCF per year. Current PUSRI use is about 4.9 billion SCF per year and may be expected to increase to 5.2 billion SCF when the existing plant operates at its full annual capacity of 100,000 tons of urea. It is assumed that PUSRI's existing plant will cease operations in 1983 after 20 years, and STANVAC should have no difficulties in meeting its obligation to supply the required gas until that date.~~

C. The Future Supply and Requirements of Gas From PERTAMINA

4.07 In addition to the gas for the fertilizer plant, PERTAMINA will have to provide gas to one of its two refineries at Pladju and for field uses. An allowance must also be made for new uses, such as for electric power, cement, and refinery expansion, although most of these are not yet evident.

4.08 The following table summarizes the raw gas demands on PERTAMINA over the 20-year life of the proposed project as estimated by Bank staff:

Summary - Raw Gas Requirements (PERTAMINA)
(Billion SCF)

<u>Required for</u>	<u>Annual rate</u>	<u>1969-72</u>	<u>1973-83</u>	<u>1984-92</u>	<u>Total 1969-92</u>
Pladju Refinery	4.33	17.3	47.6	39.0	103.9
Other use	5.94	23.8	65.3	53.5	142.6
Compressor fuel	1.14	2.0	12.6	10.2	24.8
New customers (1)	-	<u>1.7</u>	<u>18.5</u>	<u>41.8</u>	<u>62.0</u>
Sub Total		44.8	144.0	144.5	333.3
PUSRI expansion (380,000 tons)	11.8	-	<u>129.8</u>	<u>106.2</u>	<u>236.0</u>
Totals		44.8	273.8	250.7	569.3

(1) Based on 0.50 billion SCF per year in 1970 increased by 15% per year through 1983 and 10% per year thereafter.

4.09 As can be seen, total gas requirements from PERTAMINA for the period 1969-1992 amount to 570 billion SCF of raw gas. The figure conservatively assumes that PUSRI's expansion will operate at full capacity from the outset, which is unlikely. The estimates also assume the elimination of gas flaring by PERTAMINA through the operation of a conservation system. The present proven reserves of 540 billion SCF plus discounted

probable and possible reserves of 132 billion SCF are therefore deemed adequate to support the project during its assumed economic life.

4.10 Additional drilling required to deliver 1/ the reserves of gas will provide added basic data about the formation of the deposit and its characteristics. Although drilling results in the area have demonstrated a very favorable discovery experience, continued deliverability will require additional drilling and PERTAMINA will secure adequate consulting advice in connection with the development and operation of its gas fields. Assurances to this effect were secured during negotiations. With this assistance, PERTAMINA will be competent to operate the gas project.

D. Gas Conservation and Transmission

4.11 PERTAMINA gas fields produce high, medium and low pressure gas. High pressure gas is now used, in part, for gas lift prior to being flared; medium pressure gas is used for some of the "in field" requirements; while nearly all of the low pressure production is flared immediately. The conservation (and compression) project will end PERTAMINA flare and thus the waste to the economy resulting from the flaring of gas.

4.12 The whole conservation project can be visualized schematically as a ring of gas lines connecting the existing wells and with four compressor stations appropriately located on the pipeline ring (Map 3): Low pressure gas and gas exhausted from gas lift operations, all of which now go to the flare stacks, would be compressed to 700-900 lbs/sq. in. (pounds per square inch) and discharged partly back to the oil wells for lifting more oil and partly to the transmission line for use at the Pladju refineries and at PUSRI. The transmission line is 12-inch pipe operating at 705 lbs/sq. in. inlet pressure and would be more than adequate to supply PUSRI's annual requirements of 11.8 billion SCF. With added compression the line would have an ultimate capacity of nearly 60 million SCF/day against PUSRI's maximum requirements of approximately 35 million SCF/day, so that it will also be able to handle the refinery requirements and probable new users. Diagrams showing the operating of the compression and distribution system are given in Annex 15.

4.13 The project will confer a benefit on PERTAMINA because the need to drill in order to find high pressure gas for use in the production of oil will be deferred. Without the conservation scheme and further drilling, PERTAMINA's high pressure gas reserves will be exhausted in 1981. It is therefore the purpose of this part of the project to conserve and to regulate the flow of high pressure gas into pipelines for use in the fertilizer plant and to recapture the gas produced with oil as low pressure gas. This gas will be recompressed for gas lift. Annex 16 describes the system and provides detailed capital and operating cost estimates.

1/ Deliverability is the capacity of reservoir to deliver gas through drilled wells to meet day to day needs.

4.14 A reasonable timing of construction indicates that the complete system of 13,000 horsepower and 172 km. of piping can be put in place in 30 months from the time a decision is made to proceed with the scheme. It should be noted, however, that conservation can begin after about 2,000 horsepower is installed and that gas flare will be reduced as the system is built and will end when the system is completed.

E. Organization, Gas Conservation and Transmission, and the Price of Gas

4.15 The principle that the full cost of gas should be paid by users of gas in proportion to their needs is a fundamental approach in the organization of this project. The lenders have therefore proposed, and PERTAMINA has accepted, the creation of a new entity within PERTAMINA which would be responsible for all project gas operations. PUSRI and other users of gas handled by the project will sign take or pay contracts for the gas they receive through the proposed pipeline. Agreement was reached on this point and on a pricing formula during negotiations. The conclusion of a suitable gas purchase contract is a condition of loan effectiveness.

4.16 The entity will operate its own set of books, segregating the assets, revenues, expenses and loan service repayment accounts related to gas operations of the project. This gas compression and transmission department will have its own balance sheet, revenue and expenditure accounts. Revenue and expenditure pertaining to compression and transmission will be recorded in separate sets of accounts in order to segregate the appropriate charges to PERTAMINA and PUSRI and to permit a proper audit. The financial forecasts are given in Annex 16.

4.17 The gas supply project as a whole will operate so as to earn at least a 12% return on investment. Little or no taxable profit will arise from the proceeds payable under the agreed gas pricing formula. Since the proposed investment is entirely financed by loan funds with equal annual repayment of principal, and since the terms of the loan and the period of depreciation (at straight line) coincide, all depreciation is used to repay debt. The price of gas is set at a level to cover interest as well as full operating costs (including depreciation). The price of gas will thus decline as interest payments on debt decline. Because it is not possible to determine accurately in advance the amount of further investment in drilling to maintain gas deliverability (para 4.10), this pricing system allows such investment to be amortized by an increase in the then ruling price of gas, and quite probably, without exceeding the initial gas price. If additional gas consumers are found, PUSRI's price will decline since a portion of depreciation and operating costs are to be borne by the new consumers. As the gas price to new users may exceed the price to PUSRI, PERTAMINA will in this event, show larger profits.

4.18 Assuming a schedule of drilling cost as is indicated in Annex 16, the price of gas to PUSRI under the proposal would average 18.2¢ US

per Mcft 1/, during the assumed 20 years of operation of the expanded plant. The price would decline from an initial 20¢ US/Mcft to about 12¢US/Mcft. If a level price for gas to PUSRI were used, it would be somewhat above 18.2¢ US Mcft due to the effect on earnings of a 60% corporate profit tax in the later years.

4.19 During negotiations the lenders reached agreements with the Government of Indonesia and PERTAMINA concerning the construction, organization, and financing of the gas compression and transmission project; the provision of technical and consulting services to PERTAMINA; procurement procedures; and the items and principles to be included in a gas purchase contract.

V. PROPOSED NEW FERTILIZER FACILITIES

A. Size

5.01 The minimum size of modern ammonia - urea plants is approximately 500 tons of ammonia and 860 tons of urea. Such a plant would produce about 280,000 tons of urea annually.

5.02 Economies of scale among plants employing the same modern technology and within the range of 500 to 800 tons of ammonia per day 2/ are relatively small and are only realized if the plants operate at full capacity. The reason for this is that plants of this kind are highly capital intensive, and therefore the costs related to capital, such as depreciation, interest on debt, maintenance and insurance are usually much higher than the variable operating costs (see also para 6.16). Hence, the cost per ton of product rises rapidly if the facilities are not fully utilized, and an 800 ton ammonia plant and related urea plant operating only a little below rated capacity may well have per ton costs exceeding those of a 500-ton plant fully utilized.

5.03 Based on the sales forecast given in para. 2.18 a plant size for the expansion with a daily capacity of 660 tons of ammonia and 1,150 tons of urea (380,000 tons of urea per year) was chosen. Such a plant combines reasonable prospects of early full utilization of capacity with a minimum of operating costs. It would be the maximum size of an ammonia-urea plant which could use, at the present state of technology, a single urea train. Furthermore, with presently proven gas reserves it would also be the largest ammonia plant addition that could be built on an all-gas basis.

1/ One Mcft = 1,000 cubic feet. Quantities and prices are based on gas with a heating value of 1,000 BTU per cubic foot. These will be adjusted in proportion to the actual heating values as delivered.

2/ Equivalent to 280,000 to 460,000 tons of urea per year.

5.04 An alternative cost estimate has been made for a larger plant producing 800 tons of ammonia daily and 460,000 tons of urea annually. The capital cost of such a plant would have to provide for a dual train urea plant and (because of limited gas supply) more heat recovery equipment. It would also have to provide for the use of oil as fuel with more costly oil-fired steam/power generating equipment. At full capacity, production costs in such a plant would be only 5% lower than the costs in a 380,000 ton plant. If the switch to oil as fuel became necessary the margin would shrink still more and there would remain the risk of heavy losses if the plant should operate initially at less than full capacity. A 380,000 ton per year urea plant has therefore been recommended.

B. Outline

5.05 The plant would consist of a single train 660 ton per day ammonia plant utilizing centrifugal compressors and other modern technology, and a urea plant of 1,150 tons daily capacity, also of modern design. While the capital cost estimate is based upon a dual train urea plant, several single train plants in this range of capacity will have commenced operation before design of the PUSRI plant need be frozen. On the basis of operating experience at these plants a decision will be taken in three or four months on the advisability of a single train plant for PUSRI.

5.06 Natural gas will be used for both feedstock and fuel. Annual requirements at capacity utilization of the new plant are estimated at 11.8 billion SCF ^{1/} and will be obtained from the existing oil and gas fields operated by PERTAMINA as indicated in Chapter IV.

5.07 A new power plant will be provided to serve the existing plant and the proposed new plant. Capacity will be about 15,000 KW. The existing generators will be retained for standby and emergency service.

5.08 The proposed project is planned to make maximum use of the present plant site and will be adjacent to the existing plant. There is adequate space. Soil conditions will necessitate piling and provision for this has been made in the capital cost estimates. The necessary enlargements in shipping facilities, warehouse for urea, ship loader and dock will be made to accommodate the additional production. Currently PUSRI uses multiwall paper bags for its urea but has been experiencing excessive breakage. The company has therefore initiated a study to select the most economic durable and weather resistant substitute and to improve the method of handling such bags in transit. Pending the outcome of the study, equipment for the manufacture of plastic bags has been included in the cost estimates.

C. Ecology

5.09 Properly designed ammonia-urea plants make a very small contribution to noticeable atmospheric pollution. There will, of course, be stack gases from auxiliary boilers and from any gas turbine drives but

^{1/} With net heating value of 1,000 BTU per SCF.

these can be controlled so that they do not cause smoke. There is usually a slight odor of ammonia within such plants but, barring accidents, it is not noticeable in the surrounding community. Aside from company housing, which includes the residences of the President Manager and other senior staff, there are no residential areas nearby, and the plant is located in an industrial area including oil refineries. Liquid effluents can be a problem if not properly handled but pollution control will be outlined in the design criteria for the new facilities. The existing facilities are causing no problems.

D. Management and Project Execution

5.10 The experience of PUSRI management and technical staff is largely limited to its present operation. The new technology and enlarged size of operation will pose new problems not so far encountered. PUSRI has agreed to engage expert assistance as described in the following paragraphs.

5.11 A consulting firm particularly skilled in accounting and financial management will be employed. The Association will assist PUSRI in drawing up Terms of Reference for this work. One of the assignments will be to help improve the operation of PUSRI's accounting section, where meticulous record keeping is now practiced but where application of the information is not fully exploited. PUSRI is also sending two of its accountants to the U.S. for further training. In addition, the consulting firm will be expected to aid in management development and planning.

5.12 During project execution, PUSRI will employ an engineering or operating firm experienced in modern ammonia and urea technology to act as Technical Adviser and to serve, in effect, as an extension of PUSRI's own technical staff. The Technical Adviser would be responsible for issuing adequate design criteria for the new facilities and would assist PUSRI in the selection of a general contractor and process vendors and would monitor the design, engineering, procurement, construction and initial operation of the new facilities. The Terms of Reference for the Technical Adviser have been completed and PUSRI has invited proposals from an international list of qualified firms.

5.13 PUSRI will also employ a fertilizer marketing consultant to assist it in planning and carrying out an effective seeding program before the new plant is completed and in the initial years of operation. The Association will assist PUSRI in drawing up Terms of Reference for such assistance.

E. Procurement and Construction Schedule

5.14 While IDA funds proposed for the project can be used for procurement in any of the Bank's member countries, the ADB's Special Funds are tied to procurement in countries 1/ which are contributors to those funds,

1/ Presently Japan, Canada, Netherlands and Denmark.

and the U.S. and Japanese contributions are tied to procurement in those countries respectively. In order to obtain most favorable prices and to implement the project at the lowest possible cost, procurement procedures will be based on international competitive bidding to the maximum extent consistent with the fact that about 56% of the foreign exchange financing is tied. Suitable procedures on project execution and procurement have been agreed among PUSRI and the lenders and are briefly as follows.

5.15 A General Contractor will have overall responsibility for providing the complete fertilizer plant which will be divided into two major parts:

- (a) the urea plant, which will be supplied as a package (the Urea Plant Contract) delivered to the plant site ready for erection by the General Contractor; and
- (b) the balance of the fertilizer facilities, including the ammonia plant and all off-sites and auxiliaries, which will be designed, and procured by the General Contractor who will perform all construction and erection, including the erection of the urea plant.

5.16 The Urea Plant Contractor will be selected from pre-qualified Japanese firms on the basis of competitive bidding within Japan. The contract will be awarded on a lump sum basis, and its terms and conditions will be such that payments under the contract will be eligible for financing out of the Japanese and ADB loans. Bids will be evaluated in accordance with criteria established by PUSRI on the recommendation of the Technical Adviser and with the concurrence of IDA and ADB acting in consultation with the Japanese Government. In the event the lowest lump sum bid seems to PUSRI to be unreasonably high, PUSRI, with the concurrence of the lenders, may call for new bids on a cost plus fixed fee basis. The Urea Plant Contractor would provide to PUSRI and to the General Contractor adequate guarantees of plant performance, equipment performance, and standards of materials and construction to be used in the urea plant. The Urea Plant Contractor would also supervise the erection of the urea plant under the general coordination of the General Contractor.

5.17 The General Contractor will be selected from prequalified United States firms on the basis of competitive bidding within the United States. The Contract would be carried out on a cost plus fixed fee basis, the fee covering all services to be rendered by the General Contractor as described in paragraphs 5.18 through 5.21. The terms and conditions of the contract will be such that PUSRI's payments to the Contractor for his services will be eligible for financing out of the AID loan. All prequalification and tender documents for the General Contract, evaluation of bids, and proposals for award will require the concurrence of IDA acting in consultation with AID and ADB.

5.18 The General Contractor will act as Engineering Manager for the ammonia plant and for all off-sites and facilities required for the complete fertilizer plant, and as Construction Manager for the entire fertilizer plant, including the urea portion, and will bear overall responsibility for the completion of the fertilizer plant meeting suitable production and performance requirements as specified in the tender documents.

5.19 The final scope of the General Contractor's services will be determined on the basis of the recommendations of the Technical Adviser but it is expected to cover all contracting services required for completion of the fertilizer plant, except those to be provided by the Urea Plant Contractor and would include:

- (a) basic and detailed design of the ammonia plant and all off-sites and auxiliaries;
- (b) license fees for the ammonia plant;
- (c) management and procurement for all materials and equipment (local and imported) for the ammonia plant and for the off-sites and auxiliaries;
- (d) management of all construction and erection of the entire fertilizer plant, including the urea portion;
- (e) testing, start-up and initial operation of the entire fertilizer plant, with the assistance of the Urea Plant Contractor for the urea plant, through the completion of satisfactory acceptance tests;
- (f) arranging for suitable training for PUSRI maintenance and operating personnel.

5.20 Equipment, materials and supplies required for the fertilizer plant, and to be financed by any of the lenders, other than those to be furnished by the Urea Plant Contractor, and other than certain critical items peculiar to the ammonia process which must be obtained from specified sources, will be procured by the General Contractor on the basis of international competitive bidding in accordance with IDA "Guidelines for Procurement", to the extent that untied funds are available. All IDA funds will be spent on the basis of international competition. If the untied funds are exhausted or if IDA considers that procurement of certain items could without prejudice to the principles of economy and efficiency be restricted to one or more countries which are eligible sources for financing under one or more of the other loans, then IDA may, in consultation with such other lenders which still have funds available under their loans, restrict procurement of such items to such country or countries as may be appropriate.

5.21 Construction of the plant is estimated to be completed 30 months after the General Contract is awarded. The present Project Schedule, given in Annex 7 assumes that the General Contract will be awarded in January, 1971 and that construction will be completed in June, 1973.

VI. CAPITAL COST - FINANCIAL PLAN - PRODUCTION COST

A. Capital Cost Estimate

6.01 Since detailed engineering has not been done, only preliminary estimates of capital cost can be presented. Details of project cost estimates for the fertilizer facilities will be found in Annex 8. A summary of project cost estimates for both the fertilizer and gas facilities, is given in the following table.

SUMMARY OF PROJECT COST
(in millions)

	<u>Indonesian Rupiahs</u>			<u>U. S. Dollars</u>		
	<u>Foreign</u>	<u>Local</u>	<u>Total</u>	<u>Foreign</u>	<u>Local</u>	<u>Total</u>
<u>Fertilizer Plant</u>						
Imported Equipment	8,215	-	8,215	25.2	-	25.2
Construction Cost	2,413	2,216	4,629	7.4	6.8	14.2
Services	2,901	-	2,901	8.9	-	8.9
License Fees	652	-	652	2.0	-	2.0
Pre-operating Expenses	945	457	1,402	2.9	1.4	4.3
Contingency & Escalation	2,869	522	3,391	8.8	1.6	10.4
Working Capital	489	619	1,108	1.5	1.9	3.4
Total	18,484	3,814	22,298	56.7	11.7	68.4
<u>Gas Project</u>						
Conservation & Compression	2,152	945	3,097	6.6	2.9	9.5
Transmission	1,010	457	1,467	3.1	1.4	4.5
Total	3,162	1,402	4,564	9.7	4.3	14.0
Total Cost	21,646	5,216	26,862	66.4	16.0	82.4
Management Assistance During Initial Operations	522	130	652	1.6	0.4	2.0
Total Project Cost	<u>22,168</u>	<u>5,346</u>	<u>27,514</u>	<u>68.0</u>	<u>16.4</u>	<u>84.4</u>

The above does not include interest during construction of Rp, 1,729 million (\$5.3 million) for the fertilizer plant, and Rp, 358 million (\$1.1 million) for the gas project, which brings total financial requirements to \$90.8 million (\$73.7 for the fertilizer plant, \$15.1 for the gas project, and \$2.0 for management assistance.

6.02 The fertilizer plant estimates make allowance for a dual train urea plant of 580 tons per day capacity in each train. Should a single train plant prove feasible, there would be a saving of about \$2 million. The estimates are also based upon the installation of minimum heat recovery equipment (at the expense of slightly higher fuel consumption) and include the cost of equipment for removing excess CO₂ from the natural gas feed stream.

6.03 Finally, the capital cost estimates for the fertilizer project as shown in Annex 8 include allowances for interest during construction, initial working capital, pre-operating expenses and for contingencies and price escalation. A relatively high provision of \$8.8 million has been made to cover foreign exchange contingencies and escalation as a safeguard against a cost overrun, which the Government would otherwise have to cover from its scarce foreign exchange resources.

6.04 For the fertilizer plant, project cost estimates were prepared on the basis of costs for an analogous plant obtained from trade sources. Association staff has compared these estimates with those of similar plants recently financed or under consideration by the Bank Group, and considers them reasonable.

6.05 The estimates of project cost for the gas conservation and transmission facilities as described in Annex 16 were prepared by Mr. K. Sonney, consultant to the Association, and are based on recent experience in the Bolivia-Gulf Project and in the Sui Northern Project in Pakistan. They contain foreign exchange contingencies of 2% on the compressors and 9% on pipe which are considered reasonable.

B. Financial Plan

6.06 It is envisaged that the total foreign exchange requirements of \$68 million would be met through direct loans to the Government on concessionary terms from the following sources:

<u>Source</u>	<u>Amount</u> \$ million equivalent
ADB	10
USAID	20
Government of Japan	8
IDA	<u>30</u>
	<u>68</u>

It is expected that all above funds will be committed by July 1970.

6.07 Except for a modest contribution from cash generated from PUSRI's existing operation, the Government would provide all the local currency required and assume responsibility for any project cost overruns that might occur.

6.08 The financial plan for the fertilizer plant expansion project works out as follows:

	<u>PUSRI</u>	
	<u>Rp. million</u>	<u>\$ million</u>
Government financing:		
Proceeds of foreign financing	18,484	56.7
Cash contribution	1,825	5.6
Interest during construction capitalized	<u>1,728</u>	<u>5.3</u>
Sub-total	22,037	67.6
PUSRI cash generation	<u>1,989</u>	<u>6.1</u>
Total financing	<u>24,026</u>	<u>73.7</u>

6.09 The Government would make available to PUSRI for the fertilizer project the \$67.6 million needed (other than the \$6.1 generated internally by PUSRI) as follows:

	<u>\$ million</u>	<u>Percent of New Financing</u>
Equity investment	6.1	9.0
Senior loan (Class A)	48.3	71.5
Subordinated loan (Class B)	<u>13.2</u>	<u>19.5</u>
Total new financing	67.6	100.0

6.10 The senior loan from the Government to PUSRI would be for 16-1/2 years including a grace period of 4-1/2 years and bear interest of 12% per annum. Repayment would be made on the basis of constant annuities of principal and interest. Interest during construction would be capitalized.

6.11 The subordinated loan would also be for 16-1/2 years but repayment would be over 10 years with the first payment to be made two years after the first installment of the senior loan. It would bear no interest during the three years of construction and startup, but thereafter interest would accrue at 12%. Payment of interest and principal can only be made if, after such payments, PUSRI's quick assets exceed its current liabilities.

6.12 Principal and interest payments on both loans would be tied to the currency in which the Government has received the foreign exchange loans. The proposed interest rate of 12% is the Government's present relending rate to industry.

6.13 The financing of the gas project would be in the form of a loan from the Government to PERTAMINA for 23 years including a grace period of three years and at 12% interest. Interest during construction would be capitalized. Repayment of the loan would be made in equal installments of principal and interest.

6.14 The Government loan to PERTAMINA would come to Rp. 4,923 million (\$15.1 million) which is broken down as follows:

	<u>PERTAMINA</u>	
	<u>Rp. million</u>	<u>\$ million</u>
Proceeds of foreign financing	3,162	9.7
Cash contribution by Government	1,402	4.3
Interest during construction capitalized	<u>359</u>	<u>1.1</u>
Total	<u>4,923</u>	<u>15.1</u>

C. Production Cost Estimates

6.15 Since specific processes for ammonia and urea have not yet been selected, fertilizer production costs have been based on average consumption rates for the processes known to be applicable to single train ammonia plants and dual train urea plants.

6.16 Detailed production costs per ton of prilled and bagged urea at capacity operation (380,000 tons/year) together with the major underlying assumptions are shown in Annex 9. These are summarized below:

	<u>Unit Cost</u> <u>\$/ton Urea</u>
Variable costs (natural gas, catalysts and chemicals, bagging costs)	11.76
Fixed costs (including depreciation, interest and sales expenses)	<u>45.66</u>
Total costs (including financial charges)	57.42

At the projected ex-plant price of Rp. 22,000 (\$67.50) per ton of urea, pre-tax earnings per ton would be Rp. 3,281 (\$10.08) or 14.9% of the selling price. The estimates given above indicate production costs (before interest and sales expenses) of \$42.71 per ton when operating at capacity. The assumptions underlying the estimates are considered realistic.

VII. MARKETING, PRICES AND COMPETITION FROM IMPORTS

A. Marketing

7.01 The organization of fertilizer distribution in Indonesia has undergone changes during the past few years and is still in the process of further transformation. Up to 1967, P.N. PERTANI a State agency, was the sole distributor of both imported and indigenous fertilizers. In 1968, private contractors and dealers were allowed to sell fertilizers. It is estimated that, at present, approximately 70-80% of total imported fertilizers are handled by PERTANI with the balance being distributed by other groups, including foreign contractors for the BIMAS scheme (Annex 2).

7.02 Presently, PERTANI has more than 1,000 retailers and 600 owned godowns plus about an equal number of rented godowns in Java where about 80% of fertilizers are consumed. PERTANI has however so far tended to be concerned mainly with the physical distribution work and has made little effort to promote sales.

7.03 To avoid total dependence on PERTANI, PUSRI initially built up in 1967 its own distribution machinery, but decided in October 1968 to use private companies and existing distribution networks of State trading firms. PUSRI has so far appointed as its major distributors six private companies and four State enterprises including PERTANI. The private companies presently have more than 600 retail outlets. PUSRI sells a substantial portion of its present production through these private distributors.

7.04 The present selling price of urea to the farmer is approximately Rp 28,000 (\$85.9) per ton. Actual prices vary both above and below this figure. PUSRI presently sells its urea at Rp 22,000 (\$67.5) per ton f.o.b. Palembang payable on sight of shipping documents. Until recently PUSRI extended to its distributors a three-month credit at a credit sales price of Rp 24,000 (\$73.6) per ton of which 30% plus freight and unloading charges had to be paid upon receipt of urea at first line godowns, 40% one month and the remaining 30% two months after delivery. The price difference between cash and credit sales represents interest cost calculated at 3% per month. PUSRI is switching all its sales to a cash-and-carry basis by asking major distributors to utilize distribution credit made available for up to six months at 1% per month from State banks. The new credit arrangements, if successfully implemented, would enable distributors to refinance credit requirements of sub-distributors and retailers to whom credit has not so far been available at reasonable terms.

7.05 Distribution costs for fertilizer are high and reflect Indonesia's geography and the characteristics of its transport network. In 1968 road transport is estimated to have carried 11 billion ton-km closely followed by sea transport (inter-island and coastal) with 9 billion ton-km. The railways carried 740 million ton-km. However, road transport costs at about 2.8 cents per ton-km restrict distribution by truck to a radius of 200 km, and rail transport at 0.9 cents per ton-km would be competitive with sea transport at 0.5 cents per ton-km up to distances of 400 km for destinations along the line. Shipments to destinations beyond that distance and, of course, those to other islands would have to rely on sea transport, for which PUSRI's location on the Musi River with its own jetty is ideally suited. So far the physical means of distribution, port facilities, storage and shipping space, rail and road transport, have not constituted a bottleneck per se; fertilizer is being moved but at the fairly high cost shown in para. 7.06 below. Bottlenecks, should they appear with the growth of fertilizer consumption assumed for the next three years, would have to be dealt with in the framework of the Government's plans and programs for the rehabilitation of the country's transport facilities. The study of distribution costs and recommendations on how they could be lowered are included in the Terms of Reference of the National Fertilizer Study.

7.06 Distribution costs from factory to farmer vary depending on destination. The following typical figures explain the distribution cost per ton at points 250 km away from Djakarta:

f.o.b. Palembang	Rp 22,000 (\$67.5) price to distributor)
Sales tax and insurance	275 (0.8)
Ocean freight	<u>1,352 (4.2)</u>
c.i.f. Djakarta	23,627 (\$72.5)
Handling charges, etc., from the harbor to village))
Interest charges))
Distributors' overhead and margin (wholesaler and retailer))	4,373 (13.4)
Total	<u>28,000 (\$85.9)</u>

7.07 Total nitrogen fertilizer to be marketed after the expansion project of PUSRI and PETROKIMIA have been completed and are operating at full capacity will be:

PUSRI's existing plant	100,000 tons
PUSRI's expansion	380,000
PETROKIMIA	<u>177,000</u>
	657,000 tons

Adding the small tonnage of phosphate fertilizers brings the total to about 750,000 tons. This is approximately three times the tonnage now being marketed. Marketing such a tonnage will require extensive improvements in the transportation and distribution system (warehouses, roads, vehicles) and a complete reorganization and strengthening of the marketing organization and the rural credit system.

7.08 By the time the expansion project comes fully on stream, PUSRI's distribution system will be handling five times the tonnage now being sold by the company. PUSRI plans to set up extension sales offices in major cities in Java and to build regional warehouses to handle off-season inventory build-up in market areas. Marketing such a tonnage will require an extensive seeding program under which imported fertilizer would be channeled through PUSRI's distributors, enabling them to build-up adequate facilities to handle increased tonnages. The mission was assured by the Ministry of Trade that PUSRI's distributors would be given access to imported fertilizer for their seeding programs. This assurance was confirmed during negotiations.

7.09 Developing an adequate seeding program, coordinating the various plans for distribution and training an effective marketing staff will impose on PUSRI a burden which will be very difficult to handle without outside assistance. PUSRI therefore will hire -- in consultation with the lenders and not later than the end of 1970 -- an experienced marketing man to head up these activities during construction of the proposed plant and its first two or three years of operations.

7.10 Adequate agricultural credit facilities are a prerequisite to orderly growth in fertilizer consumption. At present, institutional credit is channeled through State banks and village banks. Experience of Bank Rakjat Indonesia (BRI), a State bank specializing in agricultural credit, shows that credit schemes designed to meet requirements of individual farmers are difficult to administer. A substantial amount of BRI's funds is also tied up in unsold stocks of fertilizer caused through uncoordinated fertilizer importation and distribution. It is apparent that no credit scheme would relieve this situation unless efficient fertilizer distribution is ensured.

7.11 The proposed National Fertilizer Study will review inter alia the existing system for the marketing of fertilizers and agricultural credit and make recommendations on measures required for establishing an effective distribution system capable of handling the increased tonnage. During negotiations it was agreed that the recommendations of the study acceptable to the Government and the lenders will be implemented.

B. Prices and Competition from Imports

7.12 PUSRI is now selling its urea at Rp. 22,000 f.o.b. Palembang, the equivalent of \$67.50/ton. Import prices c.i.f. Djakarta are presently between \$78 and \$81/ton c.i.f. although occasionally shipments have been

offered at less than \$65/ton, while a good deal of other shipments are well above \$100/ton. Ex-plant prices in Europe and in the U.S.A. for domestic consumption are quoted at between \$75 and \$80/ton, to which sea freight and insurance alone would add \$15 to \$20/ton.

7.13 PUSRI has a transport cost advantage vis-a-vis imports in shipping its urea to smaller ports, using coastal vessels for ports on which ocean-going freighters cannot call. This advantage is expected to about offset the cost advantage, shown in para. 7.06, which imports offloaded in a few major ports for use in their vicinity on Java have over PUSRI's fertilizer. Therefore, in order to compare import prices with those of PUSRI, c.i.f. import prices at Djakarta can be equated with PUSRI's price ex-Palembang.

7.14 The present selling price ex-plant Palembang of \$67.5 per ton is expected to be competitive with c.i.f. prices of imports, when the new generation of urea plants, using the same technology as proposed for the expansion of PUSRI, comes on stream in various parts of the world. However, since world market prices often reflect marginal cost pricing, import prices might fall further, perhaps to between \$62 and \$65 excluding, of course, distressed or dumped shipments. This judgment by Bank Group staff is in line with recent evaluations made in connection with Bank Group urea projects in India and Pakistan.

7.15 There is no import duty on imported fertilizers and there are no plans for its introduction. If sufficient financial incentives for local fertilizer production are to be provided so as to attract future private investment, the present selling price of PUSRI will have to be at least maintained. The Government has agreed that PUSRI will be permitted to follow commercial practice in setting its prices.

7.16 The present selling price thus can be expected to meet the criteria of competitiveness with imports, financial viability of the project and consistency with the Government's pricing policies and has therefore been used in the financial projections of the report. If import prices should in fact fall below that level some modest degree of protection would be required. Such protection would be justified since, as shown in Chapter IX the rate of return of the project to the economy would still be 12% even if the c.i.f. import price was as low as \$60 per ton.

VIII. PROFITABILITY AND FINANCIAL POSITION

8.01 The gas conservation and transmission project is set up as a separate accounting entity of PERTAMINA operating at about a breakeven level, including a 12% return on investment. This rate is predicated upon revenue being guaranteed by take-or-pay contracts. The results will be that the price of gas will decline from 19.7 cents per Mcft in the first full year of operation to 12.2 cents per Mcft in 1994. Details of the accounting are set out in Annex 16.

8.02 Attached as Annexes 10 to 13 are projected income statements for the fertilizer expansion project, and projected income statements, balance sheets and cash flow statements for the combined operation of PUSRI.

8.03 Projections for the existing fertilizer operation have been prepared on the basis of PUSRI's financial position as of January 3, 1970, shown in Annex 5 and described in Section 3.06. They assume full write-off of PUSRI's existing depreciable assets by the end of 1975 with the result that the existing plant will make only a marginal profit during the period through 1975. While the existing plant is a high-cost producer, it will be financially self-sufficient and will be able to contribute to the financing of the new plant through its internal cash generation. No credit is taken for the anticipated increase in the output of the existing plant to rated capacity.

8.04 The fertilizer expansion project is scheduled to be commissioned by late 1973 after a three-year construction and startup period. Production build-up is conservatively estimated to rise gradually from 50% of the rated capacity in the first quarter of operation to full capacity in 1977. For the purpose of profitability projections, the present selling price is used. Other major assumptions made in the projections are summarized in Annex 9.

8.05 On the above basis, the fertilizer expansion project will show nominal pre-tax earnings in 1976, the fourth year of operation, and thereafter the profit picture will improve as sales rise. While combined pre-tax earnings will follow the same pattern, net earnings for the integrated operation will decline in 1978 when a five-year tax holiday for income taxes on the operations of the proposed new plant comes to an end. Senior debt service coverage, as shown in Annex 11 rises from 1.6 times in 1974 to 1.8 times in the following three years. Thereafter, as taxes come into full effect, debt service coverage declines gradually to level off at 1.5 times in 1980 through 1984. At that point the new plant is fully depreciated and the impact of sharply increased taxes reduces coverage to 1.3 times in the last two years of debt service. This is considered adequate. The projections indicate that PUSRI will be in a position to pay dividends in 1977, four years after startup of the new plant.

8.06 The fertilizer expansion project will meet its fixed cash costs excluding service of the subordinated loan at capacity operations as long as sales prices do not drop below Rp 14,900 (\$45.70) per ton of urea or as long as sales volume does not decline below 258,000 tons (or 68% of capacity) at the assumed price level of Rp 22,000 (\$67.50) per ton.

8.07 The initial full debt/equity ratio for the combined operation of PUSRI will be 70:30, as shown in Annex 12, and 55:45 if the subordinated loan is considered quasi-equity. These ratios will tend to rise slightly in the first year of operation of the new plant. Except for 1974 the critical first year of full production when the projected cash balance is relatively low, PUSRI should maintain a fairly liquid position throughout the project life. In the event that the company's net cash position is below that projected, a substantial cushion exists in the company's ability to defer payments of principal and interest on the subordinated loan.

8.08 A sensitivity analysis has been prepared to assess the financial impact on the project of certain unfavorable assumptions superimposed on the financial forecasts which are shown in Annexes 10 through 13 and which are considered realistic. The following table compares the financial return (net of taxes) of 11.4% of the "base project" with five alternative assumptions which are described in greater detail in Annex 14.

<u>Base Project</u>	<u>Financial Return</u> <u>(Net of Taxes)</u>
	11.4%
Alternatives superimposed on Base Project:	
1) Reduction of urea ex-plant price from \$67.5/ton to \$60.0/ton	9.2%
2) Reduction of urea ex-plant price from \$67.5/ton to \$55.0/ton	7.5%
3) One year construction delay assumed to increase project cost by \$11 million	9.0%
4) Startup troubles, coupled with a slower production build-up over a period of 5.5 years	10.0%
5) Combination of one year construction delay, startup troubles and slower production build-up (alternatives 3 and 4)	8.1%

As explained in Section VII of this report, the probability of alternative 2 occurring is low. The probability of alternative 5 occurring is also low; in addition, efforts will be made to obtain suitable guarantee provisions on plant completion and production in the contractual arrangements for plant construction.

8.09 The foreign exchange component in the operating costs per ton of urea at capacity operation is estimated at \$33.29 as compared with the local currency component of \$17.95, assuming a 15-year economic life for the project and the payment of external debt on commercial terms. ^{1/} On the basis of landed costs of imported urea at \$67.50, total foreign exchange savings at capacity operation would work out to \$13 million annually. This saving of \$34.41 per ton foreign exchange costs is obtained at a cost of \$17.95 per ton local currency expenditures and is indicative of a highly efficient import substitution.

^{1/} Costs per ton of urea on the above assumptions are as follows:

	<u>Variable costs</u>	<u>Fixed costs</u>	<u>Total</u> <u>(\$/ton)</u>
Local currency	1.78	15.72	17.50
Foreign exchange	<u>9.48</u>	<u>23.79</u>	<u>33.29</u>
Total	11.76	39.48	50.68

This breakdown differs from that shown in Annex 13 as follows:

- (i) Depreciation calculated on a 15-year basis
- (ii) Interest worked out at 10% p.a.

IX. ECONOMIC JUSTIFICATION

9.01 The fertilizer and gas parts of the project are inter-dependent and investment in one would make no sense without investment in the other. A joint rate of return has therefore been calculated by discounting the streams of costs and benefits obtained if PUSRI had to sell ex-plant at the c.i.f. price for imported urea. The present rate of exchange of Rp. 326 per US Dollar has been used. At a c.i.f. import price of \$67.5 per ton, equal to the sales price assumed, the rate of return to the economy would be 14%. If the import price were to drop to \$65 per ton, the rate of return would be 13%. If imported urea could be offered at \$60 per ton, c.i.f. the rate of return would be 12%.

9.02 The decision to proceed with the PUSRI project at this time was made after study of an alternative site at Tjirebon on Java, where the only other usable gas deposit is located. There are not at this time sufficient proven gas reserves at Tjirebon to support an economically-sized fertilizer project and a suitable gas investigation would take perhaps a year to complete. While Tjirebon is located near the major market and would thus have an advantage in transport costs of urea, this site lacks the infrastructure facilities available at Palembang. In addition, if Tjirebon produced first, the gas now planned for use at PUSRI would have to be flared (which is uneconomic and would reduce reserves below that required to support the PUSRI project) or, alternatively, conserved for future use. This latter course would likely entail considerable expense and there may be technical difficulties involved in the underground storage of such a gas quantity. Thus, while two new plants will ultimately be needed in Indonesia, the decision to proceed with the PUSRI plant at Palembang first is the proper one at this time and will result in a substantial foreign exchange benefit due to the many months saved in reaching initial production. Further details on this are provided in Annex 14a.

X. STATUTORY AND POLICY CONSIDERATIONS

A. Economic, Technical and Financial Conclusions

- 10.01 The A.I.D. Project Committee has reviewed the van der Valk Report on which this project is based, and the IBRD/IDA findings, conclusions, and planning, and is satisfied that the project is economically, technically, and financially viable and meets all applicable statutory and regulatory criteria.
- 10.02 The project is of high priority in the context of the Government's policy to attain self-sufficiency in food and to increase agricultural output and exports. The project shows a satisfactory economic rate of return, is financially viable, and urea production will be competitive with imports even if present world market prices for urea should substantially decline. It is based on a level of technical planning sufficient to reasonably define the cost estimate, and, as such, meets the requirements of Section 611 of the Foreign Assistance Act. Finally, it puts to profitable use a valuable national asset, natural gas, that is presently going to waste.
- 10.03 Assumptions on fertilizer market growth made in Indonesia's Five-Year Plan have been substantially discounted, the plant size has been adjusted to such lower sales expectations and projections of capital, operating cost and sales build-up have been made on a conservative basis. However, market projections in Indonesia are particularly difficult to make as the past cannot serve as a guide for the future. The project, therefore, has a number of uncertainties on the demand side. However, fertilizer consumption in Indonesia is still among the lowest in the world and the Government is making an all-out effort to accelerate economic growth which initially is centered on agriculture. Therefore, even if additional adverse factors should occur, such as construction delays or an even slower build-up of production and sales than assumed in this report, the risks on balance would appear reasonable when viewed in terms of overall economic development.
- 10.04 The Project Committee recommends that A.I.D. authorize a loan of \$20 million subject to the terms and conditions set forth in the draft loan authorization contained in Annex 23.

B. Place of the Project in the U.S. Program

- 10.05 Aid to Indonesia from the United States and ten other nations is coordinated through the Inter-Governmental Group on Indonesia (IGGI). Following recommendations from the IMF and IBRD, the IGGI nations contributed over \$200 million to Indonesia in CY 1967, about \$300 million in CY 1968, and over \$500 million in CY 1969. Against this latter amount, the United States agreed to provide \$241.8 million--\$75.3 million in A.I.D. loans (\$50.3 million in FY 1969 and \$25 million in FY 1970) and \$166.5 million in P.L. 480 rice, wheat, cotton and tobacco (\$99.1 million in FY 1969 and \$67.4 million in FY 1970).
- 10.06 The Indonesian Government has requested, with IMF/IBRD endorsement \$600 million in aid from the IGGI for the fifteen month period beginning January, 1970. In December, 1969, the U.S. delegation to the IGGI announced that, subject to appropriations, it intended to provide about one-third of Indonesia's bilateral non-food aid requirement (\$125 million of a total of \$375 million) and a "fair share" of the \$140 million estimate of food aid needs. The \$125 million U.S. share of non-food aid is to be composed of \$50 million of P.L. 480 cotton and \$75 million Development Loans (\$20.6 million from FY 1970 and \$54.5 million from FY 1971 funds). Additional loans of \$25.6 million from FY 1971 funds will be part of the anticipated U.S. aid to Indonesia for CY 1971.
- 10.07 Since the AID program was resumed in 1966, most U.S. economic assistance has been in the form of general commodity loans and PL 480 designed to provide balance-of-payments support for Indonesia's stabilization program. These stabilization efforts have had significant results - the rate of inflation, 639% in CY 1966, was reduced to less than 10% in CY 1969.
- 10.08 Now, as Indonesia turns increasing attention to its rehabilitation and development needs, the U.S. and other donors are devoting a larger portion of their loan funds to capital projects. The proposed Pusri expansion loan will be the third capital project in AID's Indonesia program since the resumption of assistance (the first was a \$6.3 million expansion of the Gresik cement plant in FY 1969, and the second was the recently concluded \$16.8 million loan for Central Java power rehabilitation).
- 10.09 Agricultural development - particularly the expansion of rice production is assigned highest priority in Indonesia's Five Year (1969-74) Development Plan. The principal focus of the AID program in agriculture is to assist in increasing the production and availabilities of food while at the same time helping develop

sound institutions. The AID program attempts not only to contribute to the strengthening and expansion of the BIMAS approach, including production - inputs distribution, but also to improving grain handling, storage, processing and distribution systems, while avoiding duplication of efforts by other donors.

10.10 The PUSRI Fertilizer Plant Expansion Project has a very high priority both in Indonesia's own Five-Year development plan and in the AID program. Successful completion of this project will meet a number of AID objectives -- it will allow partial fulfillment of our CY 1969 assistance commitment; the increased production capacity will go a long way toward making Indonesia self-sufficient in nitrogenous fertilizer at a time when increased amounts of fertilizer are required for the new strains of "miracle rice"; Expansion of the existing highly successful domestic production facility will assist in private sector development and ultimately create a team of skilled Indonesian technicians and administrators.

10.11 The savings in foreign exchange and direct economic benefits of the project are both top AID and IGGI priorities. Finally, the proposed project represents the first time in Indonesia where AID will participate in a multi-national capital project, involving both the cooperation and loan funds of a number of IGGI donors.

C. Self Help

- 10.12 The GOI has taken strong fiscal and monetary steps in implementing the IMF-endorsed stabilization and rehabilitation program. At the same time, it has courageously eliminated stifling but often politically expedient subsidies, and has moved away from bureaucratic intervention towards reliance upon the free market in allocating national resources. The GOI has been able to improve management practices in State-owned enterprises which have not yet been turned over to private sector management. It has, moreover, opened the doors to foreign investment by returning nationalized assets to their original owners and providing substantial encouragement to new investment under the foreign investment law.
- 10.13 The GOI is determined to continue its policy of economic self-discipline and face constructively the immediate problems of rice shortages, the urgent need for operational and management assistance in many Indonesian enterprises, further increases in tax collections and considerable improvements required in their statistical system.
- 10.14 Indonesia's recently completed Five-Year (1969-73) Development Plan proposes to continue the country's rehabilitation and stabilization work of the past two years and to move into development in certain fields. In order to bring about stabilization of food prices without undue reliance on outside resources, agriculture and irrigation are to be the main investment sectors, receiving 30% of the total five-year public investment. With regard to infrastructure the Plan target includes a 64% increase in electric power capacity, a 20% rise in the diesel locomotive stock, rehabilitation of 115 kilometers of rail lines, and rehabilitation or upgrading of 17,000 kilometers of roads.
- 10.15 Planned imports through the Five-Year Plan include large amounts of program aid, raw materials, and some spare parts. Total investment over the period is projected at about \$4 billion, of which three-fourths would be accounted for by foreign capital inflow.
- 10.16 Agriculture is assigned first priority. Second priority will be accorded to light and medium industries using agricultural and other domestic raw materials or contributing to agricultural output (e.g., fertilizer). In the infrastructure area, the rehabilitation of roads, highways, transport and communication media, will also be stressed to remove bottlenecks impeding export and inter-island trade.
- 10.17 With respect to this project the Government is contributing \$10.3 million in local currency and \$6.4 million equivalent of interest capitalized during construction -- a total of \$16.7 million or 18% of project costs. Moreover, the Government will covenant to meet any project cost overruns which may occur either in foreign exchange or local currency. As indicated in Section XII B, the Government is also undertaking a wide range of actions which have a bearing on this project. The most important of these are; eliminate existing constraints to the orderly growth of urea consumption;

implement a rice price support policy to assure adequate incentives to the farmer to purchase and use fertilizer; strengthen the existing distribution and marketing system; provide farmer credit facilities; implement recommendations of the National Fertilizer Study now underway; improve and expand agricultural extension and fertilizer demonstration activities; carry out improvements to irrigation; allocate urea to FUSRI distributors for a seeding program; and continue with its regular well-drilling program and take necessary steps to insure a continuous gas supply for the service life of the fertilizer expansion project.

10.18 For its part, FUSRI is contributing the equivalent of \$6.1 million in local currency which will be generated by the existing operations of FUSRI, as well as the technical staff to implement the project. In addition, FUSRI has agreed to obtain technical assistance in the areas of marketing, accounting, and management (including on-the-job training in T.V.A.); to strengthen its management capabilities by the appointment of new board members; and to revise its charter to provide greater control of the company by its shareholders.

D. Impact on the U.S. Balance of Payments

- 10.19 The impact of this loan on the U.S. balance of payments will be favorable for several reasons. The entire proceeds of the AID loan will be spent in the U.S. for goods and services and follow-up orders of spare parts which would not otherwise be procured from the U.S. Of the \$68 million foreign exchange costs of the project approximately \$11 million has already been preallocated for U.S. procurement (general construction contract, ammonia process and ammonia plant compressors). Preallocation to Japan amounts to approximately \$8 million. Thus a total of \$19 million of the \$68 million foreign exchange costs have been preallocated leaving \$49 million available for international competitive bidding.
- 10.20 It is estimated by the engineers who have reviewed the Pusri project that U.S. suppliers will be competitive on about 35% of the materials and services procured on the international tenders. This estimate is based on recent procurement experience with the Dawood Hercules ammonia/urea project in India (financed jointly by the IBRD and AID). If this percentage holds for the Pusri project, we would expect that U.S. firms would receive about \$17 million in awards, of which \$9 million would be met from the balance available under AID loan and \$8 million from IDA financing. In this situation, U.S. suppliers would receive approximately one fifth of the IDA financing.
- 10.21 Another factor which may swing some of the IDA financing to U.S. suppliers results from the application of the 10% componentry provision of the AID source/origin requirements. If under the international competitive bidding procedures which are planned, (see Sec. XIII) a U.S. equipment supplier tenders the lowest responsive bid and the dollar value of imported components of the equipment is in excess of 10% of the total cost, the equipment would not be eligible for financing under the AID loan. In such a situation financing would be assigned to the IDA. While we do not anticipate many such cases, to the extent they occur U.S. procurement will be increased.
- 10.22 A final factor relates to the preemence of U.S. firms in the construction of natural gas conservation and transmission systems. It is considered highly likely that a U.S. firm will be awarded the contracts for this portion of the project which is being financed wholly by the IDA. Foreign exchange costs for this work are estimated at \$9.7 million and would be additive U.S. procurement.
- 10.23 In summary the Project Committee believes that U.S. interests, particularly with respect to balance of payments considerations, are well protected, both in absolute terms and relative to the interests of the other lenders.

E. Indonesian Economy and Debt Service Capacity

10.24 For the Indonesian economy the year 1969 was an important turning point. The stabilization program designed to put an end to the Sukarno legacy of rapid inflation was successful; A balanced government budget, controls over credit expansion, a deliberate policy of increasing savings deposits through attractive interest rates, annual foreign debt reschedulings, and the provision of food, fiber, and other program aid to meet domestic demand brought about a decline in the rate of price increases from 113% in 1967 and 85% in 1968 to 10% in 1969. Commercial bank time deposits increased more than tenfold in real terms since the end of 1967, while money supply in real terms expanded by 45% in 1969 and 20% in 1968. In contrast to earlier years, exchange rates also remained stable during the course of 1969. The BE rate (applicable to the import of more essential goods and services) held steady at Rps. 326 to \$1.00, and the DP rate (applicable to transactions, services, and less essential but permitted commodity imports) remained stable at Rps. 378 to \$1.00.

10.25 While the most notable achievement of 1969 was the restoration of price stability and confidence in the rupiah, progress was made on other fronts as well. Aggregate output grew modestly as evidenced by an improvement in agricultural production, increased mineral output (especially oil and tin), and higher production in the textile industry. Exports -- led by increases in oil, rubber, and tin -- grew by 12% from \$872 million in 1968 to \$975 million in 1969.

10.26 Reflecting a pick-up in overall production and an improved outlook for the Indonesian economy, imports expanded by 16% in 1969 to reach \$961 million. Of this total, investment goods and raw materials accounted for a greater share of imports than in 1968. The rapid rise in total imports, however, led to a decrease in the trade account surplus, from \$40 million in 1968 to \$14 million in 1969. This development, plus (a) a \$31 million increase in service payments related to increased oil production and consumption, and (b) a \$36 million rise in non-oil service payments, (including freight for imports). Increased the current account deficit from \$264 million to \$358 million in 1969. The current account deficit was financed primarily with foreign aid.

10.27 A detailed discussion of economic trends in Indonesia is to be found in IMF Report "Recent Economic Developments and Outlook for 1970", March 23, 1970; the IBRD

Report, "Current Economic Position and Prospects for Indonesia"; November 10, 1969; and the IBRD Report, "Current Investment Activity in Indonesia", March 27, 1970.

10.28 With inflation under control, Indonesian planners have been able to focus increasingly on the task of rehabilitation and development. The scope of the task is immense, for investment seldom exceeded 10% of GNP during the 1960's, and the rate of economic growth was barely higher than that of population. Partly as a consequence of this low rate of investment, much of Indonesia's infrastructure is in poor condition.

10.29 Fortunately the resources available for a substantial investment program have grown. Pledges of foreign aid totalling roughly \$600 million have been received by Indonesia for the fifteen-month period beginning in January 1970. The foreign-aid pipeline has more than doubled, from \$162 million at the end of 1968 to \$410 million a year later. In addition, the Indonesian Government has approved private foreign investment projects, excluding those for oil, with a total intended investment in excess of \$1 billion. Arrivals under these projects have, however, been small, totalling an estimated \$50 million for the three years since 1967.

10.30 Improved collection procedures and new taxes, such as those on petroleum products, are expected to increase domestic government revenues by 62% in Indonesian fiscal year 1969 (April 1, 1969 to March 31, 1970) and by a further 32% in FY 1970. For the first time since the downfall of Sukarno, these higher revenues provided a surplus over routine budget expenditures of about Rps. 27 billion in FY 1969 and will provide an estimated Rps. 37 billion in 1970. Together with foreign aid counterpart generations and foreign aid project disbursements, they will finance development budget expenditures keyed to projects and programs in the Indonesian Five Year Plan (1969-1973). The Development Budget has increased from 36 billion rupiahs in 1968 to 91 billion rupiahs in FY 1969/70 and an estimated rise to 116 billion rupiahs FY 1970/71.

10.31 Despite the availability of substantial investment resources, a number of problems remain. The first of these concerns the design and implementation of investment programs. However, recent Indonesian experience in planning and budgeting and the growing volume of available technical assistance and advice hold promise of an improved management of investment resources in the future.

10.32 Secondly, the efficacy of Indonesia's rice program is in doubt following a substantial shortfall in domestic rice procurement in 1969 which caused the Indonesian Government to import over 400,000 metric tons of rice commercially in addition to the 470,000 metric tons provided under foreign aid. Present estimates place Indonesia's rice import requirements for 1970 at a similarly high level. New policies designed to stimulate domestic production and marketing have yet to be fully tested. These include the adoption of an official price support policy at the village level, and changes in the procurement procedures to be followed by BUL, the Government's rice purchasing and distribution agency. The Bimas Goton Rojong (BGR) program under which foreign firms on contract with the government provide farmers a standardized package of production inputs (the farmer repays the GOI in cash or crop equivalent) is to be reassessed with a view to phasing out the program and replacing it with programs providing more intensive extension services and a package of inputs more in tune with individual farmer requirements.

10.33 An exchange rate reform, effective April 17, 1970, promises to make more manageable a third problem -- the precariousness of Indonesia's foreign exchange reserves. At the end of February 1970 gross international reserves amounted to \$115 million, but net reserves (gross reserves less short-term foreign exchange liabilities) were a negative \$77 million, a \$53 million deterioration since February 1969. This worsening in Indonesia's reserve position at the end of 1969 was caused by an unexpected drain on the free (DP) foreign exchange market and the large commercial purchases of rice made by Indonesia at that time. The reform, by merging the two foreign exchange markets and requiring exporters to surrender all export proceeds to the government, makes possible greater government control over foreign-exchange receipts. The rate has been set at Rps. 378 to \$1.00 for all major transactions except aid commodity imports and related services which for the time being will continue to be financed at the 326/1 rate. The new rate represents a partial devaluation for those non-aid importers who had financed their transactions using the BE foreign exchange, while the return to exporters has been improved.

10.34 An important factor in Indonesia's progress since 1966 has been the relief afforded on the substantial Sukarno debt of \$2.1 billion (including interest), about 60% of which is owed to the Soviet bloc. The substantial debt service burden facing Indonesia necessitated annual rescheduling by the

U.S. and other free world donors. In late 1966 agreement was reached with the U.S., France, Germany, Italy, Japan, Netherlands, and the U.K. (the so-called "Paris Club" countries) to reschedule government or government-guaranteed debt in excess of 180 days owed as of June 30, 1966 and falling due by December 31, 1967 in the amount of \$243 million. Similar reschedulings were agreed upon by the Paris Club in 1967 and 1968 for the same class of debts falling due during 1968 and 1969.

10.35 In 1969 an agent of the "Paris Club" creditor countries, Dr. Herman Abs, was requested to investigate and prepare a plan for the overall rescheduling of Indonesia's debts to all countries. April 1970 "Paris Club" discussions brought into light a long-term settlement of the Sukarno debt. The April 1970 agreement calls for non-discrimination among creditor countries, and thus if the Indonesian Government negotiates an arrangement with the Soviet bloc it can not be on more favorable terms than those agreed to by the Western Creditors.

10.36 The Paris agreement provides for repayment of \$1,645 million beginning in 1970. The interest on this debt, \$446 million, would be repaid in 15 yearly installments beginning in 1985. Under the agreement Indonesia has the option to defer until after 1990 the repayment of up to half the principal due in each of the first eight years, up to a \$164 million limit, by paying a 4% deferral interest.

10.37 Past reschedulings left Indonesia with debt service ratios (calculated on the basis of non-oil exports plus net oil export earnings and including post-Sukarno debts) of 12% in 1968 and 8% in 1969. The debt service ratio for 1970 is projected at about 10%. On the assumptions of (1) a conservative 6% growth in exports and (2) further very sizeable inflows of foreign aid on which service payments must be made (Indonesia since mid-1966 has already contracted new obligations, including interest, of \$1.6 billion), and (3) a final settlement of the Sukarno debt, Indonesia's debt service ratio is estimated under 20% in the 1970's and slightly higher in the 1980's. By international standards, these ratios are manageable.

10.38 Given Indonesia's heavy debt service burden, AID's softest terms are appropriate. In view of the soft terms provided under AID loans, the fact that other development assistance is being made available at minimum DAC terms, Indonesia's potential for export expansion, and the agreement reached among the Paris Club for a long-term settlement of the Sukarno debt, the prospects for repayment of the proposed loan appear reasonable. Our assessment of Indonesia's repayment prospects is shared by other G61 donors.

F. Use of U. S. Government Excess Property

10.39 In view of the nature of this project, the importance of performance guarantees, and the multinational character of the financing, the use of U. S. Government excess property would be inconsistent with the project requirements.

G. Alternative Sources of Financing

10.40 This project constitutes a part of the U. S. commitment to Indonesia extended through the Inter-Government Group for Indonesia (IGGI) and is being financed as a multinational undertaking. As such, the availability of financing from other lender nations and institutions has been ascertained within the IGGI framework, and the financing structured so as to provide concessionary terms to the Government in keeping with Indonesian debt service requirements. The project has also been examined by the Ex-Im Bank which advised A.I.D. on April 20, 1970 that it was not interested in providing the necessary financing. (The Ex-Im Bank does not currently make loans or guarantees in excess of one year in Indonesia.)

XI. LEGAL FRAMEWORK

11.01 The legal framework for the project will be created by the execution of the following agreements:

Between IDA and the Government:

Development Credit Agreement making available the proceeds of the IDA credit to the Government, setting forth the Government's obligation with respect to parts A and B of the project, and providing for repayment of the IDA credit.

Project Agreement setting forth PUSRI's obligations with respect to Part A of the project.

Project Agreement setting forth PERTAMINA's obligations with respect to Part B of the project.

Between ADB and the Government:

Legal instruments paralleling those set forth above.

Between the Overseas Economic Cooperation Fund of the Government of Japan and the Government:

Loan Agreement making available the proceeds of the OECF loan to the Government, setting forth the Government's obligation with respect to Part A of the project, and providing for repayment of the OECF loan.

Among A.I.D., the Government, and PUSRI:

Standard A.I.D. Loan Agreement making available the proceeds of the A.I.D. loan for Part A of the project to the Government for reloan to PUSRI, setting forth both the Government's obligation with respect to Part A and Part B of the project, PUSRI's obligation with respect to Part A of the project, and providing for repayment by PUSRI of the Government's subloan to PUSRI and repayment by the Government of the A.I.D. loan.

Between the Government and PUSRI:

Financing Agreement making available to PUSRI part of the proceeds of the loans of the several lenders and providing for repayment by PUSRI to the Government of such portion of the financing as is reloaned to PUSRI.

Between the Government and PERTAMINA:

Subsidiary Loan Agreement making available to PERTAMINA part of the proceeds of the loans of the several lenders (i.e., IDA and ADB) and providing for repayment by PERTAMINA to the Government of such financing as is reloaned to PERTAMINA.

Between PUSRI and PERTAMINA:

Gas Purchase Contract setting forth the price, terms and conditions on which PERTAMINA will supply natural gas to PUSRI over a 20-year period on a take-or-pay arrangements.

Among the Several Lenders and Borrowers:

Memorandum of Agreement Regarding Project Execution, Procurement and Use of Loan Funds setting forth the procedural framework for project implementation.

Between the Government and the Several Lenders:

Letter from the Government to each lender setting forth the Government's policies in certain agriculturally-related areas relevant to the project, and the measures which it is at present adopting, or which it proposes to adopt to implement these policies.

Letter from the Government to each lender setting forth measures which it proposes to take prior to completion of the project with respect to the distribution and marketing of the urea fertilizer to be produced.

11.02 Each of the lending agreements to the Government contain substantially the same conditions, although different terms, and mutual default provisions (i.e., a default of any agreement constitutes a default of all agreements). The terms being extended by the respective lenders to the Government are the minimum terms permitted the lender and in keeping with the overall agreements reached under the IGGI. The effectiveness of each loan and credit agreements being extended to the Government is conditional upon the effectiveness of all other loan and credit agreements being extended to the Government in the amounts and on substantially the terms and conditions contemplated in this paper.

XII. LOAN TERMS, CONDITIONS AND COVENANTS

A. Loan Terms.

12.01 The A.I.D. loan will be extended to the Government at minimum statutory terms of 40 years with a 10-year grace period on the repayment of principal and interest at 2% per annum during the grace period and 3% per annum thereafter.

12.02 The Government will reloan the proceeds of the A.I.D. loan to PUSRI for use by PUSRI for Part A of the project at the following terms: 16½ years, including a 4½ year grace period on the repayment of principal with interest at 12% per annum. Interest during construction and start up (first 3½ years) will not be compounded, and interest payable at the end of the period will be capitalized as further described below.

12.03 In accordance with the financing plan set forth in paragraphs 6.06-6.12, the Government will make available to the project \$68 million from the co-lenders (including the A.I.D. loan) and \$16.7 million being provided by the Government itself -- a total of \$84.7 million. 1/ Of this amount, \$2.0 million will be set aside for management assistance during the start-up period, and the balance of \$82.7 million capitalized and made available to PERTAMINA and PUSRI. 2/ PERTAMINA will receive \$15.1 million in the form of a loan for 23 years including a 3-year grace period and interest at 12% per annum.

12.04 PUSRI will receive \$67.6 million -- \$6.1 million as equity, \$48.3 million (which includes the A.I.D. loan) as a senior loan, and \$13.2 million as a junior loan.

12.05 The \$13.2 million junior (Class B) loan to PUSRI will have the following terms:

- (i) Interest at the rate of 12% per annum on the principal amount outstanding, interest to accrue from May 1, 1974, and payable semi-annually on May 1 and November 1 of each year starting November 1, 1974;
- (ii) The principal shall be repaid by PUSRI in 20 equal semi-annual installments commencing May 1, 1977, and ending November 1, 1986;
- (iii) Payment of such portion of the interest, or of the principal and interest, due on any interest payment date as shall exceed the amount by which the quick assets of PUSRI shall exceed the current liabilities of PUSRI at the close of business of the calendar semester immediately preceding such interest payment date shall be deferred and shall be added to the interest, or interest and principal, due on the next interest payment date, subject to further deferral in accordance with this paragraph;

1/ The Government's contribution is composed of a cash contribution of \$10.3 million and capitalized construction interest of \$6.4 million. The latter arises from the second step interest on the senior debt to PUSRI and the loan to PERTAMINA.

2/ The \$2.0 million set aside for management assistance can be viewed, in effect, as (see page 46)

- (iv) For the purposes of paragraph (iii) above: (a) the term "quick assets" shall mean cash, securities readily convertible into cash and trade receivables realizable within one year; (b) the term "current liabilities" shall mean liabilities due and payable and all other liabilities which would be due and payable, or could be called for payment, within one year including the portion of long term indebtedness falling due within one year, provided, however, that any interest on, or principal of, the Class B loan due on the next interest payment date following the determination of current liabilities (including any amounts deferred pursuant to paragraph (iii) above) shall not be included among such liabilities.

12.06 In order to minimize the not-inconsequential costs of construction interest, it is desirable to allocate PUSRI financing first to equity, then to the junior loan, which waives interest payments during construction and start up; and finally to the senior loan, which requires interest payments but permits them to be capitalized. Such capitalized interest during the 3½-year construction and start-up period will amount to about \$5.3 million. However, as A.I.D., alone among the lenders, makes provision for the use of second step loan repayments in developmental projects mutually agreed upon with the Government, it was desired to attribute the A.I.D. financing to the senior loan which would permit a more certain accrual of interest and principal repayments. Yet A.I.D. has been preallocated the general construction contract, which will be one of the first let and thus would increase the construction interest payments referred to above. To accommodate both desires, the following terms for the \$48.3 million senior (Class A) loan have been agreed to in principle among the several lenders and borrowers:

- (i) Interest at the rate of 12% on the principal amount outstanding from time to time and shall be repaid in 24 approximately equal semi-annual installments commencing on May 1, 1975, and ending on November 1, 1986, on the basis of constant annuities of principal and interest over such period to be determined as soon as the Class A loan has been fully withdrawn, provided that if any of the proceeds of the A.I.D. loan are disbursed before \$6.1 million has been allocated to equity and \$13.2 million has been allocated to the junior (Class B) loan, no interest shall accrue on the amount of the A.I.D. loan outstanding;
- (ii) Payment of interest accrued on the Class A loan up to November 1, 1973 will be deferred without interest until such date, and the amount of interest so deferred shall, on that date, be added to the principal amount of the Class A loan to be repaid in accordance with paragraph (i) above;
- (iii) Interest shall be paid semi-annually on May 1 and November 1 of each year, commencing on May 1, 1974;
- (iv) All payments of interest and principal which relate to the proceeds of the A.I.D. loan shall be made to the Government by PUSRI;
- (v) All payments of interest and principal made to the Government by PUSRI which relate to the proceeds of the A.I.D. loan shall be deposited in a special account and such funds may be used only as may be agreed upon by A.I.D. and the Government.

2/ (cont) an additional contingency for the project. While management assistance is definitely a part of the project, it may be able to be financed from the \$10.4 million contingency being capitalized. If needed to complete the project, the \$2.0 million will be made available by the Government on terms to be negotiated with the beneficiaries. In either case it will not effect the terms or amount of the A.I.D. loan.

B. Loan Conditions and Covenants.

12.07 The A.I.D. Loan Agreement will contain conditions precedent to disbursement and particular covenants and warranties which will be substantially the same in the agreements of the other lenders. Agreement was reached with the Government, PUSRI and PERTAMINA during the IDA/ADB loan negotiations in Washington on all points.

12.08 Conditions Precedent to Disbursement for the First Eligible Item. Unless A.I.D. otherwise agrees in writing, prior to the issuance of the first letter of commitment or other commitment document, the Government or PUSRI as appropriate, shall furnish A.I.D., in form and substance satisfactory to A.I.D.:

a. An opinion of the Minister of Justice of the Government that the loan agreement has been duly authorized or ratified by, and executed on behalf of, the Government and is a valid and legally binding obligation of the Government in accordance with its terms;

b. An opinion of the principal legal officer of PUSRI or of other legal counsel satisfactory to A.I.D. and the other lenders, that the loan agreement has been duly authorized or ratified by and executed on behalf of PUSRI and is a valid and legally binding obligation of PUSRI in accordance with its terms;

c. The names of the persons who will act as the representatives of the Government and PUSRI, together with evidence of their authority and a specimen signature of each such person, certified as to its authenticity by either the persons rendering the legal opinion or the persons executing the loan agreement;

d. Executed copies of each of the co-lending agreements of the other lenders for the project, together with evidence that all conditions precedent to their effectiveness or the right to make withdrawals thereunder shall have been fulfilled;

e. An executed copy of the Gas Purchase Agreement between PUSRI and PERTAMINA for the supply of gas to PUSRI by PERTAMINA, together with legal opinions of the principal legal officers of PUSRI and PERTAMINA, or of legal counsel satisfactory to A.I.D. and the other lenders, that the Gas Purchase Agreement has been duly authorized or ratified by, and executed on behalf of, PUSRI and PERTAMINA and is fully effective and binding on the parties thereto in accordance with its terms, subject only to the effectiveness of the loan agreement and the other co-lending agreements;

f. An executed copy of the PUSRI Financing Agreement, together with opinions of the Minister of Justice of the Government and the principal legal officer of PUSRI, or other legal counsel satisfactory to A.I.D. and the other lenders, that the agreement has been duly authorized or ratified by, and executed and delivered on behalf of, the parties thereto and constitutes valid and binding obligations of the parties thereto, subject only to the effectiveness of the loan agreement and the other co-lending agreements;

g. Evidence of the arrangements that have been agreed upon by A.I.D. and IDA with the concurrence of PUSRI for the procurement by PUSRI of Eligible Items;

h. Copies of all procurement documents, including an invitation for bid, notification of award, and the resulting contract, in such form and at such time as A.I.D. shall specify.

i. Evidence that the Government shall have retained the services of consultants, acceptable to A.I.D. and the other lenders, on terms and conditions acceptable to A.I.D. and the other lenders, for the carrying out of the National Fertilizer Study;

j. Advice from the IDA and ADB that the procurement of equipment, material and services for Part B of the project is proceeding satisfactorily.

12.09 Conditions Precedent to Disbursement for any other Eligible Item. Unless A.I.D. otherwise agrees in writing, prior to the issuance of any letter of commitment or other commitment document, except that which shall be issued for procurement of the first Eligible Item, PUSRI shall furnish A.I.D.:

a. Copies of all procurement documents, including invitations for bid, notifications of award, and the resulting contracts, in such form and at such time as A.I.D. shall specify.

12.10 Particular Covenants and Warranties Concerning the Project. The Government will covenant and agree that it shall:

a. Cause PUSRI to carry out Part A of the project in accordance with the terms and conditions of the A.I.D. loan agreement, and cause PUSRI and PERTAMINA to carry out their respective parts of the project in accordance with the co-lending agreements and the Gas Purchase Agreement; and take all reasonable action which shall be necessary to enable PUSRI and PERTAMINA to carry out their respective parts of the project in conformity therewith.

b. Make available to PUSRI the proceeds of the A.I.D. loan and the joint loans as may be required to carry out Part A of the project, together with such Indonesian currency and foreign exchange over and above the proceeds of the A.I.D. loan and the joint loans as may be required to carry out Part A of the project. (Paras. 6.07 to 6.11)

c. Except as A.I.D. and the other lenders shall otherwise agree, not take or concur in any action the effect of which would be to modify the financial obligations of the parties under the PUSRI Financing Agreement.

d. Lend to PERTAMINA in accordance with the terms and conditions of the Pertamina Subsidiary Loan Agreement such proceeds of the joint loans as may be required to carry out Part B of the project, together with such Indonesian currency and foreign exchange over and above the proceeds of the joint loans as may be required to carry out Part B of the project, (Paras. 6.07 to 6.11)

e. Except as the lenders other than A.I.D. shall otherwise agree, not take or concur in any action the effect of which would be to modify the financial obligations of the parties under the Pertamina Subsidiary Loan Agreement,

f. Cause the National Fertilizer Study to be carried out with due diligence and efficiency and to be completed not later than fifteen months from the date a contract is executed with consultants for the carrying out of the study. Upon completion the Government shall, as soon as practicable, consult with A.I.D. and the other lenders regarding the findings and recommendations arising from this study, and shall take such action required to implement such recommendations as shall be agreed upon by the Government, A.I.D., and the other lenders. (Paras. 2.17 and 7.11)

g. So long as the Government shall own or control the majority of the voting rights in the meetings of shareholders of PUSRI, and before nominating or voting for the election of any member of the Board of Management (Direksi) and the Board of Directors (Dewan Komisaris) of PUSRI, inform A.I.D. and the other lenders of the names and qualifications of the persons it proposes to nominate and/or for whose election it intends to vote, and if so requested by A.I.D. and the other lenders, exchange views with said lenders regarding such proposals. (Paras. 3.02 to 3.12, 5.11 to 5.14, 7.09)

h. Reserve or cause PERTAMINA to reserve the gas resources required for the supply of gas to PUSRI pursuant to the Gas Purchase Agreement. (Para. 4.10)

i. Promptly as needed, take all measures which may be necessary or desirable to assist PUSRI to build up and maintain an effective and economic marketing organization for its fertilizer products and to stimulate the sale of such products at competitive prices in accordance with sound commercial practices. Such measures shall include a rice price support program or other programs which will encourage farmers to make optimum use of nitrogenous fertilizer at such prices, and the provision to PUSRI's distributors, in the period preceding completion of the project, of supplies of imported nitrogenous fertilizer sufficient to enable PUSRI to carry out its marketing expansion program. (Paras. 2.16, 2.21, and 7.07)

j. Consult with A.I.D. and the other lenders before undertaking or approving the undertaking of any other nitrogenous fertilizer project in its territories. (Para. 2.22)

12.11 Particular Covenants and Warranties Concerning PUSRI,
PUSRI will covenant and agree that it shall;

- a. Carry out Part A of the project, or cause Part A to be carried out, with due diligence and efficiency, and in conformity with sound engineering, construction, financial, administrative and management practices,
- b. Submit through IDA all plans, specifications, contracts, schedules, and engineering, construction or procurement arrangements for Part A of the project, and all modifications thereof, to A,I,D, and the other lenders for said lenders' approval prior to their execution or implementation; and carry out Part A in conformity therewith, (Para. 5,20)
- c. Adequately maintain, repair and operate, in accordance with sound commercial practices, all Eligible Items and any construction or facility resulting from their use,
- d. Employ qualified and experienced consultants for the purpose of assisting PUSRI's management in (i) the carrying out of Part A (1) of the project, (ii) the development of training programs for PUSRI's personnel to operate the plant and related facilities included in Part A of the project, (iii) the packaging and marketing of PUSRI's products and (iv) management planning, financial control, accounting and executive staff training at least during the construction, start-up and initial operation of Part A of the project, (Paras. 5,08, 5,11, 5,12, 7,05 and 7,08)
- e. Employ qualified and experienced contractors for the design, procurement and construction of all works included in Part A of the project and to arrange for training of PUSRI's personnel in operating the plant and related facilities included in Part A of the project, (Para. 5,15)
- f. Except as A,I,D, and the other lenders shall otherwise agree, duly perform all its obligations under the Pusri Financing Agreement and take no action, or concur in any action which would have the effect of modifying the financial obligations of the parties under the Pusri Financing Agreement,
- g. Take all action within its power to maintain its existence as a limited liability corporation under Indonesian law and maintain its right to carry on its operations, and to retain such land, interest in land and properties, and to acquire, maintain and renew such licenses, powers, franchises and other rights as may be necessary or useful in the carrying out of Part A of the project or in the conduct of its business. (Paras. 3,10 to 3,12)

- h. Except as A,I,D, and the other lenders shall otherwise agree, not sell, lease, transfer or otherwise dispose of any of its property or assets, except in the normal course of business.
- i. Except as A,I,D, and the other lenders shall otherwise agree, not acquire or establish any subsidiary. For the purposes of this paragraph, the term "subsidiary" shall mean an entity of which a majority of the outstanding voting stock shall be owned, or which shall otherwise be effectively controlled, by PUSRI or by one or more subsidiaries of PUSRI or by PUSRI and one or more of its subsidiaries.
- j. Except as A,I,D, and the other lenders shall otherwise agree, not make expenditures, or commitments for expenditures, for fixed or capital assets (including investments in or loans to other business entities) until such date as on which PUSRI's plant included in the project shall have produced an aggregate of 300,000 metric tons of urea during the 12-month period preceding that date, except:
 - (i) expenditures, or commitments for expenditures required for the repair, maintenance or replacement of assets;
 - (ii) investment in short term marketable securities solely for the purpose of temporarily employing its idle funds;
 - (iii) expenditures, or commitments for expenditures, required for carrying out Part A of the project;
 - (iv) other expenditures, or commitments for expenditures, not exceeding in the aggregate the equivalent of \$500,000 in any fiscal year. (Paras. 8,02 to 8,07)
- k. Except as A,I,D, and the other lenders shall otherwise agree, not incur any indebtedness (other than that stipulated in the Pusri Financing Agreement) if, after the incurring of such indebtedness, the indebtedness of PUSRI then incurred and outstanding would be greater than the equity of PUSRI. For purposes of this section:
 - (i) the term "indebtedness" shall mean all indebtedness incurred by PUSRI, including indebtedness assumed or guaranteed by PUSRI but excluding short term debt incurred in the ordinary course of its business;
 - (ii) indebtedness shall be deemed to be "incurred" under a contract or loan agreement, on the date it is drawn down, pursuant to such contract or loan agreement, and under a guaranty agreement, on the date the agreement providing for such guaranty shall have been entered into;
 - (iii) the term "equity" shall mean the aggregate of the unimpaired paid in capital of PUSRI and the unallocated surplus in reserves not set apart for any specific purpose;

(iv) whenever in connection with this section it shall be necessary to value in terms of Indonesian currency debt repayable in a foreign currency, such valuation shall be made on the basis of the prevailing lawful rate of exchange at which such foreign currency could be obtained by Pusri at the time of such valuation. (Paras. 8,02 to 8,07)

l. Except as A.I.D. and the other lenders shall otherwise agree, make accounting arrangements to;

- (i) fully depreciate its present depreciable fixed assets relating to manufacturing operations by the end of 1975, and
- (ii) fully depreciate those depreciable fixed assets to be constructed under Part A of the project relating to manufacturing operations over a 12-year period starting at the close of the fiscal year during which such assets will have been placed into service, and
- (iii) fully depreciate other depreciable fixed assets in conformity with consistently maintained sound financial principles. (Paras. 8,02 to 8,07)

m. Except as A.I.D. and the other lenders shall otherwise agree;

- (i) not declare any dividend or make any distribution with respect to its capital shares except out of its accumulated net earnings;
- (ii) not pay any dividend or make any other distribution with respect to its capital shares (other than dividends or distributions payable solely in such capital shares) or purchase, redeem or otherwise acquire directly or indirectly for any consideration, any of such capital shares if, after giving effect to such action, the quick assets of PUSRI (as defined below) would be less than the current liabilities of PUSRI (as defined below);
- (iii) not pay any dividend or make any other distribution with respect to its capital shares until such date as on which PUSRI's plant included in the project shall have produced an aggregate of 300,000 metric tons of urea during the 12-month period preceding such date.

For purposes of this section;

- (a) the term "quick assets" shall mean cash, securities readily convertible into cash and trade receivables realizable within one year;
- (b) the term "current liabilities" shall mean liabilities due and payable and all other liabilities which would be due and payable, or could be called for payment, within one year including the portion of long term indebtedness falling due within one year. (Paras. 8,02 to 8,07)

- n. Perform its obligations under the Gas Purchase Agreement and, except as A.I.D. and the other lenders shall otherwise agree, not take, or concur in, any action which would have the effect of amending, abrogating, assigning or waiving the Gas Purchase Agreement or any provision thereof. (Para. 8.01)
- o. Make all reasonable efforts prior to operation of the plant included in Part A of the project and thereafter, to improve its arrangements and facilities for marketing its fertilizer products and to develop and maintain an effective efficient marketing organization. (Para. 7.08)

12.12 The A.I.D. loan, and those of the other lenders, are premised on reasonable evidence that PUSRI has the capacity to develop necessary distribution and marketing arrangements to handle the increased quantities of urea fertilizer which will be manufactured by the expanded facilities, and that the Indonesian agriculture sector has the capacity to absorb and to utilize effectively such increased amounts. It is clearly recognized in this paper that substantial measures will have to be undertaken by both PUSRI and the Government to bring about these increased capacities, and the loan has been so structured as to provide reasonable assurance of this result. A key factor in this regard will be the National Fertilizer Study being financed by the UNDP and implemented by the IBRD, which is just getting underway. As noted above, important loan covenants deal with both the conduct of this study and the implementation of its recommendation.

12.13 Another key factor bearing on this problem is the attitude of the Government, and the policies and measures it takes to create the framework for increased fertilizer usage. Perhaps the most significant step taken to date (and one strongly advocated by A.I.D.) is the establishment of a rice price policy to stabilize the rice market and provide proper incentive for greater rice production and usage of fertilizer. (See Annex 21.)

12.14 As a precondition of the project the lenders requested and will receive from the Government official letters setting forth the Government's existing and future policies with respect to agriculture and the distribution and marketing of fertilizer. These statements were the subject of discussions among the several lenders and borrowers at the time of the IDA/ADB negotiations and have been agreed to in principle by all concerned. They will be directly referenced in the A.I.D. loan agreement, and, as such, will constitute the Governmental policy framework sustaining this project. Draft copies of the two letters are included in this paper as Annexes 21 and 22 and are described in Paragraph 11.01.

12.15 The A.I.D. loan agreement will also contain the following terminal dates for actions required under the loan:

- (a) Fulfillment of conditions precedent to disbursement for the first Eligible Item - four months from the execution of the loan agreement.
- (b) Receipt of requests for letters of commitment or other commitment documents - 42 months from the execution of the loan agreement.
- (c) Receipt of documentation for disbursements - 48 months from the execution of the loan agreement.

XIII. LOAN IMPLEMENTATION

A. Procurement Procedures

13.01 Sections 5D and 5E of this paper describe the general plan for project management and execution, and for procurement of the necessary materials and services. This plan was devised and adopted in principal by all parties concerned during the IDA/ADB Washington negotiations, and has been formalized in a "Memorandum of Agreement Responding Project Execution, Procurement and Use of Loan Funds" attached as Annex 20. It is expected that this Memorandum will be formally agreed to by each lender and borrower at such time as the respective loan agreements are executed, and thus will constitute the basis for the physical implementation of the project.

13.02 The procurement plan reconciles, to the extent possible, four key considerations:

- i. Amount and source of the separate loans;
- ii. Amount and source of the tied procurement (representing 56% of foreign financing);
- iii. Most economic and effective use of the available financing;
- iv. Special lender procurement procedures and regulations;

and provides reasonable assurance that the financing being provided by the respective lenders will be in their own interests, in compliance with their assistance procedures, and result in an economic undertaking for PUSRI. It assures the United States of a major identifiable segment of the project (the general construction contract), compliance with the standard AID procurement requirements, and a favorable impact on our balance of payments. (see Section X D).

13.03 The first contract contemplated by the Memorandum is that of the Technical Advisor. One of his first tasks will be to prepare on the basis of the Memorandum, and of further information to be provided by the lenders as to their specific procurement requirements, a detailed description of the procurement procedures to be followed in implementing the project.

13.04 Leadership and coordination of the project has been, and will continue to be, by the IDA acting in conjunction with the ADB. AID will function as a bilateral lender with respect to such matters as satisfaction of conditions precedent, adherence to loan agreement

covenants, and inspections, but will channel other loan implementation matters, such as procurement coordination, through the IDA/ADB. Necessary AID approvals of procurement documents and awards will be made in this manner.

B. Construction and Disbursement Timetables

13.05 As indicated in paragraph 5.21, project construction is estimated to be completed 30 months after the general construction contract is awarded. The project schedule, presented in Annex 7, projects that this contract will be awarded in January 1971 and construction will be completed in June 1973. Under FDA procedures, a solicitation of interest had already been sent to prequalified firms experienced in modern ammonia/urea plan technology to act as Technical Advisor to PUSRI. The selection procedure should be completed and this contract awarded by July 1970. With this timing, the Annex 7 schedule would be delayed by about three months, pushing project completion to October 1973.

13.06 Because only about half of the AID financing has been pre-allocated to specific items - the balance to be attributed on the basis of future awards to U. S. suppliers resulting from international competition - it is not possible to project with any reasonable accuracy the drawdown of the AID loan. However, it is reasonable to expect that the U. S. general construction contractor will require mobilization payments in the second quarter of CY 1971, and that the balance of his contract would be disbursed evenly over the life of the construction. Assuming that the balance of the AID loan is evenly drawn down over the project life but there is some bunching of withholding payments at the end of construction, the following disbursement schedule is estimated.

<u>Calendar Year</u>	<u>Drawdown in Millions</u>
1970	\$ -
1971	\$ 8
1972	\$ 6
1973	\$ 6
	<u>\$20</u>

INDONESIA - PUSRI FERTILIZER PROJECT

Rice Production
Definition of Terms

Dry Stalk Paddy (or Padi)

The harvested rice plant with grains of rice still attached to the stalk, the whole having been air dried but not threshed.

Paddy (or Padi, gabah, rough, raw, unhulled)

Harvested rice grains which have been separated from the stalk by thrashing but before any other treatment.

Brown (or Cargo)

Paddy with the hulls removed.

Milled (or cleaned, white, bera)

Brown rice which has been put through a milling process.

Yield from Paddy

This varies in different countries and in different regions of the same country. It also varies with the care used in thrashing and milling.

In Indonesia the following yields are typical and will be used in this report:

100 tons of dry stalk Paddy	=	80 tons of Paddy
		62 " " Brown
		52 " " Milled
100 tons of Paddy	=	77 " " Brown
		65 " " Milled

ANNEX 2

INDONESIA - PUSRI FERTILIZER PROJECT

The BIMAS and INMAS Programs

In 1963 the Government of Indonesia began the BIMAS ^{1/} Program under which selected blocks of farmers were offered a package of inputs on the basis of a group credit against collective collateral security. These block credits were tied to the use of subsidized inputs of fertilizers, insecticides and sprayers and included also a cost of living allowance for the participating farmers. A variant of this scheme (BIMAS BARU) also included seeds of the high-yielding PB variety, and to reflect the higher fertilizer response potential of these rice varieties, the fertilizer applications prescribed under this scheme were adjusted accordingly. It was further envisaged that after the provision of BIMAS-type credits for one or two seasons, the farmer would be able and willing to take advantage of a follow-up program (INMAS) under which the same type of package would be available, but without block credit and without the intensive extension advice supposedly attached to the provision of the BIMAS package. After a successful, small beginning in 1963 the area covered by BIMAS schemes increased rapidly from 172,000 ha in the wet season of 1965/66 to 489,000 ha in 1967/68. In addition, the INMAS Program is said to have covered an additional 568,000 ha in 1967/68.

Intent upon a still larger coverage of the wet rice area by BIMAS-type programs and increasingly aware of some of the logistical inefficiencies of the ongoing programs, the Government of Indonesia embarked in 1968/69 upon an alternative form of implementing mass guidance programs (BIMAS GOTONG ROJONG). Under a contract with the Government, first one and in the next season several foreign companies undertook to supply, distribute and finance BIMAS-type inputs. In close parallel to the BIMAS program the foreign companies each provide a designated block of farmers with fertilizer, insecticide, spraying services, cost of living allowances and extension advice. Farmers within these program areas receive the generally prescribed inputs in kind, without having to provide collective collateral security, and payment is provided for by the delivery of one-sixth of the respective paddy crop to the Government rice procurement agency (BULOG). In the coming crop year the farmer will have to pay for the input package received either in cash or in rice converted at a price equivalent to Rp. 26 per kg. of milled rice. Recent experience has led to a reshaping of the program for food self-sufficiency as described in more detail in the Bank's Economic Report.

^{1/} Abbreviation for "Bimbingan Massal Swa Sembada Bahan Makanan" literally means "guidance for self-sufficiency in foodstuffs".

P.T. PUPUK SRIWIDJAJA

Summary of Earnings from Inception to June 30, 1969 -- (unaudited)
(Rp million)

	Inception to Dec. 31/65	Year ended December 31			Six months ended June 30/69
		1966	1967	1968	
Production ((tons)					
Volume of sales ((tons)	2207,391	93,015	93,337	95,528	37,955
Sales	2202,013	89,881	88,822	82,447	44,353
Cost of sales	111,171	166	839	11,740	1,195
(Gross profit	<u>6,297</u>	<u>83</u>	<u>513</u>	<u>1,101</u>	<u>978</u>
Selling expenses	14,874	83	296	639	127
(Operating profit	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>97</u>
Other income and expenses	14,874	83	296	639	330
(Pre-tax earnings	<u>333</u>	<u>66</u>	<u>111</u>	<u>((66))</u>	<u>1124</u>
Provision for income tax	14,907	89	1407	573	1154
(Net earnings	<u>—</u>	<u>—</u>	<u>—</u>	<u>344</u>	<u>92</u>
Currency devaluation	14,907	89	1407	229	662
(Contribution to Indonesian Development Fund	<u>((4,902))</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
(Retained earnings	<u>14</u>	<u>89</u>	<u>1407</u>	<u>229</u>	<u>662</u>
Depreciation and amortization:					
Depreciation of property, plant and equipment	9915	145	1180	1408	2206
Amortization of start-up cost	1430	16	75	104	55
(Less currency devaluation	<u>11,345</u>	<u>61</u>	<u>255</u>	<u>512</u>	<u>261</u>
	<u>11,345</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Operating earnings/Net sales %	<u>—</u>	<u>61</u>	<u>255</u>	<u>512</u>	<u>261</u>
Net earnings/Net sales %	113.6%	50.0%	35.3%	36.7%	2.7%
	00.0%	53.6%	13.5%	13.2%	5.6%

ANNEX 3

NOTE: Prepared by Peat, Marwick

ANNEX 4P.T. PUEUK SRIWIDJAJAEffect of Revaluations and Currency Devaluation on
PUSRI's Fixed Assets
(in Rp million)

	<u>Fixed</u> <u>assets</u>	<u>Deferred</u> <u>start-up</u> <u>expenses</u>	<u>Total</u>
Original Cost	13,243	2,305	15,548
Revaluations	9,831	1,182	11,013
Less currency devaluation	<u>(13,074)</u>	<u>(2,303)</u>	<u>(15,377)</u>
<u>Adjusted original cost (A)</u>	10,000	1,184	11,184
Nominal value of cumulative depreciation/ amortization	1,755	681	2,436
Adjustment for revaluations	1,674	332	2,006
Less adjustment for currency devaluation	<u>(915)</u>	<u>(430)</u>	<u>(1,345)</u>
<u>Adjusted depreciation/amortization (B)</u>	2,514	583	3,097
<u>Net book value as of June 30, 1969 (A)-(B)</u>	<u>7,486</u>	<u>600</u>	<u>8,086</u>

Note: Prepared by Peat, Marwick

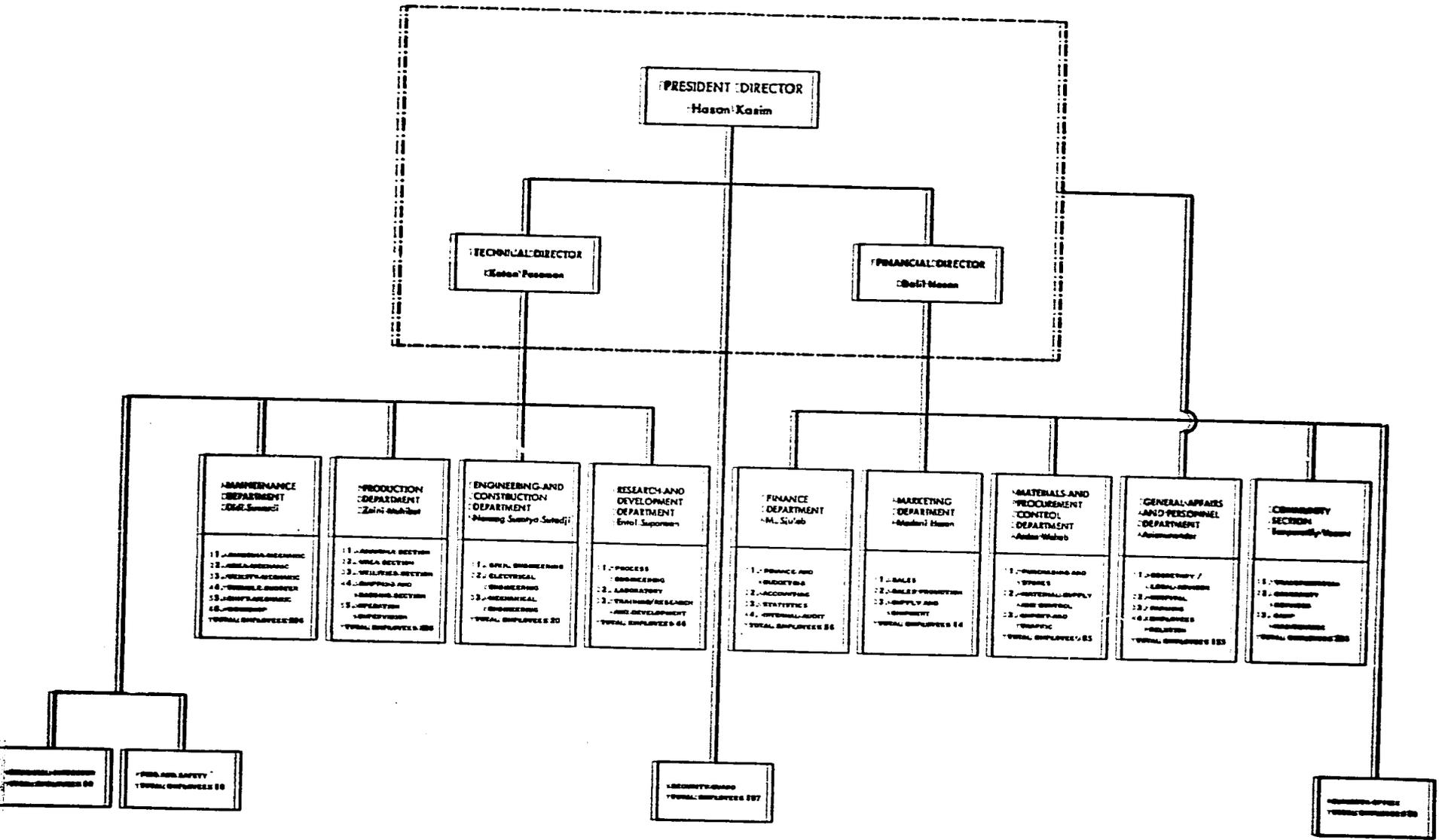
P.T. PUPUK SRIWIDJAJA

Balance Sheets as of December 31, 1968 (audited), June 30, 1969 and January 3, 1970 (unaudited) - (Rp million),

	<u>Dec. 31/68</u>	<u>June 30/69</u>	<u>Jan. 3/70</u>
<u>Current Assets</u>			
Cash	320	262	312
Accounts receivable:			
Trade	231	563	937
Other	176	164	249
Inventories:			
Finished products	781	655	124
Import Fertilizer	=	=	26
Materials and spare parts	1,497	1,882	1,238
Prepaid expenses	26	6	6
<u>Total current assets</u>	<u>3,034</u>	<u>3,532</u>	<u>2,892</u>
<u>Current Liabilities</u>			
Accounts payable	443	383	138
Other	36	28	11
<u>Total current liabilities</u>	<u>479</u>	<u>411</u>	<u>149</u>
<u>Net working capital</u>	<u>2,552</u>	<u>3,121</u>	<u>2,743</u>
<u>Fixed Assets</u>			
Property, plant and equipment	9,369	10,000	3,881
Less allowance for depreciation	2,173	2,514	=
<u>Net property, plant and equipment</u>	<u>7,196</u>	<u>7,486</u>	<u>3,881</u>
Deferred Start-up Expenses	1,093	1,183	=
Less provision for amortization	484	583	=
<u>Net start-up expenses</u>	<u>609</u>	<u>600</u>	<u>=</u>
Other Assets	315	488	399
Less pension fund etc.	=	=	17
<u>Total capitalization</u>	<u>10,672</u>	<u>11,695</u>	<u>7,006</u>
<u>Equity</u>			
Contributed capital	17,731	17,731	7,000
Less currency devaluation	17,713	17,713	=
<u>Net contributed capital</u>	<u>18</u>	<u>18</u>	<u>7,000</u>
Surplus arisen from Revaluation of Assets	9,923	10,885	=
Retained earning	731	792	6
<u>Total net worth</u>	<u>10,672</u>	<u>11,695</u>	<u>7,006</u>
Quick ratio	1.5:1	2.3:1	10:1
Current ratio	6.3:1	8.6:1	19.4:1

NOTE: Fixed Assets Reduced from Rp 7,486 million as of June 30, 1969 to Rp 3,881 million as of January 3, 1970, on account of assets written off and depreciation changes.

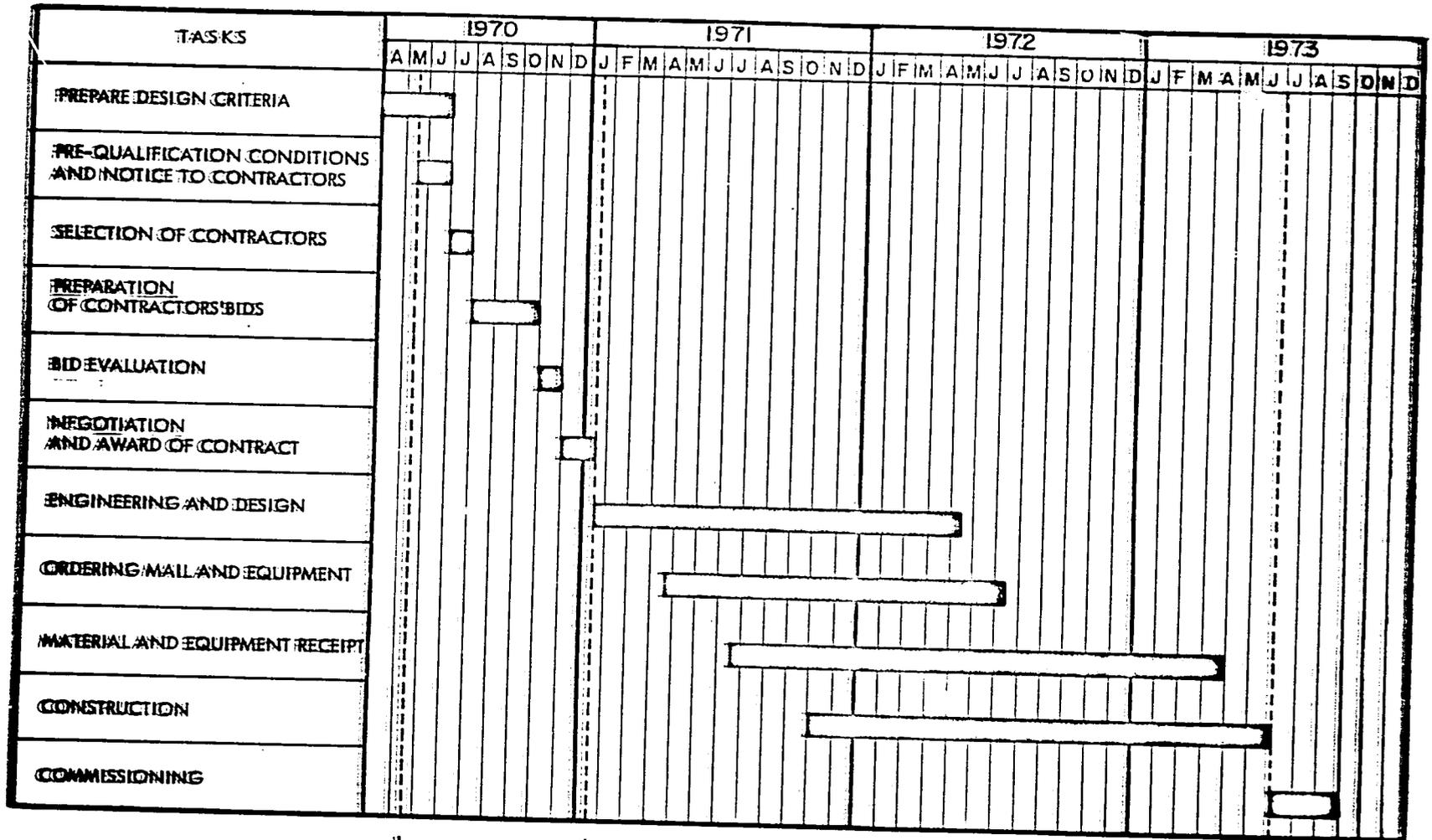
INDONESIA
 ORGANIZATION CHART OF P.N. PUPUK SRIWIDJAJA
 (AS OF JULY 31, 1969)



(Total number of employees) 1,327.

ANNEX 6

INDONESIA
P. T. PUPUK SRIWIDJAJA
 TENTATIVE PROJECT SCHEDULE



REF. 4201 (7/6)

P.T. PUPUK SRIWIDJAJA

Project Cost Estimates for the Fertilizer Plant Expansion

	Indonesia rupiahs			U.S. dollars			<u>% of total expenditures</u>
	Foreign exchange	Local currency (in millions)	Total	Foreign exchange	Local currency (in millions)	Total	
<u>Imported Equipment</u>							
Ammonia plant	2,576	-	2,576	7.9	-	7.9	10.7
Urea Plant	1,956	-	1,956	6.0	-	6.0	8.1
Utilities, including CO ₂ removal	2,347	-	2,347	7.2	-	7.2	9.8
Spare parts ^{1/}	717	-	717	2.2	-	2.2	3.0
Other	619	-	619	1.9	-	1.9	2.6
Sub-total	8,215	-	8,215	25.2	-	25.2	34.2
<u>Construction Cost</u>							
Civil works	1,141	978	2,119	3.5	3.0	6.5	8.8
Plant installation	782	652	1,434	2.4	2.0	4.4	6.0
Wharf extension	196	130	326	0.6	0.4	1.0	1.4
Construction equipment	261	196	457	0.8	0.6	1.4	1.9
Housing colony	33	261	294	0.1	0.8	0.9	1.2
Sub-total	2,413	2,217	4,630	7.4	6.8	14.2	19.3
<u>Services</u>							
Engineering	1,793	-	1,793	5.5	-	5.5	7.5
Procurement	391	-	391	1.2	-	1.2	1.6
Project management	717	-	717	2.2	-	2.2	3.0
Sub-total	2,901	-	2,901	8.9	-	8.9	12.1
<u>License Fees</u>							
	652	-	652	2.0	-	2.0	2.7
Total	14,181	2,217	16,398	43.5	6.8	50.3	68.3
Contingency 10%	1,402	288	1,690	4.3	0.7	5.0	6.8
Recalculation	1,467	293	1,760	4.5	0.9	5.4	7.3
Pre-operating expenses ^{2/}	915	456	1,401	2.9	1.4	4.3	5.8
Total	17,995	3,194	21,189	55.2	9.8	65.0	88.2
<u>Interest during construction</u>							
	-	1,729	1,729	-	5.3	5.3	7.2
Net working capital ^{3/}	489	619	1,108	1.5	1.9	3.4	4.6
<u>Grand Total</u>	18,484	5,512	24,026	56.7	17.0	73.7	100.0

1/ Includes a two-year supply of imported parts.

2/ Includes a provision for capital expenditures of \$1.5 million for sales promotion and market development prior to commercial operation.

3/ Covers one-third of the total amount of (a) a one-year supply of catalyst and chemicals, and bagging materials (b) a four-month stock of urea at cost and (c) two months' receivables.

P.T. PUPUK SRIWIDJAJA

Major Assumptions Used in Financial Projections

1. Sales Price

A price of Rp. 22,000 (\$67.50) per ton of urea FOB Palembang has been assumed throughout the projections.

2. Sales Volume and Production Build-up

The following sales volume and production build-up have been assumed for the expansion project.

<u>Period</u>	<u>Produced (tons)</u>	<u>% of rated capacity</u>	<u>Stored (tons)</u>	<u>Sold (tons)</u>
1973 (last quarter)	47,000	50%	20,000	27,000
1974	308,000	81%	70,000	238,000
1975	335,000	93%	27,000	328,000
1976	376,000	99%	10,000	366,000
Onwards	380,000	100%	-	380,000

Existing operations are assumed to produce and sell 95,000 tons per annum until 1978.

3. Inventories and Receivables

For existing operations, inventories and receivables are assumed to stay constant on December 31, 1969 level. A one-year supply of catalyst and chemicals and bagging materials, a four-month stock of urea at cost and two months' receivables are assumed for the expansion project.

4. Production Cost Estimates for the Existing Plant

Production cost of other expenses of the existing plant for the manufacture of 95,000 tons of urea p.a. are broken down as follows:

	Annual cost (\$'000)	Unit cost (\$/ton)
(a) Variable Costs		
Natural gas 51 MSCF/ton @ 20¢/MSCF	969	10.20
Catalyst and chemicals	126	1.33
Bagging cost (materials only)	437	4.60
	<u>1,532</u>	<u>16.13</u>
(b) Fixed Costs		
Maintenance materials	650	6.84
Labor (including benefits)	1,041	10.96
Insurance	52	0.55
Supplies and Expenses	212	2.23
Depreciation	1,929	20.31
	<u>3,884</u>	<u>40.89</u>
(c) Indirect expenses		
	<u>702</u>	<u>7.39</u>
(d) Total costs		
(rupiah equivalent)	6,118	64.41
	(Rp. 1,994 million)	(Rp. 20,994)

5. Production Cost Estimates for the Expansion Project

a) Assuming no ammonia losses between the ammonia and urea plant, the unit consumptions per metric ton of prilled urea are taken as follows:

	<u>Ammonia /1</u>	<u>Urea</u>	<u>Total</u>
Gaseous carbon dioxide (tons)		0.76	0.76
Steam (lbs)		3,000	3,000
Power (Kwh)	58	170	228 /2
Boiler feed water (lbs)	2,300	4,300	6,600
Natural gas (SCF)	21,000		21,000 /3

- /1 Ammonia consumption per ton of prilled urea is assumed at 0.58 tons.
/2 Excluding power for cooling water, peak demand 283 Kwh.
/3 Process only.

b) Over-all gas consumption per ton of urea would be 31,000 SCF including additional requirements of 10,000 SCF for power and steam generation and offsites. The average thermal value of the gas is assumed at 1,000 BTU per SCF. Gas prices are assumed to gradually decline from 19.7¢ per 1,000 SCF in the first full year of operation to 18.8¢ per 1,000 SCF in the fourteenth year of operation as detailed in Annex 16.

c) On the above basis, annual total costs per ton of prilled and bagged urea at capacity operation (380,000 tons p.a.) are estimated as follows:

	Annual cost (\$'000)	Unit cost (\$/ton)
(a) <u>Variable costs</u>		
Natural gas 31 MSCF/ton /1	2,215	5.83
Catalyst and chemicals	505	1.33
Bagging cost (materials only)	<u>1,748</u>	<u>4.60</u>
	4,468	11.76
(b) <u>Fixed costs</u>		
Maintenance 4.5% on \$60.7 million	2,732	7.19
Labor (including benefits) 800 men @ \$1,000/man/year	800	2.10
Overhead @ 150% of labor	1,200	3.16
Depreciation 10% on \$70.3 million	7,030	18.50
Indirect expenses	1,900	5.00
Interest 12% on 50% of \$61.5 million loan	<u>3,690</u>	<u>9.71</u>
	<u>17,352</u>	<u>45.66</u>
(c) <u>Total costs</u>	<u>21,820</u>	<u>57.42</u>
(rupiah equivalent)	(Rp 7,113 million)	(Rp 18,719)

/1 Calculated at 18.8¢ per 1,000 SCF representing the 14-year weighted average.

6. Loan

Government financing would consist of an equity investment of Rp. 1,988 million (\$6.1 million), a subordinated loan (Class B) of Rp 4,303 million (\$13.2 million) having a 6-1/2 year grace period with maturity of

10 years thereafter at an interest rate of 12%, and a senior loan (Class A) of Rp. 15,744 (\$48.3 million), including capitalized interest during construction of Rp. 1,729 million (\$5.3 million), having a 4-1/2 year grace period with maturity of 12 years thereafter at an interest rate of 12%. Repayment of the senior loan would be in 24 equal semi-annual instalments commencing on May 1, 1975 and ending on November 1, 1986, on the basis of constant annuities of principal and interest. The first interest payment would be on May 1, 1974. Repayment of the subordinated loan would be in 20 equal semi-annual repayments on a straight-line basis commencing May 1, 1977. No interest would accrue until May 1, 1974 and the first interest payment would be due on November 1, 1975.

7. Income Taxes

The expansion project is assumed to have a five-year tax holiday and 45% income tax will be paid after that. The existing operation will pay 45% throughout operation.

8. Dividends

A 100% payout is assumed after the accumulated deficit has been covered. First dividends will be paid out in 1977.

P.T. PUPUK SRIWIDJAJA

Projected Income Statements for Combined Operations
(Rp million)

Financial Year ending December 31,	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Total production (tons)	95,000	95,000	95,000	142,000	403,000	450,000	471,000	475,000	475,000	380,000	380,000	380,000	380,000	380,000	380,000	380,000	380,000
Increase in inventory (tons)	-	-	-	20,000	70,000	27,000	10,000	-	-	-	-	-	-	-	-	-	-
Sales volume (tons)	95,000	95,000	95,000	122,000	333,000	423,000	461,000	475,000	475,000	380,000	380,000	380,000	380,000	380,000	380,000	380,000	380,000
Net Sales	2,090	2,090	2,090	2,684	7,326	9,306	10,142	10,450	10,450	8,360	8,360	8,360	8,360	8,360	8,360	8,360	8,360
Cost of production exclusive of interest and depreciation	1,136	1,136	1,136	1,751	3,955	4,073	4,123	4,125	4,117	2,985	2,985	2,973	2,958	3,012	3,019	3,000	3,004
Depreciation	629	629	629	1,107	2,539	2,539	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910
Increase in inventories	-	-	-	(665)	(1,074)	(368)	(130)	-	-	-	-	-	-	-	-	-	-
Cost of sales	1,765	1,765	1,765	2,393	5,420	6,244	5,903	6,035	6,027	4,895	4,895	4,883	4,865	4,922	4,929	4,832	4,884
Gross Earnings	325	325	325	291	1,906	3,062	4,239	4,415	4,423	3,465	3,465	3,477	3,492	3,438	3,431	3,528	3,476
Indirect expenses	229	229	229	304	848	848	848	848	848	619	619	619	619	619	619	619	619
Operating Earnings	96	96	96	(93)	1,058	2,214	3,391	3,567	3,575	2,846	2,846	2,858	2,873	2,819	2,812	2,909	2,857
Interest on long-term debt	-	-	-	315	2,233	2,374	2,293	2,198	2,058	1,893	1,713	1,511	1,287	1,069	814	538	222
Earnings before taxes	96	96	96	(408)	(1,175)	(160)	1,098	1,369	1,517	953	1,133	1,347	1,585	1,750	1,998	2,371	2,635
Income tax	43	43	43	43	43	42	326	326	712	429	510	606	714	788	899	1,290	2,092
Net Earnings	53	53	53	(451)	(1,218)	(202)	772	1,043	805	524	623	741	872	962	1,099	1,577	2,443
Operating earnings/Net sales	4.5%	4.5%	4.5%	-	14.4%	23.8%	33.4%	34.1%	34.2%	34.0%	34.0%	34.2%	34.4%	33.7%	33.4%	34.4%	34.7%
Pre-tax earnings/Share capital	4.5%	4.5%	4.5%	-	-	-	10.8%	13.1%	14.5%	11.4%	13.6%	16.1%	19.0%	20.9%	24.0%	31.2%	34.0%
Pre-tax earnings/Share capital	1.4%	1.2%	1.1%	-	-	-	12.2%	15.2%	16.9%	10.6%	12.6%	15.0%	17.6%	19.5%	22.2%	24.9%	28.2%
From all debt service covered	-	-	-	3.1	1.5	1.6	1.6	1.5	1.4	1.3	1.3	1.3	1.3	1.2	1.2	1.1	1.1
From senior debt service covered	-	-	-	3.1	1.6	1.7	1.8	1.8	1.7	1.6	1.5	1.5	1.5	1.5	1.5	1.3	1.3

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P.T. PUPUK SRIWIDJAJA

Projected Balance Sheets for Combined Operations
(Rp million)

As of December 31,	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Current Assets																		
Cash	312	896	989	1,063	1,537	572	1,488	3,066	4,600	5,156	5,598	5,912	6,081	6,089	5,924	5,535	4,448	2,168
Accounts receivable	1,186	1,186	1,186	1,186	1,285	2,053	2,388	2,527	2,579	2,579	2,579	2,579	2,579	2,579	2,579	2,579	2,579	2,579
Inventories	1,394	1,394	1,394	1,394	1,929	3,389	3,827	3,988	3,994	3,994	3,994	3,994	3,994	3,994	3,994	3,994	3,994	3,994
Total Current Assets	2,892	3,476	3,569	3,663	4,801	6,019	7,703	9,581	11,173	11,729	12,171	12,485	12,654	12,662	12,487	12,108	11,021	8,733
Current Liabilities																		
Accounts payable	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149
Current portion of long-term debt	-	-	-	-	103	651	864	1,252	1,354	1,468	1,596	1,741	1,902	2,085	2,259	2,519	2,286	-
Total Current Liabilities	149	149	149	149	252	800	953	1,401	1,503	1,617	1,745	1,890	2,051	2,234	2,408	2,668	2,437	149
Net Working Capital	2,743	3,327	3,420	3,514	4,549	5,219	6,750	8,180	9,670	10,112	10,426	10,595	10,603	10,428	10,079	9,440	8,584	8,584
Net Fixed Assets																		
Existing Operations	3,791	3,162	2,533	1,904	1,275	646	17	17	17	17	17	17	17	17	17	17	17	17
Expansion project	90	1,315	8,676	16,032	22,440	20,530	18,622	16,712	14,802	12,892	10,982	9,072	7,162	5,252	3,342	1,432	-	-
Total Net Fixed Assets	3,881	4,477	11,209	17,936	23,715	21,176	18,639	16,729	14,819	12,909	10,999	9,089	7,179	5,269	3,359	1,469	-	-
Other Assets	382																	
Less Long-term debt	-	-	5,911	12,679	19,944	19,293	18,489	17,237	15,883	14,415	12,819	11,078	9,176	7,091	4,888	2,283	(57)	(57)
Shareholders Equity																		
Share capital	7,000	8,127	8,988	8,988	8,988	8,988	8,988	8,988	8,988	8,988	8,988	8,988	8,988	8,988	8,988	8,988	8,988	8,988
Surplus or deficit	6	59	112	165	(286)	(1,504)	(1,706)	(934)	-	-	-	-	-	-	-	-	-	-
Total Net Worth	7,006	8,186	9,100	9,153	8,702	7,484	7,282	8,054	8,988									
Debt ratio	10:1:1	14:0:1	14:6:1	15:2:1	11:4:1	3:3:1	4:1:1	4:0:1	4:8:1	4:8:1	4:7:1	4:5:1	4:2:1	3:9:1	3:5:1	3:0:1	2:9:1	3:0:1
Total Long-term debt/Equity	-	-	39:61	58:42	70:30	73:27	72:28	70:30	66:34	64:36	62:38	59:41	55:45	51:49	44:56	35:65	21:79	0:100

✓ The difference results from rounding.

P.T. PUPUK SRIWIDJAJA

Projected Cash Flow Statements for Continued Operations
(Rp million)

Financial year ending December 31,	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Source of Funds:																	
Earnings before taxes and interest	96	96	96	(93)	1,058	2,212	3,391	3,567	3,575	2,816	2,816	2,858	2,873	2,819	2,812	3,309	4,737
Depreciation	629	629	629	1,107	2,539	2,539	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910	1,910
Total funds generated from operations	725	725	725	1,014	3,597	4,751	5,301	5,477	5,485	4,726	4,726	4,768	4,783	4,729	4,722	4,741	4,737
Share capital	1,127	861	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Class B Loan	-	4,383	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Class A Loan	-	1,608	6,768	7,368	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Funds Available	1,852	7,497	7,493	8,382	3,597	4,751	5,301	5,477	5,485	4,726	4,726	4,768	4,783	4,729	4,722	4,741	4,737
Use of Funds:																	
Investment in fixed assets	1,225	7,361	7,356	6,886	-	-	-	58	-	-	-	-	-	-	-	-	-
Decrease in current assets other than cash	-	-	-	634	2,233	768	300	-	-	-	-	-	-	-	-	-	-
Repayment of Class A Loan	-	-	-	-	103	651	732	822	924	1,038	1,166	1,311	1,472	1,655	1,959	2,389	2,929
Repayment of Class B Loan	-	-	-	315	1,889	1,858	1,777	1,687	1,585	1,471	1,343	1,198	1,037	851	668	428	162
Repayment of Class C Loan	-	-	-	-	-	72	430	430	430	430	430	430	430	430	430	430	359
Dividend	43	43	43	43	344	516	516	511	473	422	370	313	258	215	181	112	68
Total Funds Used	1,268	7,404	7,399	7,878	4,612	3,835	3,723	3,943	4,929	4,311	4,412	4,599	4,775	4,904	5,301	5,828	7,025
Bank increase or decrease:	584	93	94	504	(1,015)	916	1,578	1,534	556	412	314	169	8	(175)	(379)	(1,087)	(2,288)
Bank balance:	896	989	1,083	1,587	572	1,488	3,066	4,600	5,156	5,598	5,912	6,081	6,089	5,914	5,535	4,448	2,160
Bank balance to Government:																	
Interest	-	-	-	315	2,233	2,374	2,293	2,198	2,058	1,893	1,713	1,511	1,287	1,069	814	538	222
Share	43	43	43	43	43	42	326	326	712	429	510	606	711	788	899	1,250	2,032
Dividend	-	-	-	-	-	-	-	109	805	521	623	711	872	962	1,089	1,587	2,189
Repayment obligations	-	-	-	103	651	804	1,252	1,354	1,468	1,596	1,741	1,902	2,085	2,289	2,519	2,819	3,208
Total Revenue:	43	43	43	358	2,379	2,519	3,423	2,881	4,929	4,311	4,412	4,599	4,775	4,904	5,301	5,828	7,025

ANNEX 13

P.T. PUPUK SRIWIDJAJA

Sensitivity Analysis of Financial Projections

Assumptions common to all cases

1. 15-year operation is assumed for the new fertilizer plant.
2. Capital input includes the total project costs minus interest during construction.
3. Capital output includes after-tax earnings and interest on long-term debt plus depreciation.
4. The residual value of the plant at the end of the fifteenth year of operation is estimated at Rp. 10,771 million.
5. All the returns are worked out by computer and details of calculation are not attached hereto.

Case A

1. Assumptions as detailed in Annex 13.
2. The case yields an 11.4% return.

Case B

1. A selling price of \$60 per ton is assumed. All the other assumptions are the same as Case A.
2. The case yields a 9.2% return.

Case C

1. A selling price of \$55 per ton is assumed. All the other assumptions are the same as Case B.
2. The case yields a 7.5% return.

Case D

1. The case assumes on-time completion but technical difficulties during the first six-month operation. Gas consumption is projected at 41 million BTU per ton instead of 31 million BTU. Chemicals and catalysts are taken at full costs when operating at capacity.
2. Total gas costs are assumed to be the same as in Case A except for 1973.
3. Production and sales build-up is assumed as follows (in tons):

<u>Period</u>	<u>Production</u>	<u>% of rated capacity</u>	<u>Stored</u>	<u>Sold</u>
1973 (Oct.- Dec.)	46,000	50	13,000	33,000
1974	258,000	68	28,000	230,000
1975	296,000	78	35,000	261,000
1976	334,000	88	38,000	296,000
1977	357,000	94	6,000	351,000
1978	376,000	99	7,000	369,000
1979	380,000	100	-	380,000

4. The case yields a 10.0% return.

Case E

1. A one-year delay in construction is assumed. Delay would likely be caused by non-receipts of equipment or by labor disputes. The worst case would be a uniform delay in receipt of all equipment. Additional capital costs resulting from such delays are assumed to be financed through a loan on the same terms and conditions as Case A and are estimated as follows (in \$ million):

Increase in construction costs	1.4
Increase in services	1.0
Overheads (pre-operating expenses and interest)	5.8
Gas charges capitalized	2.5
Additional interest	<u>0.3</u>
Total	11.0

2. From 1975 on, total gas costs are assumed to be the same as in Case A.
3. Production and sales build-up is assumed as follows (in tons):

<u>Period</u>	<u>Production</u>	<u>% of rated capacity</u>	<u>Stored</u>	<u>Sold</u>
1974 (Oct.-Dec.)	47,000	50	20,000	27,000
1975	308,000	81	70,000	238,000
1976	355,000	93	27,000	328,000
1977	376,000	99	10,000	366,000
1978	380,000	100	-	380,000

4. The case yields a 9.0% return.

Industrial Projects Department
April 20, 1970

PUSRI vs. TJIREBON

1. While, in the absence of sufficient proven gas reserves at Tjirebon, the proposed expansion of PUSRI offers the only opportunity for Indonesia to replace quickly the imports of urea by local production, the Association and ADB have also considered as part of their evaluation of the project, whether the Government's decision to proceed with PUSRI could be justified if sufficient gas reserves were discovered at or near Tjirebon before commitments had been made for PUSRI.
2. Since Indonesia will need, in the foreseeable future, two large nitrogenous fertilizer plants, and since no other usable gas deposits are known, a decision between PUSRI and Tjirebon becomes a matter of the sequence in which the two plants are to be built.
3. If Tjirebon were built first, gas presently flared in Sumatra in connection with crude oil production could be conserved only if it could be stored underground by re-pressuring abandoned deposits. Underground storage is necessary because no other viable gas deposits are in sight and continuation of flaring would reduce reserves below the level necessary for operations over the economic life of the plant and therefore leave Indonesia with only one plant. It is by no means clear that underground storage is technically feasible; engineering studies and exploration by drilling would be required to establish the feasibility. Substantial costs would be incurred for such studies, as would the additional expense involved in carrying out such underground storage. In the most favorable case, i.e. that such underground storage is found technically feasible and that nothing more than the cost of the presently proposed gas conservation project and its operation would be involved, the additional cost to the economy would come to \$4 to \$5 per ton of urea, depending on the length of time the conservation scheme would have to operate without earnings.^{1/} This would effectively increase the cost of production at PUSRI by roughly 10%. The more likely case is one which would so raise costs at PUSRI as to make it uncompetitive with imported fertilizer at the world market prices expected in the mid-1970's.
4. Tjirebon is located on the island of Java, where about two-thirds of all fertilizer used in Indonesia is consumed, and would therefore have a definite transport cost advantage. While sufficient data are available to quantify this the transport cost advantage which Tjirebon has would probably not offset the minimum cost of gas storage at PUSRI. There are no compression and storage costs involved in Tjirebon, since the gas so far found

^{1/} In the absence of earnings, compound interest and the cost of operation would have to be capitalized until PUSRI's expanded plant goes into operation and would have to be reflected in the gas price PUSRI would have to pay.

is high pressure non-associated gas not connected with oil production. Exploration wells so far drilled are capped; production drilling would be taken in hand as and when gas is needed. To sum up: the transport cost advantage which Tjirebon has over PUSRI appears insufficient to justify the expense and the risk involved in the underground gas storage, that would be necessary if Tjirebon were built first.

5. It is obvious that Tjirebon as a grass roots plant would require a considerable amount of infrastructure investment (roads, port, water supply, site preparation, housing) which PUSRI does not require because it already exists. Present offsite facilities of PUSRI can partly be used for the expansion. PUSRI therefore has a clear advantage in capital cost if one assumes that the cost of production facilities for the same plant capacity in both locations would be about the same. Without reliable estimates of the cost of infrastructure investments needed at Tjirebon and of gas underground storage at PUSRI the comparative cost advantage inherent in the sequence - PUSRI first and Tjirebon, if sufficient gas is found, thereafter, cannot be quantified. However, it is in any event large enough to justify the Government's decision to proceed now with the expansion of PUSRI.

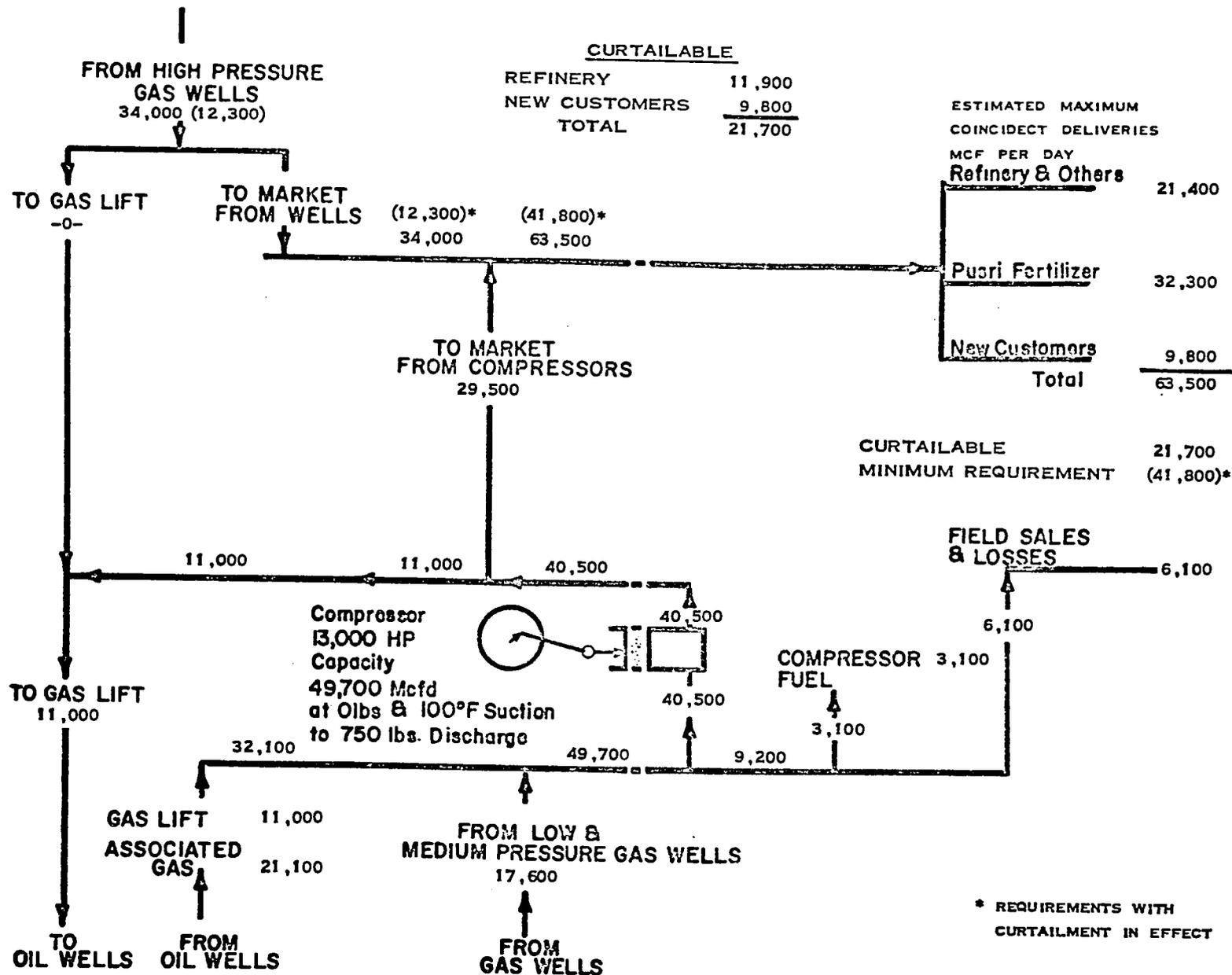
6. Finally and most importantly the foregoing is based on the assumption that a plant at Tjirebon could be proceeded with immediately. In fact, even if adequate gas reserves were discovered at Tjirebon tomorrow, considerable time would be required for feasibility study of a specific project, for appraisal by lenders and completion of financing arrangements. This would require perhaps one-and-a-half years. Moreover the Government's schedule calls for completion of gas investigations in West Java, to determine whether adequate reserves exist, only by the end of 1970. Thus if a decision were made to proceed with Tjirebon first, the benefits of the PUSRI expansion - including foreign exchange savings of \$15 million per year - would be lost to the economy for the period of the delay.

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APPROXIMATE GAS FLOW IF CURTAILMENT OF NON-PROCESS USES
IS REQUIRED IN 1983



* REQUIREMENTS WITH
CURTAILMENT IN EFFECT

DIAGRAM 15-2

**FLOW DIAGRAM - GAS CONSERVATION SYSTEM
REFLECTING 1973 CONDITIONS**

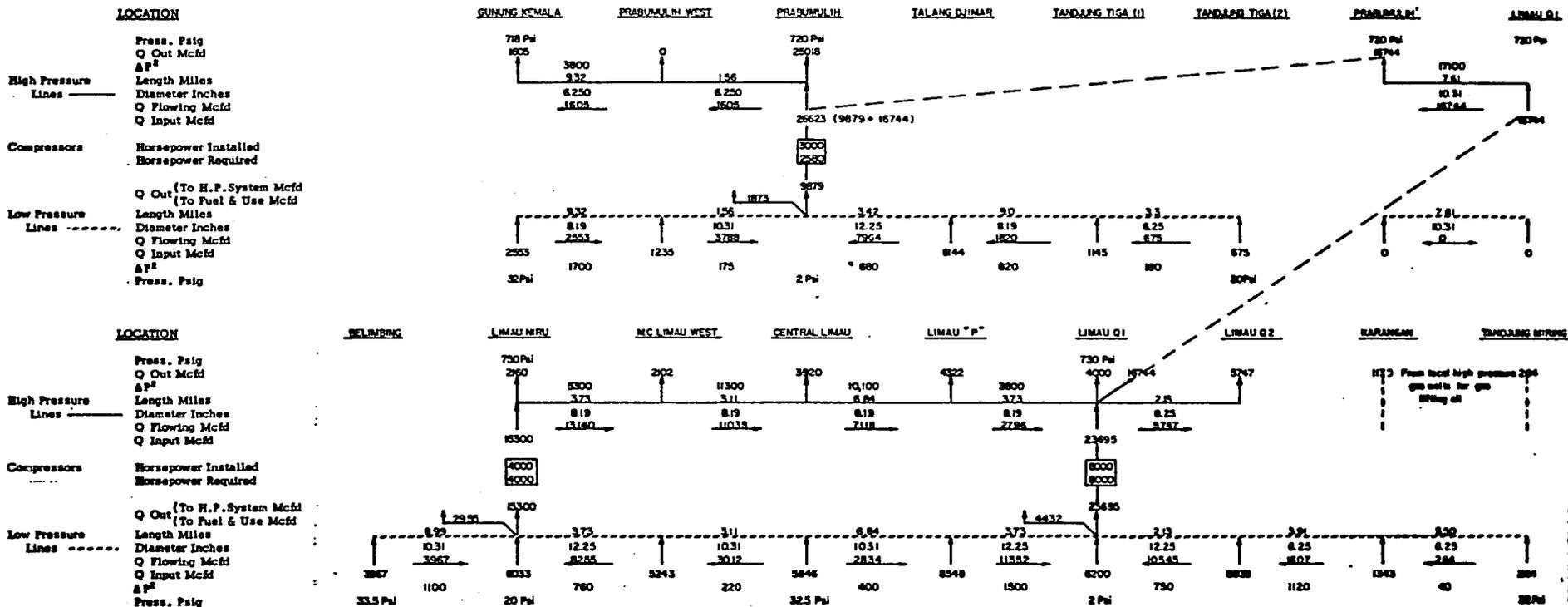


DIAGRAM 15-4

PUSRI FERTILIZER PLANT EXPANSION - 660 TON AMMONIA CAPACITY

SCHEDULING OF CONSTRUCTION AND EXPENDITURES

DIAGRAM 15-3

GAS CONSERVATION, TRANSMISSION AND TREATING SYSTEM

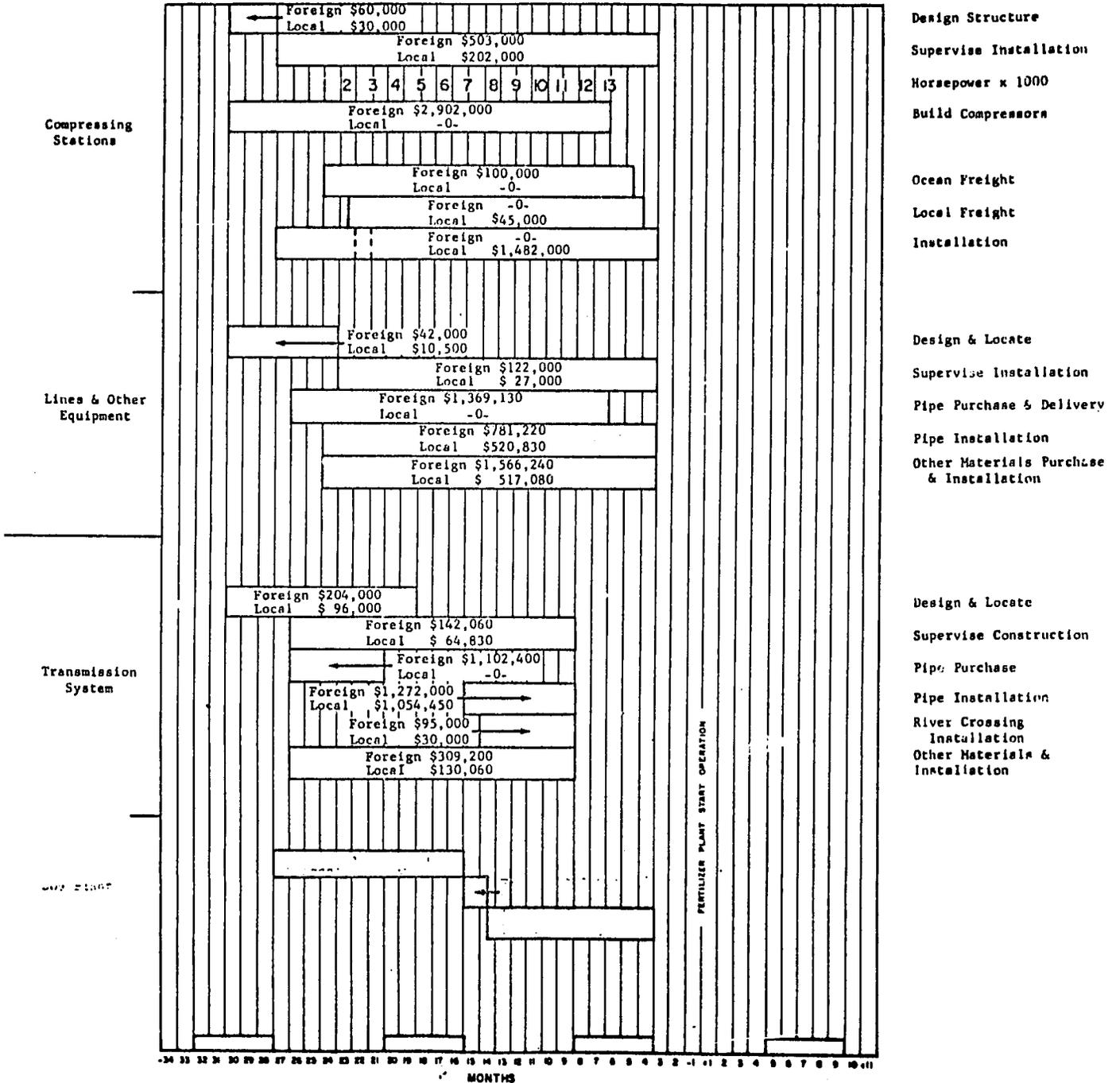


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16-4	Cost of Gas Compressing Stations
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16-6	Income Statement and Sources and Uses of Funds, Gas Conservation and Transmission Project
16-7	Gas Conservation and Transmission Project, Consolidated Balance Sheets
16-8	Amortization of Drilling Costs and Effect on Delivered Gas Prices

PROVEN RESERVES PERTAMINA

(In Billions of standard cubic feet above 441 pounds)

Field	Reserve 12/31/67 vander Valk		Reserve 1/1/69 Pertamina	
	Non-Asso.	Asso.	Non-Asso.	Asso.
Prabumulih West	18.205	5.792	9.978	1.059
Gunung Kemala	46.983	127.170	32.697	95.162
Tandjung Tiga	-	18.329	-	.056
Talang Djimar	3.429	49.370	3.340	43.311
Tandjung Miring	-	7.275	-	1.328
Limau Niru	1.960	10.559	2.146	25.632
Limau (Middle & West)	31.568	41.460	23.502	43.509
Limau East "P"	54.593	14.833	57.724	4.986
Limau East "Q"	23.262	97.541	60.418	59.882
Karangan	3.422	-	3.421	2.811
Benuang	9.044	-	9.042	-
Benekat East	23.216	-	23.212	-
Betung	21.948	-	24.476	-
Belimbing	1.794	-	2.312	11.038
Kuang	5.403	-	59.804	5.130
Subtotal	244.827		311.172	
East Tandjung Tiga	-		53.700	-
Pagerdewa	-		17.000	-
Total	<u>244.827</u>	<u>372.329</u>	<u>381.872</u>	<u>293.904</u>
Total Associated Plus Non-Associated		617.156		675.776

Transportation Projects
April 20, 1970

CLASSIFICATION OF RESERVES

Proven (A) : Gas reserves where :

The gas is proven to be unassociated with an economical oil column.

Gas production has been proved by either D.S.T. or prod. testing.

The sand thickness is more than 1 m.

- (i) The gas is readily available without further sub-surface expenditure.
- (ii) The gas is only available after minor expenditure.
- (iii) The gas is only available after major expenditure.

Proven (B) : Gas reserves where .

The gas is associated with a probably uneconomical oil column, or where the presence of an oil column has not been disproved.

Gas production has been proved by either D.S.T. or prod. testing.

The net sand thickness is more than 1 m.

- (i) The gas is readily available without further sub-surface expenditure.
- (ii) The gas is only available after minor expenditure.
- (iii) The gas is only available after major expenditure.

**Probable (B)
to be discounted
50% : Gas reserves where :**

The presence of gas has been proved by D.S.T. or prod. testing, but where the net sand thickness is less than 1 m.

The presence of gas has been indicated by log interpretation, and side wall sample evidence.

- (i) Unassociated with an economical oil column.
- (ii) Associated with a proven but probably uneconomical oil column, or where the presence of an oil column has not been disproved.

Possible
to be discounted
75% : Gas reserves where :

The presence of gas has been indicated by log and structural interpretation only.

- (i) Unassociated with an economical oil column.
- (ii) Associated with a proven but probably uneconomical oil column, or where the presence of an oil column has not been disproved.

Associated and Non Associated Gas

Gas is found "associated" with oil and in "non-associated" fields. Associated gas is free gas produced from a gas cap overlying an oil pool or is gas dissolved in and produced in solution with oil. As oil has greater value than gas, associated reserves are usually identified as a by-product of oil discovery and the recovery of such gas reserves is governed mainly by the rate of oil production. Non associated gas is free gas not in contact with oil or produced independently of oil in such a way as not to affect the ultimate crude oil recovery. Such gas reserves can be measured with acceptable accuracy. Through pressure differential calculations, recoverability can also be estimated.

Transportation Project
April 20, 1970

SUMMARY OF COSTS AND CAPACITY
GAS CONSERVATION AND TRANSMISSION PROJECT

	000's U. S. Dollars		
	<u>Total</u>	<u>Foreign</u>	<u>Local</u>
Gas Conservation	\$ 9,500	\$6,665	\$2,835
Pipeline	<u>4,500</u>	<u>3,125</u>	<u>1,375</u>
	<u>\$14,000</u>	<u>\$9,790</u>	<u>\$4,210</u>

Line Size - 12" diameter

Pressure - Prabumulih 720 psig
 - Pusri 575 psig

Working Capacity 34,000 Mcft/day

Compressor Capacity about 50,000 Mcft/day

Transportation Projects
April 20, 1970

TABLE 16-a

PERTAMINA GAS CONSERVATION PROJECT
COST OF GAS COMPRESSING STATIONS

	3,000 Horsepower Station			4,000 Horsepower Station		
	Cost - Thousand U.S.\$			Cost - Thousand U.S.\$		
	<u>Total</u>	<u>Foreign</u>	<u>Local</u>	<u>Total</u>	<u>Foreign</u>	<u>Local</u>
<u>Materials</u>						
Compressors	450	450	-	600	600	-
Spare parts	30	30	-	40	40	-
Scrubbers Coolers)	105	105	-	140	140	-
Valves etc.)						
Station Services	45	45	-	60	60	-
Auxiliaries	42	42	-	56	56	-
Buildings	45	-	45	60	-	60
Freight to Site	30	20	10	40	25	15
	<u>747</u>	<u>692</u>	<u>55</u>	<u>996</u>	<u>921</u>	<u>75</u>
<u>Construction</u>						
Civil Works	312	-	312	416	-	416
Site Supervision	102	50	52	136	60	76
Testing and)						
Commissioning)	12	12	-	14	14	-
Engineering	63	63	-	84	84	-
Administration)						
and Overheads)	30	-	30	40	-	40
	<u>519</u>	<u>125</u>	<u>394</u>	<u>690</u>	<u>158</u>	<u>532</u>
<u>Contingency</u>						
Compressors	5	5	-	6	6	-
Other Materials	7	7	-	9	9	-
Construction	26	-	26	35	-	35
	<u>38</u>	<u>12</u>	<u>26</u>	<u>50</u>	<u>15</u>	<u>35</u>
Total Each Station	<u>1,304</u>	<u>829</u>	<u>475</u>	<u>1,736</u>	<u>1,094</u>	<u>642</u>
Summary:						
3-3,000 Horsepower Stations	3,912	2,487	1,425			
1-4,000 Horsepower Station	<u>1,736</u>	<u>1,094</u>	<u>642</u>			
Total Cost 13,000 Horsepower	\$5,648	\$3,581	\$2,067			

Transportation Projects
April 20, 1970

INDONESIA

PUSRI GAS CONSERVATION AND TRANSMISSION PROJECT

Assumptions Underlying the Financial Projections

1. Gas Conservation

It is assumed that:

- (a) one compressor will be put into operation in 1971; another five in 1972 and another seven in 1973 with a total of 13 compressors;
- (b) gas transmission pipeline will not come into service until the 4th Quarter of 1973;
- (c) PERTAMINA will take a maximum of 6.16 B cft of gas from the compression and conservation system in 1973, but will reduce its requirement to 4.96 B cf by 1977 in order to accommodate the increasing demand of the transmission pipeline system from 1.70 B cf in 1973, rising to 11.80 B cft in 1977 and thereafter;
- (d) depreciation is charged on the basis of 20-year service life and straight-line method;
- (e) the depreciation on conservation assets accrued each year is assumed to be entirely used to repay the loan principal;
- (f) the Government loan covering compression and conservation will be a loan of 23 years, including a grace period of three years, at 12% interest per annum, to be repaid in 40 semi-annual installments of equal principal payments, with the first installment being due on November 1, 1974;

(g) the Operating costs before depreciation starting from 1974, the first year in full operation, include labor \$69,000, field equipment \$39,800, station oil \$113,900, other materials \$130,000, insurance \$14,000 (about 0.5% on 1/2 of compressor's cost) and other expenses (right-of-way, etc.) \$5,000. Operating costs for years before 1974 are reduced in proportion to gas compressed. Consultant's costs of \$250,000 were treated as additions to the construction loan.

2. Gas Transmission

It is assumed that:

- (a) the gas taken from the compression and conservation system will increase from 1.70 B cf in 1973 to 11.8 B cf for 1977 and thereafter;
- (b) depreciation is charged on the basis of 20-year service life and straight-line method;
- (c) the depreciation accrued each year will be entirely used to repay the loan principal with the exception that the depreciation to be accrued on both conservation and transmission assets in 1972 to 1974 will be held as working capital until the last three years of the loan period when it will be used to pay debt service;
- (d) the Government loan covering compression and conservation will be a loan of 23 years, including a grace period of three years, at 12% interest per annum, to be repaid in

40 semi-annual installments of equal principal payments, with the first installment coming due on November 1, 1974;

(e) the Operating costs before depreciation starting from 1974, the first year in full operation, include approximately \$8,000 for labor, \$10,000 for fuel, materials, repairs and supplies, and \$5,000 for other expenses. Operating costs in prior years are reduced in proportion to gas throughput.

Transportation Projects Department
April 20, 1970

INDONESIA

GAS CONSERVATION AND TRANSMISSION PROJECT

Estimated Income Statements and Sources and Application of Funds

Years Ending December 31, 1971 - 1993
(In Thousands of Dollars)

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
INSTALLED CAPACITY	0.3222	8.7008	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600
Sales to Pertamina (Bcft)	0.3222	6.1600	6.1600	6.1600	5.5600	5.1100	4.9600	4.9600	4.9600	4.9600	4.9600	4.9600	4.9600	4.9600	4.9600	4.9600	4.9600	4.9600	4.9600	4.9600	4.9600	4.9600	4.9600	4.9600
Pusri (Bcft)	-	-	1.7000	10.6000	11.2000	11.6500	11.8000	11.8000	11.8000	11.8000	11.8000	11.8000	11.8000	11.8000	11.8000	11.8000	11.8000	11.8000	11.8000	11.8000	11.8000	11.8000	11.8000	11.8000
Total Sales (Bcft)	0.3222	6.1600	7.8600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600	16.7600
INCOME STATEMENTS																								
Compression Section																								
Operating Costs	47	373	446	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707
Depreciation	-	186	232	499	499	499	499	499	499	499	499	499	499	499	499	499	499	499	499	499	499	499	499	499
Transmission Section																								
Operating Costs	-	-	6	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
Depreciation	-	-	64	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257
Total Operating Costs (Including Depreciation)	47	559	750	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486
Interest Cost	11	510	1,220	1,813	1,767	1,677	1,586	1,495	1,405	1,314	1,223	1,132	1,042	951	860	770	679	589	498	407	316	226	135	22
Total Cost (= Revenue from sales)	58	1,069	1,970	3,299	3,253	3,163	3,072	2,981	2,891	2,800	2,709	2,618	2,528	2,437	2,346	2,256	2,165	2,075	1,989	1,893	1,802	1,716	1,625	1,539
Of which Paid by: PERTAMINA	58	1,069	1,544	1,213	1,080	965	909	882	856	829	802	775	748	721	694	668	641	614	587	560	533	506	479	452
PUSRI	-	-	426	2,086	2,173	2,198	2,163	2,099	2,035	1,971	1,907	1,843	1,780	1,716	1,652	1,588	1,524	1,461	1,397	1,333	1,269	1,204	1,139	808
Unit Price (= Unit Cost)/(MUS/Toft)	18.0	17.4	25.1	19.7	19.4	18.9	18.3	17.8	17.2	16.7	16.2	15.6	15.1	14.5	14.0	13.5	12.9	12.4	11.8	11.3	10.8	10.1	9.3	6.8
SOURCES AND APPLICATIONS OF FUNDS																								
Sources of Funds																								
Depreciation	-	186	296	756	756	756	756	756	756	756	756	756	756	756	756	756	756	756	756	756	756	756	756	756
Interest	11	510	1,220	1,813	1,767	1,677	1,586	1,495	1,405	1,314	1,223	1,132	1,042	951	860	770	679	589	498	407	316	226	135	22
Loan from Government	724	9,755	3,519	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest during Const.	25	591	494	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decrease in Working Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Sources	760	11,042	5,529	2,569	2,523	2,433	2,342	2,251	2,161	2,070	1,979	1,888	1,798	1,707	1,616	1,526	1,435	1,345	1,254	1,163	1,072	982	891	600
APPLICATIONS OF FUNDS																								
Project Construction:																								
Compression Section	724	6,701	1,992	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transmission Section	-	3,054	1,527	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest during Construction	25	591	494	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Debt Service: Repayment of Loans	-	-	-	378	756	756	756	756	756	756	756	756	756	756	756	756	756	756	756	756	756	756	756	756
Interest on Loans	11	510	1,220	1,813	1,767	1,677	1,586	1,495	1,405	1,314	1,223	1,132	1,042	951	860	770	679	589	498	407	316	226	135	22
Increase in Working Capital	-	106	296	387	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Applications	760	11,042	5,529	2,569	2,523	2,433	2,342	2,251	2,161	2,070	1,979	1,888	1,798	1,707	1,616	1,526	1,435	1,345	1,254	1,163	1,072	982	891	600

INDONESIA
GAS CONSERVATION AND TRANSMISSION PROJECT

Estimated Balance Sheets

Years Ending December 31, 1971 - 1993

(In Thousands of Dollars)

<u>A S S E T S</u>	<u>1971</u>	<u>1972</u>	<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>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	
Fixed Assets	749	7,858	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	15,108	0	
Less: Depreciation	-	186	482	1,238	1,994	2,750	3,506	4,262	5,018	5,774	6,530	7,286	8,042	8,798	9,554	10,310	11,066	11,822	12,578	13,334	14,090	14,846	15,120	0	
Net Fixed Assets	749	7,672	14,626	13,870	13,114	12,358	11,602	10,846	10,090	9,334	8,578	7,822	7,066	6,310	5,554	4,798	4,042	3,286	2,530	1,774	1,018	448	(12) ^{1/}	0	
Construction-in-Progress	-	3,237																							
Total Fixed Assets	749	10,909																							
Current Assets																									
Cash	-	186	242	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	0	
Stores	-	-	240	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	337	378	0
Total Current Assets	-	186	482	860	860	860	860	860	860	860	860	860	860	860	860	860	860	860	860	860	860	860	767	708	0
Total Assets	749	11,095	15,108	14,352	13,974	13,218	12,462	11,706	10,950	10,194	9,438	8,682	7,926	7,170	6,414	5,658	4,902	4,146	3,390	2,634	1,878	1,122	378	0	
LIABILITIES																									
Long-term Debt																									
Government Loans	749	11,095	15,108	14,352	13,974	13,218	12,462	11,706	10,950	10,194	9,438	8,682	7,926	7,170	6,414	5,658	4,902	4,146	3,390	2,634	1,878	1,122	378	0	

^{1/} The difference results from rounded depreciation

^{2/} To be used for the last 10% repayment in 1994.

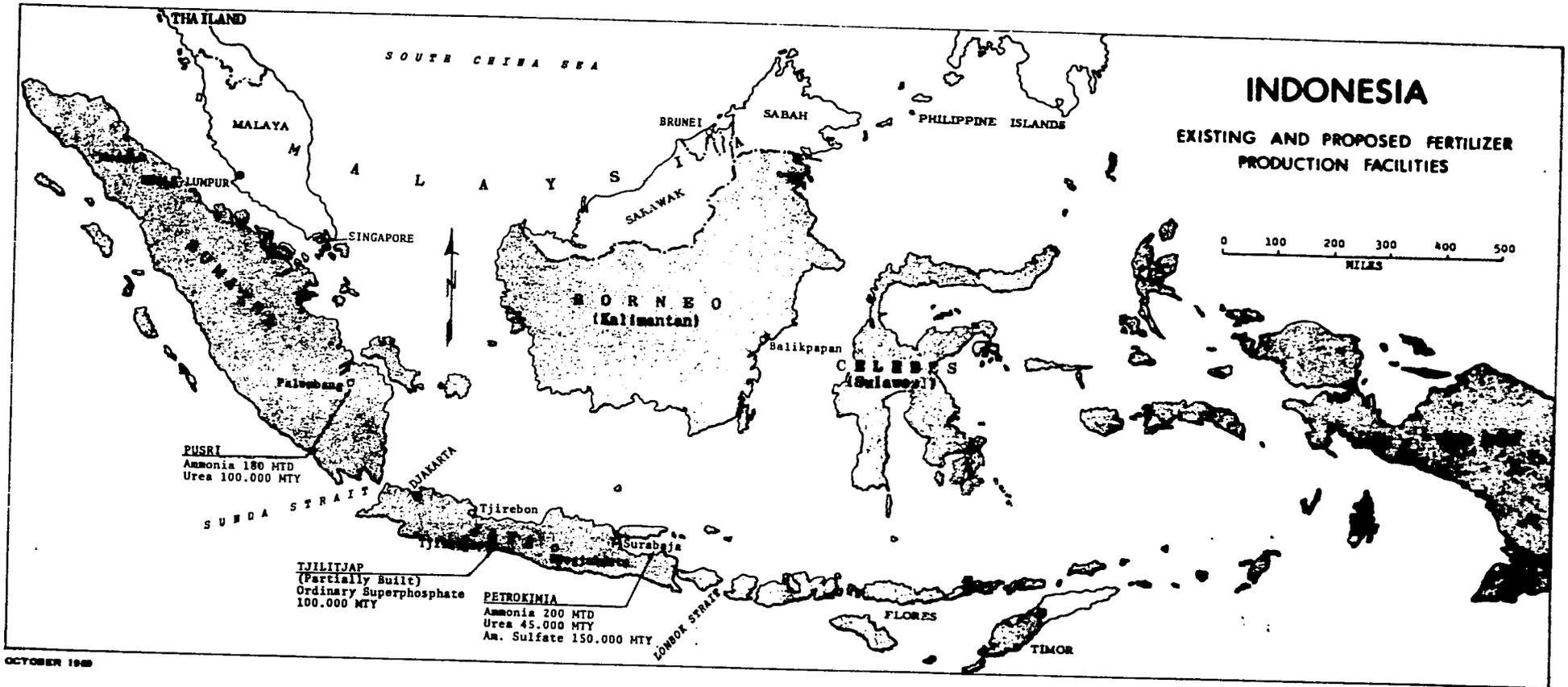
AMORTIZATION OF DRILLING COSTS AND EFFECT ON DELIVERED GAS PRICES

Assume:

- (i) Well drilling cost is \$160,000
(ii) No. of wells as in schedule provided by PERTAMINA
(iii) 11.8 Bscf taken by PUSRI
(iv) Amortization 12%, 10 years, 10 to 15 years at 12% over remaining contract,
15-20 years at 12% over 10 years due to renegotiation and extension in the 15th year.

<u>Year</u>	<u>Wells drilled</u>	<u>Cum No.</u>	<u>Annual Cost (\$'000)</u>	<u>Add to Base Gas Price (\$ MCF)</u>	<u>Base Price (\$ MCF)</u>	<u>Total Est. Price (\$ MCF)</u>
1973	-	-	-	-	-	-
1974	-	-	-	-	-	-
1975	-	-	-	-	25.1	25.1
1976	-	-	-	-	19.7	19.7
1977	-	-	-	-	19.4	19.4
1978	1	1	-	-	18.9	18.9
1979	1	2	28	.24	18.3	18.5
1980	1	3	56	.47	17.8	18.3
1981	2	5	140	1.18	17.2	18.4
1982	2	7	196	1.66	16.7	18.4
1983	1	8	224	1.89	16.2	18.1
1984	1	9	252	2.13	15.6	17.7
1984	8	17	476	4.03	15.1	19.1
1985	3	20	566	4.79	14.5	19.3
1986	-	20	566	4.79	14.0	18.8
1987	2	22	636	5.38	13.5	18.9
1988	2	24	692	5.86	12.9	18.8
1989	2	26	748	6.33	12.4	18.7
1990	2	28	804	6.80	11.8	18.6
1991	2	30	860	7.28	11.3	18.6
1992	2	32	916	7.75	10.8	18.6
1993	-	-	972	7.68	9.1	16.8
1994	-	-	972	7.68	7.9	15.6
			972	7.68	4.5	12.2

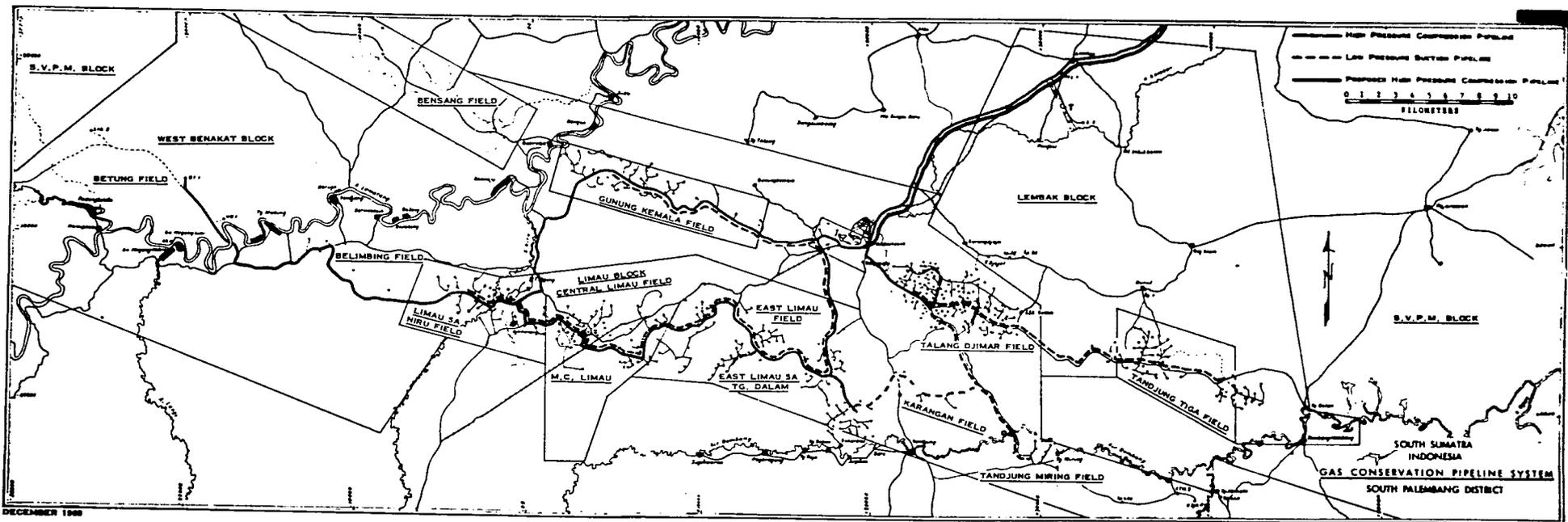
April 20, 1970
Transportation Projects



OCTOBER 1968

IPC-55881

MAP 14



MAP #3

I. COUNTRY PERFORMANCE

A. Progress Towards Country Goals

1. FAA §§201(b)(5), 201(b)(7), 201(b)(9), 208. Discuss the extent to which the country is:

(a) Making appropriate efforts to increase food production and improve means for food storage and distribution.

(b) Creating a favorable climate for foreign and domestic private enterprise and investment.

(c) Increasing the people's role in the developmental process.

(d) Allocating expenditures to development rather than to unnecessary military purposes or intervention in other free countries' affairs.

(a) Indonesia is giving priority attention to projects which aim at increasing food production, particularly the production of rice, and is reviewing, with the assistance of ADB and several donor countries, the problem of inadequate food storage and distribution facilities.

(b) The GOI has enacted a comprehensive law with built in incentives for encouraging foreign capital investment, concluded an Investment Guaranty Agreement with the U. S., enacted new banking legislation which will permit foreign banks to open branches in Indonesia, and substantially completed negotiations for the returning nationalized properties to private ownership.

(c) A post-Sukarno policy structure has not fully emerged in Indonesia, because the long period of economic instability has necessitated devotion of primary energies to economic development. However President Soeharto has demonstrated an ability to recognize and built upon a developing national consensus. The press has exercised considerably more freedom and has become a healthy critic and a purveyor of new ideas. Political party activity is still relatively subdued, but national elections have been promised by the government to be held in 1971. The Parliament and the Consultative Assembly are actively working to define their role in the governmental process.

(d) A major portion of budget allocations will be available for development as a result of sizeable reductions in military expenditures which follow termination of the confrontation policy with Malaysia. In CY 68 about 19% of the GOI budget expenditures went into developing activities. During the Fiscal period January 1969 to March 1970 development expenditures increased to about 29% of the total budget and this percentage is maintained in the new budget prepared for the Fiscal Year 1970 to March 1971 despite the higher current expenditure level of said budget due to the costs of the prospective election and civil service salary increases.

(e) Willing to contribute funds to the project or program.

(f) Making economic, social, and political reforms such as tax collection improvements and changes in land tenure arrangement; and making progress toward respect for the rule of law, freedom of expression and of the press, and recognizing the importance of individual freedom, initiative, and private enterprise.

(g) Responding to the vital economic, political, and social concerns of its people, and demonstrating a clear determination to take effective self-help measures.

(e) The cooperating Government will covenant to make available to Pusri such local currency and foreign exchange as may be required over and above the proceeds of the A.I.D. loan and the loans of the other lenders for the execution of Part A of the Project.

(f) and (g) Indonesia has made significant gains in freedom of speech and of the press under the Soeharto Government. Major economic reforms have been instituted with IMF/IBRD assistance. Run away inflation has been curbed and the country has moved substantially toward stabilized prices and exchange rates. Contributing measures include improved tax collections, a state of tax reforms, more realistic interest rates, restraint in monetary expansion, a balanced budget policy, and restraint in expansion of credit.

B. Relations with the United States

1. FAA §620(c). Is the government indebted to any U.S. citizen for goods or services furnished or ordered where: (a) such citizen has exhausted available legal remedies, including arbitration, or (b) the debt is not denied or contested by the government, or (c) the indebtedness arises under such government's, or a predecessor's unconditional guarantee?

620(c) We are not aware of any cases that make Indonesia ineligible under this section.

2. FAA §620(d). If the loan is intended for construction or operation of any productive enterprise that will compete with U.S. enterprise, has the country agreed that it will establish appropriate procedures to prevent export to the U.S. of more than 20% of its enterprise's annual production during the life of the loan?

620(d). The enterprise to be assisted by this loan will not compete with U.S. enterprises nor will any of its annual production be exported to the United States.

3. FAA §620(e)(1). Has the country's government, or any agency or subdivision thereof, (a) nationalized or expropriated property owned by U.S. citizens or by any business entity not less than 50% beneficially owned by U.S. citizens, (b) taken steps to repudiate or nullify existing contracts or agreements with such citizens or entity, or (c) imposes or enforces discriminatory taxes or other exactions, or restrictive maintenance or operation conditions? If so, and more than six months has elapsed since such occurrence, identify the document indicating that the government, or appropriate agency or subdivision thereof, has taken appropriate steps to discharge its obligations under international law toward such citizen or entity? If less than six months has elapsed, what steps if any has it taken to discharge its obligations?

620(e) (1) Steps are being taken to return property to original U. S. owners or negotiate mutually acceptable settlements on nationalized property. A government committee has been established and is operating to handle this problem. We are aware of no cases that would make Indonesia ineligible under this section at this time.

4. FAA §620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction by mob action of U.S. property, and failed to take appropriate measures to prevent a recurrence and to provide adequate compensation for such damage or destruction?

620(j) The country has not so permitted nor has it failed to take adequate measures.

5. FAA §520(1). Has the government instituted an investment guaranty program under FAA 8221(b)(1) for the specific risks of inconvertibility and expropriation or confiscation?

620 (1) Yes.

6. FAA §620(o): Fisherman's Protective Act of 1954, as amended, Section 5. Has the country seized, or imposed any penalty or sanction against, any U.S. fishing vessel on account of its fishing activities in international waters? If, as a result of a seizure, the U.S.G. has made reimbursement under the provisions of the Fisherman's Protective Act and such amount has not been paid in full by the seizing country, identify the documentation which describes how the withholding of assistance under the FAA has been or will be accomplished. 620(o) Fisherman's Protective Act of 1954, as amended Section 5. No.

7. FAA §620(q). Has the country been in default, during a period in excess of six months, in payment to the U.S. on any FAA loan? 620(q) No; repayment of the only FAA loan involved has been rescheduled.

8. FAA §620(t). Have diplomatic relations between the country and the U.S. been severed? If so, have they been renewed? 620(t) No.

9. App. §106. Describe any attempt made by the country to create distinction because of race or religion in granting personal or commercial access or other rights otherwise available to U.S. citizens generally. 106 None

2. FAA §620(d). If the loan is intended for construction or operation of any productive enterprise that will compete with U.S. enterprise, has the country agreed that it will establish appropriate procedures to prevent export to the U.S. of more than 20% of its enterprise's annual production during the life of the loan?

620(d). The enterprise to be assisted by this loan will not compete with U.S. enterprises nor will any of its annual production be exported to the United States.

3. FAA §620(e)(1). Has the country's government, or any agency or subdivision thereof, (a) nationalized or expropriated property owned by U.S. citizens or by any business entity not less than 50% beneficially owned by U.S. citizens, (b) taken steps to repudiate or nullify existing contracts or agreements with such citizens or entity, or (c) imposes or enforced discriminatory taxes or other exactions, or restrictive maintenance or operation conditions? If so, and more than six months has elapsed since such occurrence, identify the document indicating that the government, or appropriate agency or subdivision thereof, has taken appropriate steps to discharge its obligations under international law toward such citizen or entity? If less than six months has elapsed, what steps if any has it taken to discharge its obligations?

620(e) (1) Steps are being taken to return property to original U. S. owners or negotiate mutually acceptable settlements on nationalized property. A government committee has been established and is operating to handle this problem. We are aware of no cases that would make Indonesia ineligible under this section at this time.

4. FAA §620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction by mob action of U.S. property, and failed to take appropriate measures to prevent a recurrence and to provide adequate compensation for such damage or destruction?

620(j) The country has not so permitted nor has it failed to take adequate measures.

5. FAA §520(L). Has the government instituted an investment guaranty program under FAA 8221(b)(1) for the specific risks of inconvertibility and expropriation or confiscation?

620 (1) Yes.

6. FAA §620(o): Fisherman's Protective Act of 1954, as amended, Section 5. Has the country seized, or imposed any penalty or sanction against, any U.S. fishing vessel on account of its fishing activities in international waters? If, as a result of a seizure, the U.S.G. has made reimbursement under the provisions of the Fisherman's Protective Act and such amount has not been paid in full by the seizing country, identify the documentation which describes how the withholding of assistance under the FAA has been or will be accomplished.

620(o) Fisherman's Protective Act of 1954, as amended
Section 5. No.

7. FAA §620(q). Has the country been in default, during a period in excess of six months, in payment to the U.S. on any FAA loan?

620(q) No; repayment of the only FAA loan involved has been rescheduled.

8. FAA §620(t). Have diplomatic relations between the country and the U.S. been severed? If so, have they been renewed?

620(t) No.

9. App. §106. Describe any attempt made by the country to create distinction because of race or religion in granting personal or commercial access or other rights otherwise available to U.S. citizens generally.

106 None

C. Relations with Other Nations and the U.N.

1. FAA §620(i). Has the country been officially represented at any international conference when that representation included planning activities involving insurrection or subversion directed against the U.S. or countries receiving U.S. assistance?

620(i) We have no information as to any such representational activity.

2. FAA §§620(a), 620(n); App. §§107(a), 107(b), 116. Has the country sold, furnished, or permitted ships or aircraft under its registry to carry to Cuba or North Viet-Nam items of economic, military, or other assistance?

620 (a) We have no information of any violation by Indonesia.

3. FAA §620(u); App. §114. What is the status of the country's U.N. dues, assessments, or other obligations? Does the loan agreement bar any use of funds to pay U.N. assessments, dues, or arrearages?

620 (u) Indonesia is not delinquent with respect to U.N. obligations. The loan agreement limits the use of loan proceeds to importation of goods and services of U. S. source and origin.

D. Military Situation

1. FAA §620(i). Has the country engaged in or prepared for aggressive military efforts directed against the U.S. or countries receiving U.S. assistance?

620 (i) No. Indonesia has settled its confrontation with Malaysia.

2. FAA §620(s). What is (a) the percentage of the country's budget devoted to military purposes, and (b) the amount of the country's foreign exchange resources used to acquire military equipment? Is the country diverting U.S. development assistance or P.L. 480 sales to military expenditures? Is the country diverting its own resources to unnecessary military expenditures? (Findings on these questions are to be made for each country at least once each fiscal year and, in addition, as often as may be required by a material change in relevant circumstances.)

620 (s) (see separate classified attachment)

3. FAA §520(v); App. §119. Has the country spent money for sophisticated weapons systems purchased since the statutory limitation became effective? If so, identify either (a) the documentation which describes how the withholding of an equivalent amount of A.I.D. assistance has been or will be accomplished, or (b) the Presidential determination that such purchase is important to the national security of the U.S. so that no withholding is necessary.

620 (v) We are aware of no such purchases.

II. CONDITION OF THE LOAN

- 7 -

A. General Soundness

-- Interest and Repayment

1. FAA §§201(d), 201(b)(2). Is the rate of interest excessive or unreasonable for the borrower? Are there reasonable prospects for repayment? What is the grace period interest rate; the following period interest rate? Is the rate of interest higher than the country's applicable legal rate of interest?

201(d) No. Although Indonesia's debt burden is heavy, there has been very rapid growth in real Government revenues and favorable economic performance. With the high current level of foreign assistance, it is recognized that future debt burden will be heavy. Further, annual rescheduling may be necessary, but major multi-donor rescheduling is a near term prospect. The various donors agree this would place Indonesia with a debt burden for which the prospects of repayment would appear reasonable. Country terms of a 40-year loan, 10-year grace period, 2% interest during the grace period, 3% thereafter, pertain.

Financing

1. FAA §201(b)(1). To what extent can financing on reasonable terms be obtained from other free-world sources, including private sources within the U.S.?

201(b)(1) Loan assistance to Indonesia for this Project will be provided on a multilateral basis by A.I.D., the Government of Japan, the International Development Association and the Asian Development Bank. Inasmuch as the EX-IM Bank does not currently make loans in excess of 1 year in Indonesia, it expressed to A.I.D. no interest in the project.

Economic and Technical Soundness

1. FAA §§201(b)(2), 201(e). The activity's economic and technical soundness to undertake loan; does the loan application, together with information and assurances, indicate that funds will be used in an economically and technically sound manner?

201(e) Yes. Funds will be used in an economically and technically sound manner.

2. FAA §611(a)(1). Have engineering, financial, and other plans necessary to carry out assistance, and a reasonably firm estimate of the cost of assistance to the U.S., been completed?

611(a)(1) Full engineering, financial, and other plans necessary to carry out the project have been made and a reasonably firm estimate of the cost of assistance to the U. S. has been completed.

3. FAA §611(b); App. §101. If the loan or grant is for a water or related land-resource construction project or program, do plans include a cost-benefit computation? Does the project or program meet the relevant U.S. construction standards and criteria used in determining feasibility?

611(b) This is not a water or related land-resource construction project.

4. FAA §511(a). If this is a Capital Assistance Project with U.S. financing in excess of \$1 million, has the principal A.I.D. officer in the country certified as to the country's capability effectively to maintain and utilize the project?

611(a) USAID Director Certification has been received, a copy of which is appended as annex 18 of this Paper.

3. Relation to Achievement of Country and Regional Goals

-- Country Goals

1. FAA §§207, 281(a). Describe this loan's relation to:

a. Institutions needed for a democratic society and to assure maximum participation on the part of the people in the task of economic development.

207, 281(a) This multinational project will require a high degree of participation by governmental and private institutions in order to improve Indonesia's capacity to distribute and market increased amounts of fertilizer and the capacity of the agricultural sector to absorb such increased amounts.

b. Enabling the country to meet its food needs, both from its own resources and through development, with U.S. help, of infrastructure to support increased agricultural productivity.

This project will directly enable Indonesia to increase its rice production through the development of its own natural gas resources and through development with U.S. help of a urea fertilizer plant.

c. Meeting increasing need for trained manpower.

In order to effectively operate the expanded manufacturing facilities, Pusri has recognized the need and agrees to implement personnel training programs and utilize the services of consultants as may be appropriate.

d. Developing programs to meet public health needs.

e. *Assisting other important economic, political, and social development activities, including industrial development; growth of free labor unions; cooperatives and voluntary agencies; improvement of transportation and communication systems; capabilities for planning and public administration; urban development; and modernization of existing laws.*

By its very nature as an industrial development activity, this project will further important economic, political and social objectives of the Indonesian Government and will require the improvement of transportation systems with respect to the movement of fertilizer; require improved public administrative and planning capabilities, and certain modifications to the existing Indonesian Commercial Code.

2. FAA §201(b)(4). *Describe the activity's consistency with and relationship to other development activities, and its contribution to realizable long-range objectives.*

201(b)(4) This loan is given in a multilateral context and furthers Indonesia's ability to achieve longer-range development objectives through construction of productive facilities

3. FAA §201(b)(9). *How will the activity to be financed contribute to the achievement of self-sustaining growth?*

201(b)(9) An important goal of the Indonesian development effort is the achievement of self-sufficiency in rice production. This project will make available increased amounts of fertilizer for rice production and thus directly contribute to this end.

4. FAA §201(f). *If this is a project loan, describe how such project will promote the country's economic development, taking into account the country's human and material resource requirements and the relationship between ultimate objectives of the project and overall economic development.*

201(f) This project will provide facilities to increase domestic production of urea, make use of an important natural resource presently going to waste, and increase the need for skilled and semi-skilled employment, all of which are objectives of Indonesian development.

5. FAA §201(b)(3). *In what ways does the activity give reasonable promise of contributing to development of economic resources, or to increase of productive capacities?*

201(b)(3) A significant part of this project is the development of Indonesian natural gas reserves. Construction of expanded fertilizer manufacturing facilities will permit a three-fold increase in the production of urea.

6. FAA §281(b). How does the program under which assistance is provided recognize the particular needs, desires, and capacities of the country's people; utilize the country's intellectual resources to encourage institutional development; and support civic education and training in skills required for effective participation in political processes.

7. FAA §601(a). How will this loan encourage the country's efforts to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions?

8. FAA §202(a). Indicate the amount of money under the loan which is: going directly to private enterprise; going to intermediate credit institutions or other borrowers for use by private enterprise; being used to finance imports from private sources; or otherwise being used to finance procurements from private sources.

9. FAA §611(a)(2). What legislative action is required within the recipient country? What is the basis for a reasonable anticipation that such action will be completed in time to permit orderly accomplishment of purposes of loan?

281(b) This is a top priority project of the Indonesian Government which provides for the expansion of a presently operating fertilizer capacity. It will create additional jobs and significant institutional development with respect to the nation's ability to absorb additional quantities of fertilizer.

601(a) The project will not directly increase the flow of International Trade; (b) Pusri is a private corporation; (c) in order to expand the consumption of fertilizer, the Government is making available increased credit for farmers; (d) a condition of this loan required the establishment of Pusri as a private corporation; (e) by its nature this project will improve the technical efficiency of industry, agriculture and commerce; and (f) no direct effect.

202(a) The total amount of the loan will be used to finance procurement from private sources in the U. S.

611(a)(2) No legislative action will be required for implementation of this loan.

-- Regional Goals

1. FAA §619. If this loan is assisting a newly independent country, to what extent do the circumstances permit such assistance to be furnished through multilateral organizations or plans?

619 Indonesia is not a newly independent country.

2. FAA §209. If this loan is directed at a problem or an opportunity that is regional in nature, how does assistance under this loan encourage a regional development program? What multilateral assistance is presently being furnished to the country?

209. The loan is not directed at a regional problem. All aid assistance to Indonesia is presently being furnished in the context of the Inter Governmental Group for Indonesia, coordinated by the IBRD.

C. Relation to U.S. Economy

-- Employment, Balance of Payments, Private Enterprise

1. FAA §§201(b)(6); 102, Fifth. What are the possible effects of this loan on U.S. economy, with special reference to areas of substantial labor surplus? Describe the extent to which assistance is constituted of U.S. commodities and services, furnished in a manner consistent with improving the U.S. balance of payments position.

201(b)(6). All goods and services financed under this loan will be procured from the U.S. In addition, a portion of the goods and services financed by the IDA will also be procured from the U.S.

2. FAA §§612(b), 636(h). What steps have been taken to assure that, to the maximum extent possible, foreign currencies owned by the U.S. and local currencies contributed by the country are utilized to meet the cost of contractual and other services, and that U.S. foreign-owned currencies are utilized in lieu of dollars?

612(b), 636(h) Local currency provided by the GOI will be used to meet local currency needs of the project.

3. FAA §601(d); App. 8115. If this loan is for a capital project, to what extent has the Agency encouraged utilization of engineering and professional services of U.S. firms and their affiliates? If the loan is to be used to finance direct costs for construction, will any of the contractors be persons other than qualified nationals of the country or qualified citizens of the U.S.? If so, has the required waiver been obtained?

4. FAA §608(a). Provide information on measures to be taken to utilize U.S. Government excess personal property in lieu of the procurement of new items.

5. FAA §602. What efforts have been made to assist U.S. small business to participate equitably in the furnishing of commodities and services financed by this loan?

6. FAA §621. If the loan provides technical assistance, how is private enterprise on a contract basis utilized? If the facilities of other Federal agencies will be utilized, in what ways are they particularly suitable; are they competitive with private enterprise (if so, explain); and how can they be made available without undue interference with domestic programs?

7. FAA §611(c). If this loan involves a contract for construction that obligates in excess of \$100,000, will it be on a competitive basis? If not, are there factors which make it impracticable?

601(d). The capabilities of U.S. firms will be evaluated in the selection of engineering and other professional services. The general construction contract has been pre-allocated for A.I.D. financing and will be awarded in accordance with standard Agency source origin requirements.

608(a) The use of U.S. Government excess property is not considered compatible with the requirements of this project.

602 Applicable regulations will be complied with.

621. Certain technical assistance will be provided under this project. The services of appropriate firms will be obtained through standard IDA selection procedures. The services of Federal Agencies will not be utilized.

611(c). Yes. The construction will be awarded on a competitive basis, and equipment suppliers will be afforded an opportunity to indicate their interest in selling equipment.

-- Procurement

1. FAA §602(a). Will commodity procurement be restricted to U.S. except as otherwise determined by the President?

602(a) Yes, with respect to the commodities financed under the A.I.D. loan.

2. FAA §604(b). Will any part of this loan be used for bulk commodity procurement at adjusted prices higher than the market price prevailing in the U.S. at time of purchase?

604(b) No.

3. FAA §604(e). Will any part of this loan be used for procurement of any agricultural commodity or product thereof outside the U.S. when the domestic price of such commodity is less than parity?

604(e) No.

D. Other Requirements

1. FAA §201(b). Is the country among the 20 countries in which development loan funds may be used to make loans in this fiscal year?

201(b) Yes.

2. App. §112. Does the loan agreement provide, with respect to capital projects, for U.S. approval of contract terms and firms?

112 Yes.

3. FAA §620(k). If the loan is for construction of a productive enterprise, with respect to which the aggregate value of assistance to be furnished will exceed \$100 million, what preparation has been made to obtain the express approval of the Congress?

620(k) Not applicable.

4. FAA §§620(b), 620(f); App. §109(b). 620(b),620(f); Appt. 109(b)
Has the President determined that the country is not dominated or controlled by the international Communist movement? If the country is a Communist country (including, but not limited to, the countries listed in FAA §620(f)) and the loan is intended for economic assistance, have the findings required by FAA §620(f) and App. §109(b) been made and reported to the Congress? The required determination has been made.

5. App. §109(a). Will any military assistance, or items of military or strategic significance, be furnished to a Communist nation? 109(a) No.

6. FAA §620(h). What steps have been taken to insure that the loan will not be used in a manner which, contrary to the best interest of the United States, promotes or assists the foreign aid projects of the Communist-bloc countries? 620(h) The loan agreement will contain a provision covering this requirement.

7. App. §118. Will any funds be used to finance procurement of iron and steel products for use in Vietnam other than as contemplated by §118? 118 No.

8. FAA §636(i). Will any part of this loan be used in financing non-U.S.-manufactured automobiles? If so, has the required waiver been obtained? 636(i) No.

9. FAA §§620(a)(1) and (2), 620(p); App. §117. Will any assistance be furnished or funds made available to the government of Cuba or the United Arab Republic? 620(a)(1) and (2), 620(p) No.

10. FAA §620(a). Will any part of this loan be used to compensate owners for expropriated or nationalized property? If any assistance has been used for such purpose in the past, has appropriate reimbursement been made to the U.S. for sums diverted?

620(g) No. No assistance has been used for such purposes in the past.

11. FAA §201(f). If this is a project loan, what provisions have been made for appropriate participation by the recipient country's private enterprise?

201(f): It is anticipated that a portion of the work will be accomplished through direct hire of personnel and subcontract with private firms in the recipient country.

12. App. §104. Does the loan agreement bar any use of funds to pay pensions, etc., for persons who are serving or who have served in the recipient country's armed forces?

104 Yes. The loan agreement will cover this requirement.

SECTION 611(e) CERTIFICATION

The USAID Director has certified as to this Project's compliance with Section 611(e) of the Foreign Assistance Act. This certification is presently enroute to Washington and will be on file in EA/CDF.

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INDONESIAN EXCHANGE RATE

After this appraisal report was completed, the Government of Indonesia adopted an exchange reform which substantially unified its exchange rate system and resulted in some reduction in the dollar equivalent of the rupiah, in so far as most foreign trade transactions are concerned. Effective April 17, 1970, the two exchange markets - the BE (Bonus Export) and the DP (Devisa Pelengkap or Complementary Foreign Exchange) markets - were merged at Rp 378 per U.S. dollar, the rate recently prevailing in the DP market. This rate will now apply to all foreign trade and exchange transactions except for sales of aid funds provided by foreign governments for program imports and related services which, for the time being, will remain at the BE rate of Rp 326 per U.S. dollar. Since the reform also involves a simplification of export tax arrangements and the elimination of the export overprice system, the extent of the exchange rate adjustment will differ for different export and import commodities. Since the DP rate had been applied to non-trade receipts and to payments for less essential imports, the exchange reform will not affect these items.

Inasmuch as the calculations in the attached Appraisal Report were based on the old BE exchange rate of Rp 326 to a dollar, a study was made of the potential effect of the exchange reform on the economic viability of the project. The capital cost estimates of the project were derived from comparable projects in other developing countries, with the local currency portion being translated from the dollar value at Rp 326 per U.S. dollar. On this basis the total project cost was estimated at \$84.4 million, of which \$68.0 million was foreign exchange and Rp 5,346 million local currency. The former, of course, will not be affected by the exchange reform though its rupiah equivalent will increase by 16 percent. The capital cost in local currency should not be immediately affected by the exchange rate adjustment. Over the longer term it is reasonable to assume some general increase in prices, including the price of fertilizer, as a result of the exchange rate change. Moreover, the Government has given positive assurances to the lenders that it will implement the measures necessary to promote fertilizer usage and will permit PUSRI to sell its fertilizers at realistic commercial prices; the latter would reflect the higher cost, in terms of rupiah, of the foreign exchange component of the project, as well as any increase in operating costs, resulting from the exchange rate reform. Based on these assurances, the overall return on the investment is expected to remain substantially as stated in the appraisal report.

Industrial Project Department
April 20, 1970

PUSRI FERTILIZER PROJECT

MEMORANDUM OF AGREEMENT REGARDING PROJECT EXECUTION,
PROCUREMENT AND USE OF LOAN FUNDS

1.1. Japan acting through the Overseas Economic Cooperation Fund ("OECE"), the United States acting through the Agency for International Development ("AID"), the International Development Association ("IDA") and the Asian Development Bank ("ADB") (hereinafter called "the Lenders") have agreed to make available by way of loan amounts in various currencies equivalent to not less than US\$67,000,000, to assist the Government of the Republic of Indonesia in the financing of a project to increase the production of nitrogenous fertilizer in Indonesia. The project consists of two parts:

- A. The construction of a fertilizer plant at Palembang, in Sumatra, by P.T. Pupuk Sriwidjaja ("PUSRI"); and
- B. The construction of a natural gas conservation and transmission scheme by P.T. Pertamina ("PERTAMINA"), which will enable PERTAMINA to supply to PUSRI the gas required to operate the fertilizer plant.

A full description of the project, and the terms and conditions upon which the Lenders referred to above have agreed to make their respective loans, will be set forth in the loan agreement negotiated or to be negotiated between each Lender and the Republic of Indonesia.

1.2. The funds available for financing the project consist of multi-lateral funds from IDA, special funds from ADB, bilateral funds from OECE and AID, and local currency to be supplied by the Government of Indonesia,

PUSRI and PERTAMINA. It has been necessary to formulate a plan for project execution, satisfactory to all concerned parties, which will permit the project to be carried out in an economic and efficient manner while taking into account the nature and limitations of available funds. The purpose of this Memorandum is to set forth in general terms an appropriate plan for project execution, and procedures for procurement of the goods and services required for the project, and for allocation of the foreign exchange cost of contracts so procured among the loans or credits made available by the various Lenders.

II PUSRI FERTILIZER PLANT

General

2.1. The fertilizer plant described in Part A of the Project description annexed to the IDA Credit Agreement is essentially made up of two basic processing plants (ammonia and urea) with extensive supporting utilities and offsites plants. It is intended that a General Contractor will have overall responsibility for providing the complete fertilizer plant, supply and erection of which will be divided into two major parts:

- (a) the urea plant, which will be supplied as a package ("the Urea Plant Contract") including the provision of the components of that plant, except local Indonesian labour and materials required for the erection of the plant at the site; and
- (b) the balance of the work, which will be carried out by the General Contractor under a general contract covering the design and procurement of the ammonia plant and all utilities and offsites, and all site erection and construction work.

In constructing the fertilizer plant, PUSRI will have the assistance of a qualified consulting firm ("the Technical Adviser") which will in effect act as an extension of PUSRI's own engineering department.

2.2. The scope of the Urea Plant Contract and the General Contract, the responsibilities of the respective contractors thereunder and of the Technical Adviser, the procedures for procuring the services of the contractors and the Technical Adviser, and the method of allocating project expenditures among the various Lenders, are indicated in the following paragraphs. One of the tasks of the Technical Adviser will be

to prepare, on the basis of this Memorandum and of further information to be supplied to him as to the specific eligibility requirements of the various Lenders for financing under their loans, a detailed description of the procurement procedures which will be followed for the Project. In preparing such description the Technical Adviser may recommend modifications in the procedures set forth in this Memorandum for selection of the General Contractor and the Urea Plant Contractor, or in the terms and conditions of their contracts, as he may consider appropriate for the efficient and economic execution of Part A of the Project. The description of the procurement procedures prepared by the Technical Adviser will be furnished by PUSRI to IDA and ADB. IDA will transmit it to the two other Lenders. The procurement procedures will come into operation when accepted by PUSRI and all the Lenders.

Technical Adviser

2.3. A firm of consultants which is expert in ammonia and urea plant facilities will be appointed to act as Technical Adviser. The procedure for engaging the Technical Adviser will be generally as laid down in IDA's Guidelines for Use of Consultants. The selection by PUSRI of the Technical Adviser, and the terms and conditions of his contract, will be subject to the approval of IDA and ADB, after consultation with OECF and AID.

2.4. The Technical Adviser will prepare basic design criteria and engineering and construction standards for the plant, consolidating them into specifications for tender for the General Contract, and for the Urea Plant Contract. He will prepare invitations and bidding documents for these two contracts in conformity with the requirements of the relevant Lenders, assist PUSRI in the selection of the process vendors and the two contractors,

analyze bids received, and make recommendations for award. Thereafter, he will on behalf of PUSRI monitor and supervise as necessary the design, engineering, procurement and construction of the new facilities, coordinating both major contracts to meet the overall project schedule. Upon mechanical completion, the Technical Adviser will participate in performance testing and plant takeover, and in general will assist in the initial commercial operation of the new facilities.

Urea Plant Contract

2.5. The Urea Plant Contractor will be selected from prequalified Japanese firms on the basis of competitive bidding within Japan. The Contract will be awarded on a lump sum basis, and the terms and conditions of the contract will be such that PUSRI's payments to the Urea Plant Contractor will be eligible for financing out of the OECF and/or ADB Loans. Bids will be evaluated in accordance with criteria established by PUSRI on the recommendation of the Technical Adviser and with the concurrence of IDA and ADB acting in consultation with OECF. If all lump sum bids received for the Urea Plant Contract seem to PUSRI, after seeking from bidders such clarification as may be appropriate, to be unreasonably high, PUSRI with the concurrence of IDA and ADB, acting in consultation with OECF, will call upon bidders to submit new bids, for carrying out the Urea Plant Contract on a cost plus fixed fee basis. In either case, the responsibilities of the Contractor will generally be the same as those set out in the following two paragraphs, except that, in the event of the contract being on a cost plus fee basis, all or most of the equipment for the plant will be procured

by the contractor, in accordance with the method described in paragraph 2.9(b), through competitive bidding among Japanese suppliers. All pre-qualification and tender documents for the Urea Plant Contract and any subsequent modification thereof, evaluation of bids and proposals for award will require the concurrence of IDA and ADB, acting in consultation with OECF.

2.6. The scope of work of the Urea Plant Contractor will be confined within the battery limits of the Plant, except to the extent that it is necessary for him to provide design data for utilities and offsites to the General Contractor. Bidders will be required to submit fixed price bids covering all the components of the Urea Plant, as listed below:

- (a) licence fee and basic data fee;
- (b) basic and detailed engineering;
- (c) all equipment and materials, including packing, insurance and transport charges to site;
- (d) construction advisory service for the erection of the Urea Plant;
- (e) provision of an experienced start-up team and necessary special equipment used to supervise and assist in the testing, start-up and initial operation of the Urea Plant under the general coordination of the General Contractor;
- (f) provision of facilities for training of PUSRI's operating and maintenance personnel in a similar plant or plants in Japan. Expenses of such personnel would be payable by PUSRI.

Bids will identify local currency costs to the extent required by the relevant Lenders.

2.7. The Urea Plant Contractor would provide to PUSRI and the General Contractor adequate guarantees of plant performance, equipment performance, and standards of materials and construction used in the Urea Plant. The Urea Plant Contractor would utilize materials and equipment in the Urea Plant which conform to the standards laid down by the Technical Adviser for uniform use throughout the entire plant regardless of the origin of such materials and equipment. The Urea Plant Contractor, the General Contractor and the Technical Adviser will enter into mutual covenants intended to ensure the confidentiality of information respecting the urea process and the ammonia process which any of them may regard as confidential and proprietary and which is so identified by them at the time of entering into contracts. The exact relationship between the Urea Plant Contractor and the General Contractor will be determined on the basis of the recommendations of the Technical Adviser and will be specified in the respective tender documents.

General Contract

2.8. The General Contractor will be selected from prequalified United States firms on the basis of competitive bidding within the United States in accordance with AID rules and regulations. The Contract will be carried out on a cost plus fixed fee basis, the fee covering all services (including the remuneration of expatriate personnel) to be rendered by the Contractor as described in paragraph 2.9. The terms and conditions of the contract will be such that PUSRI's payments to the General Contractor for his services will be eligible for financing out of the AID Loan. In the event that all bids submitted for the General Contracts seem to PUSRI to be unreasonably high, IDA may agree that all bids should be rejected and the General Contract procured through international competitive bidding among prequalified contractors in general accordance with the IDA Guidelines for Procurement. All pre-qualification and tender documents for the General Contract and any subsequent modification thereof, evaluation of bids, and proposals forward will require the concurrence of IDA, which will act in consultation with AID and ADB.

2.9. The General Contractor will act as Engineering Manager for the ammonia plant, utilities and offsites required for the fertilizer plant, and as Construction Manager for the entire plant, including the urea portion, and shall bear overall responsibility for the completion of the fertilizer plant meeting the production and performance requirements specified in the tender documents. The final scope of the General Contractor's services will be determined on the basis of the recommendations of the Technical Adviser, but it is presently anticipated that it would cover all contracting services required for comple-

tion of the fertilizer plant other than those to be provided by the Urea Plant Contractor and would include the following:

- (a) Basic and detailed design of ammonia, utilities and offsite plants.
- (b) Management of procurement for all equipment and materials (local and imported) for the ammonia, utilities and offsites plants. The delivered cost of such equipment and materials would be charged to the owner at actual cost. The procurement services would cover the following:
 - (i) Preparation of specifications and invitations to bid;
 - (ii) Issuance of invitations according to the provisions of this Memorandum relating to restricted bidding or to international competitive bidding procedures as may be appropriate;
 - (iii) Bid analyses and recommendations for award of contracts;
 - (iv) Completion of purchase contracts with suppliers, for owner's signature;
 - (v) Expediting, inspecting, witnessing tests and execution of necessary documentation including guarantees;
 - (vi) Arrangements for delivery to site.
- (c) Management of construction and erection. Materials and local labor, as well as reasonable living and travelling expenses of expatriate personnel, will be charged to the

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owner at cost.

- (d) Testing, starting-up and initial operation of the ammonia, utilities and offsites plants and, with the assistance of the Urea Plant Contractor, of the urea plant through completion of take-over tests.
- (e) Provision of suitable training for PUSRI maintenance and operating personnel, at cost.

In addition, the General Contractor within his fee would be expected to provide adequate guarantees of the fertilizer plant performance, equipment performance, and standard of materials and workmanship for all the facilities.

2.10. In submitting their bids, tenderers for the General Contract may be required to nominate the processes (other than the urea process) which they propose to use. Alternatively, if so recommended by the Technical Adviser, tenderers may be required to make use of a process or processes preselected by PUSRI in consultation, through IDA, with the Lenders. To the extent that the cost of a selected process is not eligible for financing by AID or other Lenders it will be eligible for financing by IDA.

Procurement by General Contractor

2.11. Equipment, materials and supplies required for the fertilizer plant and to be financed by any of the Lenders, other than those to be provided by the Urea Plant Contractor, and those referred to in paragraph 2.12 hereof, will be procured by the General Contractor on behalf of PUSRI through international competitive bidding in accordance with the IDA "Guidelines for Procurement". The Project will be advertised through the diplomatic or trade missions of member countries of the International Bank for Reconstruction and Development and Switzerland and in newspapers and trade journals of wide circulation, inviting interested suppliers to apply for a list of goods and qualification conditions. A list of qualified suppliers will be completed from the responses to the invitation and approved by PUSRI with the concurrence of IDA and ADB and thereafter bids or proposals will be invited from the suppliers on this list. Contracts will be awarded to the lowest evaluated responsive bid. Bidding documents will require a successful bidder to provide all information needed to determine whether this contract is eligible for financing by ADB or AID and, to the extent it is eligible, to satisfy the requirements of either Lender. Specific procedures will vary according to the estimated cost of contracts, as follows:

- (a) Contracts of \$200,000 or more: Copies of the invitation to bid, the list of invited bidders, specifications, conditions of contract and other tender documents will be submitted by PUSRI to IDA and ADB and will require their concurrence prior to the issuance of invitations. Public opening procedures will be observed for bids received. Before any award is made, a list of bids received, and analysis thereof, and proposals for award,

with reasons, will be submitted by the General Contractor to PUSRI and by PUSRI to IDA and ADB, and will require their concurrence.

(b) Contracts over \$25,000 but less than \$200,000:

For Contracts of \$100,000 or more, public bid opening procedures will be observed. The results of bidding on all contracts within category (b) will be available to bidders on request. Copies of all tender documents, of all bid evaluation documents and of all executed contracts will be submitted by PUSRI to IDA and ADB as soon as possible after each contract has been executed.

(c) Contracts of \$25,000 or less: These will be procured by international competitive bidding to the extent that this is reasonable and conducive to a lower price; but "international shopping" procedures are acceptable in all other cases. Bids or proposals should be obtained from no less than 3 (three) suppliers. Copies of all contracts will be submitted by PUSRI to IDA and ADB as soon as possible after execution.

In all cases, the General Contractor and PUSRI must be prepared to justify awards on the basis of criteria specified in the Guidelines. Any comments which ADB may have on the documents specified above will be communicated to PUSRI through IDA.

2.12. If in the course of execution of the General Contract IDA considers

- (a) that certain items of equipment, such as process-critical items, are by their nature not appropriate for international competitive bidding; or
- (b) that insufficient funds remain unallocated from the IDA Loan to finance the estimated foreign exchange cost of items still to be procured by the General Contractor; or
- (c) that although sufficient funds may remain unallocated from the IDA Loan, procurement of certain items could without prejudice to the principles of economy and efficiency be restricted to one or more countries which are eligible sources for financing under one or more of the other Loans

then IDA may, in consultation with such of the other Lenders as still have funds available under their Loans, determine that procurement of all or part of contracts not yet awarded will be restricted to such country or countries as IDA shall agree with the relevant Lenders to be appropriate.

2.13. Goods and services to be financed solely out of local funds will be procured in accordance with procedures which will ensure a reasonable degree of competition.

III. GAS CONSERVATION AND TRANSMISSION SCHEME

3.1. Firms of consultants which are expert in reservoir engineering and gas compression and transmission engineering will be appointed to act as PERTAMINA's technical advisers. The procedure for engaging them will be generally as described in IDA's Guidelines for Use of Consultants. The selection by PERTAMINA of these consultants, and the terms and conditions of their contracts, will require the concurrence of IDA and ADB,

3.2. Construction and installation services and equipment, materials and supplies for the gas conservation and transmission scheme to be financed by IDA and ADB will be procured on the basis of international competitive bidding in accordance with IDA's Guidelines for Procurement. Bidders for the provision of construction and installation will be pre-qualified and pre-qualification will require the concurrence of IDA and ADB. Bidding documents will require a successful bidder to provide all information needed to determine whether his contract is eligible for financing by ADB and, to the extent it is eligible, to satisfy the requirements of ADB.

3.3. With respect to contracts for construction and installation and contracts for equipment, material and supplies involving expenditures estimated to exceed \$50,000, equivalent, copies of the invitations to bid, specifications, conditions of contract and other tender documents will be submitted by PERTAMINA to IDA and ADB for their approval prior to the issuance of invitations. Public opening procedures will be observed for bids received. Before any award is made, a list of bids received, and analysis thereof, and proposals for award, with reasons, will be submitted by PERTAMINA to IDA and ADB and will require their concurrence.

- 3.4. With respect to contracts for equipment, materials and supplies, involving expenditures estimated to exceed \$20,000 equivalent but not more than \$50,000 equivalent, public bid openings procedures will be observed. Copies of all tender documents, bid evaluation documents and executed contracts will be submitted to IDA and ADB as soon as possible after each contract has been executed.
- 3.5. Contracts for equipment, supplies and materials estimated not to exceed \$20,000 equivalent will be procured by international competitive bidding to the extent that this is reasonable and conducive to a lower price; "international shopping" procedures are otherwise acceptable if bids or proposals are obtained from no less than three suppliers. Copies of all contracts will be submitted by PERTAMINA to IDA and ADB as soon as possible after execution.
- 3.6. In all cases, PERTAMINA must be prepared to justify awards on the basis of the criteria specified in the Guidelines. Any comments which ADB may have on the documents specified above will be communicated to PERTAMINA through IDA.
- 3.7. Goods and services to be financed solely out of local funds will be procured in accordance with procedures which will ensure a reasonable degree of competition.

such Part from the then unallocated balance. Further allocations between Part A and Part B may be made by IDA with the concurrence of the other Lenders, at the request of the Government of Indonesia, to meet increases in the estimates of costs.

4.4. IDA will periodically inform each Lender, the Government of Indonesia and PUSRI or PERTAMINA of the contracts allocated to each Lender for Part A and Part B of the Project and their estimated value. Each Lender will periodically inform IDA of the amount disbursed by it for each Part of the Project. IDA will on the basis of the information received keep an account of the amounts of financing to be made available by the Lenders which have been allocated to particular contracts, of the amounts disbursed therefore and of the amounts otherwise available and will periodically inform the other Lenders, the Government of Indonesia and PUSRI (for Part A) or PERTAMINA (for Part B).

Washington, D.C.,

1970.

Agency for International Development
Washington, D. C. 20523

Dear Sirs:

Subject: PUSRI Fertilizer Project; Agricultural Policies

We refer to Section 5.1(i) of the Loan Agreement of even date herewith among the Republic of Indonesia, P.T. Pupuk Sriwidjaja, and the Agency for International Development. We are pleased to furnish to you the following information about the Government's policies in certain agriculturally-related areas relevant to the Project, and the measures which it is at present adopting or proposes to adopt to implement these policies:

1. As emphasized in the current Five-Year Development Plan, the Government's objective is to attain self-sufficiency in rice and other staple foods, as well as to increase agricultural production for export, by stimulating more extensive production. In the latter area, heavy emphasis is being given to intensification of rice production, since it is expected that known technology and increased use of fertilizers will permit high benefit-cost ratios and yield results within a short period of time.

2. Rice Price Support Program: Prior to 1969, excessive fluctuations occurred in the price paid to farmers for their rice. In that year, however, a policy was adopted of stabilizing the rice price within limits which would be low enough to protect the consumer, but at the same time high enough to encourage increased use by farmers of fertilizers and other inputs. This is done by the maintenance of buffer stocks of rice, under the control of BULOG. In outline, the scheme operates as follows:

(a) A minimum price for the sale of their rice is guaranteed to farmers through standing offers by BULOG to purchase such rice at prices which are determined by the Government from time to time as being appropriate. In making such determination, world rice prices are used as a guiding factor, since this permits the Government to dispose of domestic purchases on the world market, and to purchase from abroad for disposal on the domestic market, without significant loss. It will not, however, be the sole determining factor: it may be necessary to allow for limited

periods of time some discrepancy between the domestic price and the world price, within the overall framework of the incentive policy which the Government is pursuing. At present price levels, the floor prices offered by BULOG are as follows:

milled rice ex mill	- Rps. 36.00/kg
mill-dry stalk padi at mill	- Rps. 16.00/kg
village-dry stalk padi ex farm	- Rps. 13.20/kg

Every effort is being made to ensure the effectiveness of this scheme. Thus, letters of credit have been opened with domestic banks to ensure prompt payment to the farmers and other sellers, arrangements have been made with international surveyors to survey purchases and thereby to prevent malpractice and discrimination against the farmers, and quality specifications have been set to correspond better with qualities normally being marketed.

(b) At the same time, it is the Government's policy to ensure that the free market price of medium qualities of rice commonly used in each area will not exceed a ceiling which, at present price levels, is fixed at Rps. 50.00/kg. This has been achieved during the present pre-harvest season by sales of BULOG's buffer stocks, in sufficient quantities, at prices slightly below this market ceiling. At present, part of BULOG's stocks are being distributed to supply rice requirements of military personnel as well as of central and regional Government employees. To the extent that requirements of rice for salary payments in kind, market releases to maintain the ceiling price to the consumer, and maintenance of adequate buffer stocks should exceed in any year the domestic availability of rice, recourse will be had to imports of rice, preferably aid financed but also commercially procured if necessary. It is the Government's policy to gradually reduce these salary payments in kind, and increase money wages to compensate, as soon as price stability has been maintained for a sufficiently long time to provide a suitable economic climate for such a change.

3. At the present retail price level for urea and TSP fertilizer it is expected that the rice price support program outlined above will ensure farmers of a margin sufficient to enable them to make use of fertilizer and other inputs, and will provide a strong incentive to

increase rice production by greater use of such inputs. This is particularly so in the areas where farmers enjoy relatively reliable irrigation water supply and use new seed varieties which are highly fertilizer-responsive. The program is therefore expected to accelerate the growth of fertilizer consumption and to prevent the fluctuations in such consumption which have occurred in the past years.

4. Every effort has been made to strengthen the administrative ability of EULOG to implement this program. Communication between the head and regional offices has been facilitated by the use of telex, and this, together with frequent reporting of stocks, purchases and distribution, is expected to ensure the degree of control necessary for the success of the program. In addition, detailed procedures for the operation of the buffer stock policy have been formalized in manuals, and seminars have been held to ensure understanding by all concerned. Daily control is maintained on stock positions to provide the flexibility in directing purchases and sales needed to implement price, buffer stock and distribution policies. At the same time, the Department of Agriculture, beginning in January 1970, is reporting prices received by farmers at the village level. This will supplement the present reporting of prices in major retail markets, and enable rapid adjustment of procurement policies and related activities as necessary. The Government is also aware of shortcomings in the reporting of agricultural production statistics, especially for rice. Consideration is currently being given to improvements of the collection and dissemination of production statistics which in turn will improve program control, although the specific direction for action is still uncertain.

5. Improvements in Irrigation: The Five-Year Development Plan includes extensive rehabilitation of existing irrigation facilities, together with some expansion. Because of higher benefit-cost ratios and quicker returns to such investments, emphasis in the Plan is placed on rehabilitation, and activities in this regard are proceeding rapidly. An IDA loan has already been negotiated with work well under way for the rehabilitation of irrigation serving 180 thousand hectares on Java and for the completion of irrigation facilities serving 25 thousand hectares in Lampung, South Sumatra. Under Japanese aid financing, regulation of the Brantas River is proceeding, which should benefit an area of 20 to 30 thousand hectares. An Asian Development Bank loan has been negotiated with work proceeding for the extension of irrigation on the Tadjum project covering approximately 3 thousand hectares. Negotiations have recently been completed for the rehabilitation of irrigation facilities on the Djatiluhur system serving 180 thousand hectares and in Sulawesi serving 20 thousand hectares. Preparation is also being made for the second stage of this same project which is expected to add new irrigation serving an area of between 50 and 60 thousand hectares. Other projects serving smaller areas are either proceeding or under negotiation.

6. Credit Facilities: The rapid expansion of the rice intensification program required to meet the large production increases premised in the Five-Year Development Plan has given rise to problems of effective credit supply and communication of "know-how" in the use of modern techniques and inputs. An attempt to correct the shortcomings and to improve organization of input distribution resulted in contracts with foreign and domestic private contractors under the program known as Bimas Gotong Rojong. The long-term objective of the Government is to make use of private input distributors as intermediaries to supplement the supply of credit in conjunction with their distribution of inputs to the farmers, and at the same time, hopefully, to supplement agricultural extension activities. In the interim, action is being taken to reduce and eventually to eliminate the Bimas Gotong Rojong program as now practiced, and to substitute improved programs of "National" Bimas. These interim programs will utilize private sector distribution of inputs to the extent feasible in the short-term, and will give major emphasis to improved methods of credit provision, along with improvement of the Government Extension Services. The Government budget has made funds available for the extension of the National Bimas Program to ensure its availability to an increasing number of farmers. Training programs for bank officers who are concerned with extension of credit to farmers have been inaugurated in key parts of the country to facilitate such credit. In areas where such programs already exist, the training programs will be intensified to improve every aspect of the program already described in the statement. A number of other institutional changes and specific methods for improved and increased credit provision are under active discussion and actual trial. For example almost 30,000 farmers in the Jogjakarta area are now receiving direct individual credit provided by village units of Bank Rakjat Indonesia. Elsewhere mobile credit units have been proven practical and are being expanded to cover farmers in an area of 300,000 hectares on Java. Stress is also being given to expansion of the capacity to provide mobility of extension workers and the upgrading of existing extension service personnel, together with employment of more highly trained personnel.

7. Other Measures: The National Fertilizer Study referred to in the Development Credit Agreement is expected to be completed by about the end of May 1971, and even before that date interim reports will become available which should enable some preliminary implementation work to begin. Other significant activities being undertaken or considered by the Government are summarized below:

(a) Activity is proceeding rapidly aimed at increasing and improving the supply and distribution of certified highly fertilizer responsive seed. A major effort in this regard is expected in the seed production and development project centering in the Sukamandi seed station in West Java. A feasibility study on this

Agency for International Development
Washington, D. C. 20523

Dear Sirs:

Subject: PUSRI Fertilizer Project; Distribution and Marketing

We refer to Sections 5.1(i) and 5.2(o) of the Loan Agreement of even date herewith among the Republic of Indonesia, P.T. Pupuk Sriwidjaja, and the Agency for International Development. We set out hereunder certain measures which we propose to take, prior to completion of the Pusri Fertilizer Project, to implement the provisions of these sections:

1. Importation of Fertilizers: The Government of Indonesia has decided to permit all publicly-owned and private entrepreneurs, who have adequate financial resources and physical facilities, to enter into the business of importing and distributing fertilizers. It is the general policy of the Government that foreign exchange required by such importers should be drawn, in the first instance, from available aid-B.E. funds until these have been fully allocated, and that thereafter use would be made of B.E. umum funds. Arrangements to implement those policies are set forth in the Basic Trade Regulations on Fertilizer issued by the Directorate of Imports of the Department of Trade in March, 1970.

2. It is intended that, in addition to distributing the fertilizer produced at its existing Pusri Plant I, Pusri will act as distribution agent for urea produced by Petrokimia, and will also import fertilizer for distribution and sale through its distribution network. The Department of Trade has already issued to Pusri a license to act as an importer, which will carry over from year to year without need for renewal. Pusri will receive the same subsidy as that provided to other importers of fertilizer using aid-B.E. Funds. Pusri has requested the Department of Trade for permission to import 50,000 tons of urea in 1970/71, and formal approval for this will be issued shortly. Pusri will determine each year the amount which it needs to import in such year, taking into account existing market conditions and expected production and consumption, and the

Government will permit the import of the amount so determined. The objective is to bring Pusri's distribution system to the level at which it can handle the volume of sales expected when the Pusri II plant comes into full commercial operation. Pusri has arranged with the Bank Ekspor Impor Indonesia a line of credit sufficient to enable it to finance the volume of imports which it is anticipated will be required.

3. Improvement of Sales/Distribution System: Pusri will establish and carry out a program for the systematic improvement of its sales organization and distribution system, and has already initiated preliminary action in this regard. To assist it in the development and implementation of such program, Pusri will have the assistance of foreign marketing experts recruited as soon as possible in accordance with the provisions of the Loan Agreement. Subject to the views and recommendations of such experts, Pusri contemplates that its program will include the following features:

(i) Establishment of Regional Marketing Offices, which will make a continuous evaluation on a regional basis of Pusri's distributors, wholesalers and retailers, and make necessary improvements;

(ii) inducements to distributors to increase their sales activities, by assisting those of proven credit-worthiness to obtain extended credit terms from banks, and by providing area protection for those achieving a certain level of sales;

(iii) increased sales promotion and extension services, by the provision of bonus incentives to farmers purchasing certain quantities of urea, and by making available to farmers, through Pusri's distribution agents, information brochures and other advertising material.

(iv) greater efforts to ensure the timely and expeditious movement of fertilizer, in particular by seeking to improve the existing arrangements for shipping, insurance, land transportation, planning and scheduling of deliveries, storage at transfer and sale points, terms of payment, and control of the physical flow of fertilizer by Pusri's regional offices.

4. Packaging: As part of the Project, Pusri intends to engage technical advisers to study the packaging, bulk handling and despatching of urea. On the basis of such advice, Pusri will select the most economic, durable and weather-resistant substitute for the bags

at present in use and will include appropriate packaging facilities as part of the Pusri II plant. In addition, Pusri will introduce improved methods of handling such bags in transit.

In implementing the above measures, we will have regard to the recommendations of the consultants employed to carry out the National Fertilizer Study.

Yours faithfully,

REPUBLIC OF INDONESIA

By _____
Authorized Representative

P.T. PUFUK SRIWIDJAJA

By _____
Authorized Representative

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON 25, D. C.

ANNEX 23

OFFICE OF
THE ADMINISTRATOR

A.I.D. Loan:
Project No.:
AID/DLC/P:

CAPITAL ASSISTANCE LOAN AUTHORIZATION

Provided from: Development Loan Funds
(Indonesia: P.T. Pupuk Sriwidjadja;
Pusri Fertilizer)

In order to increase the supply of fertilizer within its territories, the Government of the Republic of Indonesia (hereinafter called the "Borrower") has requested loans from the United States of America, acting through the Agency for International Development (hereinafter called "A.I.D."), the Government of Japan, the International Development Association* (hereinafter called "A.D.B.") totalling \$68,000,000 to finance the construction of a urea fertilizer plant to be owned and operated by P.T. Pupuk Sriwidjadja (hereinafter called "Pusri") near Palembang, Sumatra (hereinafter called "Part A"); and the installation of a gas conservation and transmission system in the gas fields of P.N. Pertamina Mintak Dangus Bunri National (hereinafter called "Pertamina") for the supply of gas to Pusri's fertilizer plant (hereinafter called "Part B").

In response to the Borrower's request, and pursuant to the authority vested in the Administrator of A.I.D. by the Foreign Assistance Act of 1961, as amended, I hereby authorize the establishment of a loan pursuant to Part I, Chapter 2, Title I, of the Development Loan Fund, to the Borrower of not to exceed Twenty Million Dollars (\$20,000,000) to assist in the multilateral financing of the foreign exchange costs of equipment, materials and services necessary for Part A of the Project, this loan to be subject to the following terms and conditions:

1. Interest Rate and Terms of Repayment.

The interest on this loan shall be two percent (2%) per annum on the disbursed balance of the loan during the first ten (10) years of the loan and three percent (3%) per annum for the remaining thirty (30) years of the loan. The principal of the loan shall be repaid in full within forty (40) years from the date of the first disbursement under the loan, and such repayment shall include a grace period of not to exceed ten (10) years from the date of first disbursement.

2. Currency of Repayment.

Provision shall be made for repayment of the loan and payment of the interest in United States dollars.

* (hereinafter called "I.D.A.") and the Asian Development Bank

3. Other Terms and Conditions.

- (a) Unless A.I.D. otherwise agrees in writing, prior to the issuance of the first letter of commitment, the Borrower or Pusri as appropriate, shall furnish A.I.D., in form and substance satisfactory to A.I.D.:
- (i) Executed copies of each of the Lending Agreements of the other Lenders for the Project, together with evidence that all conditions precedent to their effectiveness or the right to make withdrawals thereunder shall have been fulfilled;
 - (ii) An executed copy of the Gas Purchase Agreement between Pusri and Pertamina for the supply of gas to Pusri by Pertamina, together with legal opinions as to its effectiveness;
 - (iii) An executed copy of the Pusri Financing Agreement together with legal opinions as to its effectiveness;
 - (iv) Evidence of the arrangements that have been agreed upon by A.I.D. and I.D.A./A.D.B. with the concurrence of Pusri for the procurement by Pusri of items eligible for financing under this Loan;
 - (v) Evidence that the Borrower shall have retained the services of consultants, acceptable to A.I.D. and the other Lenders, on terms and conditions acceptable to A.I.D. and the other Lenders, for the carrying out of a national fertilizer study;
 - (vi) Advice from the I.D.A./A.D.B. that the procurement of equipment, material and services for Part B of the Project is proceeding satisfactorily;
 - (vii) Such other conditions as A.I.D. may require.
- (b) Equipment, materials and services financed under this Loan shall have their source and origin in the United States.
- (c) Borrower will covenant that it shall:
- (i) Cause Pusri to carry out Part A of the Project in accordance with the terms and conditions of the Loan Agreement, and cause Pusri and Pertamina

to carry out their respective parts of the Project in accordance with the loan agreements of the other Lenders and the Gas Purchase Agreement; and take or cause to be taken all reasonable action which shall be necessary on its part or on the part of its agencies or instrumentalities to enable Pusri and Pertamina to carry out their respective parts of the Project in conformity therewith, and not take or permit any of its agencies or instrumentalities to take any action which would materially interfere with the efficient and business-like conduct by Pusri of its enterprise or by Pertamina of its enterprise;

- (ii) Make available to Pusri in accordance with the terms and conditions of the A.I.D. Loan Agreement and the Pusri Financing Agreement the proceeds of this Loan and the loans of the other Lenders as may be required to carry out Part A of the Project, together with such Indonesian currency and foreign exchange over and above the proceeds of the A.I.D. Loan and the loans of the other Lenders as may be required to carry out Part A of the Project;
- (iii) Except as A.I.D. and the other Lenders shall otherwise agree, not take or concur in any action the effect of which would be to modify the financial obligations of the parties under the Pusri Financing Agreement;
- (iv) Lend to Pertamina in accordance with the terms and conditions of a Pertamina Subsidiary Loan Agreement such proceeds of the loans of the Lenders other than A.I.D. as may be required to carry out Part B of the Project, together with such Indonesian currency and foreign exchange over and above the proceeds of the loans of the Lenders as may be required to carry out Part B of the Project;
- (v) Except as the Lenders other than A.I.D. shall otherwise agree, not take or concur in any action the effect of which would be to modify the financial obligations of the parties under the Pertamina Subsidiary Loan Agreement or any provision thereof;
- (vi) Cause a national fertilizer study to be carried out with due diligence and efficiency and to be completed not later than fifteen months from the date a contract

is executed with consultants for the carrying out of the study. Upon completion thereof the Borrower shall, as soon as practicable, consult with A.I.D. and the other Lenders regarding the findings and recommendations arising from this study, and shall take such action required to implement such recommendations as shall be agreed upon by the Borrower, A.I.D., and the other Lenders;

- (vii) So long as the Borrower shall own or control the majority of the voting rights in the meetings of shareholders of Pusri, and before nominating or voting for the election of any member of the Board of Management (Direksi) and the Board of Directors (Dewan Komisaris) of Pusri, inform A.I.D. and the other Lenders of the names and qualifications of the persons it proposes to nominate and/or for whose election it intends to vote, and if so requested by A.I.D. and the other Lenders, exchange views with said Lenders regarding such proposals;
 - (viii) Reserve or cause Pertamina to reserve the gas resources required for the supply of gas to Pusri pursuant to the Gas Purchase Agreement;
 - (ix) Promptly as needed, take all measures which may be necessary or desirable to assist Pusri to build up and maintain an effective and economic marketing organization for its fertilizer products and to stimulate the sale of such products at competitive prices in accordance with sound commercial practices. Such measures shall include a rice price support program or other programs which will encourage farmers to make optimum use of nitrogenous fertilizer at such prices, and the provision to Pusri's distributors, in the period preceding completion of the Project, of supplies of imported nitrogenous fertilizer sufficient to enable Pusri to carry out its marketing expansion program;
 - (x) Consult with A.I.D. and the other Lenders before undertaking or approving the undertaking of any other nitrogenous fertilizer project in its territories.
- (d) Pusri will covenant that it shall:
- (i) Employ qualified and experienced consultants acceptable to A.I.D. and the other Lenders, upon terms and conditions satisfactory to A.I.D. and the other Lenders;

for the purpose of assisting Pusri's management in (i) the carrying out of Part A (1) of the Project, (ii) the development of training programs for Pusri's personnel to operate the plant and related facilities included in Part A of the Project, (iii) the packaging and marketing of Pusri's products and (iv) management planning, financial control, accounting and executive staff training at least during the construction, start-up and initial operation of Part A of the Project;

- (ii) Employ qualified and experienced contractors acceptable to A.I.D. and the other Lenders, upon terms and conditions satisfactory to A.I.D. and the other Lenders, for the design, procurement and construction of all works included in Part A of the Project, and to arrange for training of Pusri's personnel in operating the plant and related facilities included in Part A of the Project;
- (iii) Except as A.I.D. and the other Lenders shall otherwise agree, duly perform all its obligations under the Pusri Financing Agreement and take no action, or concur in any action which would have the effect of modifying the financial obligations of the parties under the Pusri Financing Agreement;
- (iv) Take all action within Pusri's power to maintain its existence as a limited liability corporation under Indonesian law and maintain its right to carry on its operations, and to retain such land, interest in land and properties, and to acquire, maintain and renew such licenses, powers, franchises and other rights as may be necessary or useful in the carrying out of Part A of the Project or in the conduct of its business;
- (v) Except as A.I.D. and the other Lenders shall otherwise agree, not make expenditures, or commitments for expenditures, for fixed or capital assets (including investments in or loans to other business entities) until such date as on which Pusri's plant included in the Project shall have produced an aggregate of 300,000 metric tons of urea during the 12 month period preceding that date;
- (vi) Except as A.I.D. and the other Lenders shall otherwise agree, not incur any indebtedness (other than under the A.I.D. loan agreement and the Pusri Financing Agreement) if, after the incurring of such indebtedness, the indebtedness of Pusri then incurred and outstanding would be greater than the equity of Pusri;

- (vii) Except as A.I.D. and the other Lenders shall otherwise agree, make accounting arrangements to fully depreciate its present depreciable fixed assets relating to manufacturing operations by the end of 1975, and fully depreciate those depreciable fixed assets to be constructed under Part A of the Project relating to manufacturing operations over a 12 year period starting at the close of the fiscal year during which such assets will have been placed into service; and fully depreciate other depreciable fixed assets in conformity with consistently maintained sound financial principles;
- (viii) Except as A.I.D. and the other Lenders shall otherwise agree not declare any dividend or make any distribution with respect to its capital shares except out of its accumulated net earnings; and not pay any dividend or make any other distribution with respect to its capital shares (other than dividends or distributions payable solely in such capital shares) or purchase, redeem or otherwise acquire directly or indirectly for any consideration, any of such capital shares if, after giving effect to such action, the quick assets of Pusri would be less than the current liabilities of Pusri; and not pay any dividend or make any other distribution with respect to its capital shares until such date as on which Pusri's plant included in the Project shall have produced an aggregate of 300,000 metric tons of urea during the 12 month period preceding such date;
- (ix) Perform its obligations under the Gas Purchase Agreement and, except as A.I.D. and the other Lenders shall otherwise agree, not take, or concur in, any action which would have the effect of amending, abrogating, assigning or waiving the Gas Purchase Agreement or any provision thereof;
- (x) Make all reasonable efforts prior to operation of the plant included in Part A of the Project and thereafter, to improve its arrangements and facilities for marketing its fertilizer products and to develop and maintain an effective efficient marketing organization.

4. Pusri Financing Terms.

(a) The Borrower shall make available the proceeds of this Loan to Pusri on the following terms: 12-1/2 years maturity including a grace period of 4-1/2 years on repayment of principal and interest at 12% per annum. Payment of interest will be deferred without interest thereon until November 1, 1973 when the amount of interest so deferred shall be added to the principal outstanding to be paid in accordance with the terms of this paragraph; provided however that if any of the proceeds of

the A.I.D. Loan are disbursed prior to the time that \$19.3 million of external financing has been allocated to Pusri, no interest shall accrue on such amount outstanding until after said allocation has been completed.

(b) All payments of interest and principal which relate to the proceeds of the A.I.D. Loan shall be made to the Borrower by Pusri in accordance with a maintenance of value provision in the A.I.D. Loan Agreement.

(c) All payments of interest and principal made to the Borrower by Pusri which relate to the proceeds of the A.I.D. Loan shall be deposited in a special account and such funds may be used only as may be agreed upon by A.I.D. and the Borrower.

5. The Loan shall be subject to such other terms and conditions as A.I.D. may deem advisable.

John A. Hannah

Date

Clearances:

Assistant Administrator for East Asia:

Roderic O'Connor	_____	Date	_____
General Counsel: Robert T. Wray	_____	Date	_____
Controller: Charles F. Flinner	_____	Date	_____
PPC/CA: John H. Kaufmann	_____	Date	_____
EA/CDF: Selig A. Taubenblatt	_____	Date	_____
EA/DP: Charles H. Breecher	_____	Date	_____
GC/EA: Herbert E. Morris	_____	Date	_____
EA/EAlexander Shakow	_____	Date	_____