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

PROJECT PAPER

Proposal and Recommendations  
For the Review of the  
Development Loan Committee

PAKISTAN: Fauji Agrico Fertilizer Loan

AID-DLC/P 2114

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June 18, 1975

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: PAKISTAN - Fauji Agrico Fertilizer Loan

Attached for your review are the recommendations for authorization of a loan to the Islamic Republic of Pakistan in an amount of Forty Million United States Dollars (\$40,000,000) to assist in financing the foreign exchange costs of goods and services required for the construction of a urea fertilizer plant at Goth Machhi.

This loan proposal is scheduled for consideration by the Development Loan Staff Committee on Tuesday, June 24, 1975; please note your concurrence or objection is requested at the meeting or by close of business on that date. If you are a voting member a poll sheet has been enclosed for your response.

Development Loan Committee  
Office of Development  
Program Review

Attachments:  
Summary and Recommendations  
Project Analysis  
Annexes 1-24

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FAUJI-AGRICO FERTILIZER PROJECT

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PROJECT PAPER

## PAKISTAN: FAUJI-AGRICO FERTILIZER PROJECT

SUMMARY AND RECOMMENDATIONS

1. Borrower: The Islamic Republic of Pakistan (GOP or Government).
2. Beneficiary: The Gov will relend the proceeds of the A.I.D. loan to Fauji-Agrico Fertilizer Limited, a new company to be established in Pakistan under the Companies Act of 1913. The Company will be 30 percent owned by the Fauji Foundation of Pakistan and 30 percent by the Agrico Chemical Company of Tulsa, Oklahoma. The remaining 40 percent of the company's equity will be held as follows: 29.4 percent by the Pakistani public; 4.0 percent by the International Finance Corporation (IFC); and 6.6 percent by foreign investors yet to be identified.
3. Loan Amount: \$40.0 million.
4. Loan Terms:

To the Government: 40 years, including a 10-year grace period on the repayment of principal, with interest at 2% per year during the grace period and 3% per year thereafter.

To the Beneficiary: Firm relending agreements are yet to be negotiated; it is expected the terms will be 15 years, including a 5-year grace period on the repayment of principal, with interest at 10% per year.
5. Total Project Cost: \$246.7 million, of which 150.1 million (61%) is the estimated foreign exchange cost (to be financed by the A.I.D. and other foreign exchange loans and equity). The local currency cost of the project (\$96.6 million equivalent) will be provided by the local investors (\$43.9 million equivalent in the form of equity), and local financial institutions, which are Government controlled (\$52.7 million equivalent in long-term loans).

6. **Project:** The design and construction of a modern fertilizer facility, including all necessary offsites, located at Goth Machhi, Punjab, 375 miles from Karachi. The plant will have an annual rated capacity of 315,000 tons of ammonia and 543,000 tons of urea or about 244,000 TPY of nitrogen.
7. **Background:** Increased usage of fertilizer is important in the GOP's efforts to produce more of the food required to feed its growing population. With its shortages of foreign exchange, and the recent scarcity of fertilizer in world markets, it is essential that Pakistan use its indigenous natural gas resources to produce domestically more of its growing fertilizer needs.
8. **Export-Import Bank Interest:**  
Exim Bank has indicated it has no interest in the proposed loan.
9. **Mission Views:** The Mission supports the project and recommends approval of the loan. The Acting Mission Director's Certification pursuant to Section 611(e) of the Foreign Assistance Act of 1961, as amended, is attached as Annex 1.
10. **Statutory Requirement:**  
All applicable criteria for the A.I.D. loan have been met. See Annex 2.
11. **Recommendation:** That a loan to the GOP in the amount of \$40.0 million be authorized for the purpose and on the terms and under the conditions set forth in the draft Loan Authorization included as Annex 3.

**PROJECT COMMITTEE:**

**USAID/Pakistan**

Chairman	Chester S. Bell, Jr.
Loan Officer	Thomas L. Rishoi
Engineering Advisor	James G. Cassanos

Agricultural Advisor	Thomas L. Dobbs
Economist	Edmund L. Auchter
Capital Projects Advisor	Raza Jafar

AID/W

Chairman	William F. McDonald, NESA/CD
Legal Advisor	Charles E. Costello, GC/NESA
Contract Advisor	Barry S. Knauf, CM/SD/REV
Engineering Advisor	James Cooperman, ENGR/OPNS/TR
Agricultural Advisor	John Balis, NESA/TECH
Desk Officer	George McCloskey, NESA/SA

DEFINITIONSCURRENCY EQUIVALENTS

Rs 1.0	US\$0.10
Rs 10.0	US \$1.00
Rs 1 million	= US\$100,000

WEIGHTS AND MEASURES

1 Metric Ton (t)	= 1,000 Kilograms (Kg)
1 Metric Ton (t)	= 2,204.6 Pounds
1 Kilometer (km)	= 0.62 miles
1 Hectare	= 2.47 acres
1 Cubic Meter	= 35.3 cubic feet
1 Bushel	= 60.0 pounds
1 Maund	= 32.3 pounds

PRINCIPAL ABBREVIATIONS AND ACRONYMS USED

CAN	Calcium Ammonium Nitrate (26-0-0, i.e. 26% Nitrogen)
DAP	Diammonium Phosphate (18-46-0, i.e. 18% Nitrogen, 46% P <sub>2</sub> O <sub>5</sub> )
K <sub>2</sub> O (abbrev. K)	Potassium Oxide, the Indicator of Potassium Content of Fertilizer
MAP	Mono-Ammonium Phosphate (11-55-0, i.e. 11% Nitrogen, 55% P <sub>2</sub> O <sub>5</sub> )
N	Nitrogen, the Indicator of Nitrogen Content of Fertilizer
NP	Nitrophosphate (23-23-0)
P <sub>2</sub> O <sub>5</sub> (abbrev. P)	Phosphorus Pentoxide, the Indicator of Phosphorus Content of Fertilizer
TSP	Triple Super Phosphate (0-46-0, i.e. 46% P <sub>2</sub> O <sub>5</sub> )
MSCF	Thousand Standard Cubic Feet
TPD	Metric Tons per Day
TPY	Metric Tons per Year
DH	Dawood Hercules Chemicals Limited
FAFL	Fauji Agrico Fertilizer Limited
GOP, Government	Islamic Republic of Pakistan, The Borrower
IFC	International Finance Corporation
IBRD	International Bank for Reconstruction and Development
NFC	National Fertilizer Corporation
PASC	Punjab Agricultural Supplies Corporation

GOP FISCAL YEAR

July 1 - June 30

CROP YEAR

Summer (Kharif) - April to September  
 Winter (Rabi) - October to March

## I. INTRODUCTION

1.01. The Government of Pakistan has requested an A.I.D. loan of \$40.0 million for a fertilizer project estimated to cost \$246.7 million, including \$150.1 million in foreign exchange. Agrico-Chemical Company of Tulsa, Oklahoma, which will invest \$22.2 million, will be a 30 percent equity owner of the project. The balance of the project's foreign exchange requirements will come from the following sources: International Bank for Reconstruction and Development (IBRD), \$50.0 million; Kreditanstalt Fur Wiederaufbau of Federal Republic of Germany (KFW), \$30.0 million; International Finance Corporation, \$3.0 million; and sources yet to be firmly identified \$4.9 million. The \$96.6 million equivalent local currency requirements will be provided from the following sources: Fauji Foundation, \$22.2 million (equity); Pakistan public, \$21.7 million (equity); and Pakistan financial institutions, \$52.7 million (debt).

1.02. The proceeds from the foreign loans : ll be lent, either directly as in the case of the IBRD (with a GOP guarantee), or through the GOP (as prime obligor) as in the case of the A.I.D. loan, to the Fauji-Agrico Fertilizer Limited (FAFL), a new company to be established under the laws of Pakistan to build and operate the fertilizer plant. The plant, with a rated capacity of 543,000 tons per year (TPY) of urea, or about 244,000 TPY of Nitrogen,<sup>1/</sup> along with other planned fertilizer projects, will increase Pakistan's nitrogen manufacturing capacity by 231% to approximately 1.0 million nutrient tons by 1982. The plant will be built at Goth Machhi in the Punjab Province, about 30 miles from the Sind/Punjab border and about 375 miles northeast of Karachi. The site will have rail and road transport connection to all important agricultural areas of the country. It will use natural gas from the nearby Mari gas field as feedstock and fuel.

1.03. The purpose of the construction of the facility is to increase domestic production of urea (on an efficient basis) in quantities adequate to reduce present dependence on costly and un dependable imports. During the past 18 months the world FOB price of urea has been as high as \$400/ton and as low as \$170/ton. A corollary of reduced dependence on imports is a reduced foreign exchange requirement. During 1975 Pakistan expects to spend over \$100 million for imported fertilizer. Continued dependence on imported supplies will threaten the attainment of the GOP's agricultural targets for Pakistan. The goal of reducing this dependence is the availability of fertilizer on a reliable basis, and at a reasonably dependable price. This is necessary if advance planning and budgeting is to be done by the Government and by individual farmers. Small farmers in particular, who can add to productivity by converting their lands to more modern

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<sup>1/</sup> Urea has a nutrient content of 46-0-0 i.e., 46% percent of the product's weight is nitrogen.

farming practices, do not have the financial cushion to permit them to commit themselves to a course of action in the face of fluctuating supplies and prices. Also, Pakistan's full potential for multiple cropping cannot be realized without timely and reliable supplies of fertilizer. The logical framework is attached as Annex 24.

1.04. This project has as its target groups the farmers of Pakistan, particularly the smaller ones, and (in turn) consumers of agricultural products. If fertilizer and other inputs are short, large farmers, with more capital and complimentary resources at their command, have the greatest access to those supplies. Only with reasonably large supplies in the economy can small farmers have assured access to key inputs.

1.05. Pakistan has been a fertilizer importer since chemical fertilizers were first introduced into the country in the early 1950's. The recent increase in world fertilizer prices and the GOP's domestic foodgrain production targets have combined to make this project of the highest priority for the GOP. This priority is manifested in the favorable terms the GOP has granted to the project promoters in order to induce them to go forward with the project. These terms include: approval in principle of a Technical Assistance Agreement and a Know-how Agreement between the local company and the U.S. investors, (the Know-how Agreement provides for the payment of \$1.5 million after completion of the project and \$1.00 per ton of urea for a period of ten years after production begins); relief from import duties; and a guaranteed minimum rate of return on investor's equity, subject only to satisfactory production. The GOP's sanction letters dated April 9, May 6 and May 14, 1975, give the details under which the GOP has approved this project and are provided as Annex 4.

## II. AGRICULTURE IN PAKISTAN

### A. Background

2.01. Agriculture is the most important sector in Pakistan and the largest single contributor to the national income, accounting at present for about 38% of the Gross Domestic Product (GDP) and 40% of export earnings. It also directly or indirectly provides work for some 70% of the entire labor force. Current annual increases of approximately 3% in population and 5.8% in GDP, plus a national policy to improve living standards further emphasize the reliance of the country on a healthy and expanding agricultural sector.

2.02. During the mid-1950's, all four provinces - Punjab, Sind, Baluchistan and the Northwest Frontier Province (NWFP), - changed from

a condition of food exporting to food importing due to an increasing population and insufficient attention being given to agriculture. More recently, substantial corrective measures have been taken and virtual self-sufficiency in food grains was achieved in 1969 and 1970. In fact, 0.5 million tons of grain (mostly high-grade rice) were exported in 1971.

2.03. To achieve higher agricultural production, the Government has endeavored to increase the availability of major inputs such as fertilizer, water, improved seeds and pesticides, farm credit and technical information. The private sector has also assisted in making available more fertilizers and other inputs. In the main farming areas, there are extensive irrigation systems, including 10,000 miles of canals and over 100,000 tubewells. Out of a total cultivated area in Pakistan of about 45 million acres, 33 million or 73% have some access to irrigation water. Fertilizer use increased from 70,000 nutrient tons in 1966 to over 400,000 nutrient tons in 1974, with imports in 1974 of about 100,000 nutrient tons or 25% of consumption.

### B. Current Situation

2.04. In the 1974 crop year, even though 1.06 million acres of cotton, 470,000 acres of rice and 150,000 acres of sugarcane were completely destroyed by the August 1973 floods, total agricultural production increased by 2.1 percent. Wheat production in 1974 benefited indirectly from the floods since some of the acreage on which summer crops had been destroyed was subsequently planted in wheat, production of which rose to 7.5 million tons, surpassing the record level of the previous year. Output of crops on land not damaged by floods also benefited from the fact that water supplies were more adequate than in any year since 1970. Rice production at 2.4 million tons slightly exceeded the peak levels set in 1970. The 1974 cotton crop fell about 7% below the 1972 recorded level while sugarcane rose by 20%, but it was still about 9% below its 1970 peak.

2.05. In 1975, due to the poorest rains and irrigation water supply conditions in many years, total production is expected to decline. River flows during last summer (1975 crop season) were the lowest in the past 90 years and irrigation canal supplies, except during the short period of release of Tarbela water, have been 40-50% of normal. The wheat areas are less than average because of the low canal flows in the irrigated tracts during planting time, and the lateness of the fall rains in the non-irrigated areas. Because of early shortages of irrigation water, farmers also put less than normal fertilizer on their wheat at planting. With adequate rainfall in December, January and February and a temporary 12.5% reduction in fertilizer prices, January fertilizer sales were up 150% and apparently top dressing of wheat was heavier than normal. As a result, production of wheat is likely to drop by only some 6-7% from the 7.5 million tons last year.

to about 7.1 million tons this year. Due to pests and water shortages during the 1974 summer season, cotton production is expected to be approximately 4% less than 1974. Sugarcane yields in the Sind have dropped considerably due to lack of water; this, together with the fact that 70% of the crop in both the Sind and the Punjab is being cut for the second or third time, instead of having been replanted, has led to an anticipated drop in sugar production by 20% or more, from 590,000 tons to 450-480,000 tons.

2.06. Agricultural prospects for the 1976 crop year depend heavily on canal water availability this spring and summer, and adequate rains next fall, on Government of Pakistan policies, and on the implementation of programs to increase production. If repairs on the large Tarbela dam are completed in June, as scheduled, and the dam is able to fill during the summer months, and water allocations are made promptly, the additional water will be adequate to increase average canal flows by 15-25% depending on the pattern of storage and release during the winter crop season. Given good weather, production of major crops in 1976 should increase by perhaps 8% over the depressed 1975 output.

2.07. An agricultural growth rate of 5% or more per year can probably be sustained over the next decade if the price distortions and subsidies that now sometimes discourage production are reduced, and if reasonable progress is made in planning and implementing agricultural and rural development programs. In addition to adding to winter water supplies, the Tarbela dam will help ensure the adequacy of water in the early spring for planting and in the late summer and early autumn for crop development. Due to the flood control function of the dam, it is estimated that one million acres of previously seasonally flooded land will be able to be cultivated with little or no risk of flooding. Some additional areas may also be brought under cultivation, although the larger part of the water will be used to increase intensity of cultivation on presently cropped lands. The number of tubewells is growing at nearly 10% per year and plans are being made for reducing or eliminating water logging and salinity conditions over large areas.

2.08. The supply of locally produced fertilizers is expected to increase from the approximately 300,000 nutrient tons produced in 1974 to over 1.0 million nutrient tons by 1982, lowering its economic cost and assuring adequate supplies. Growing awareness of the importance of additional and timely applications of pesticides will presumably result in attention to this problem. Application of pesticides to prevent crop losses due to pests is critical in increasing yields of some crops, particularly cotton. When the risk of crop loss due to pests is reduced and assuming adequate water is available, farmers are likely to use more fertilizers.

2.09. An example of both the added difficulties created by international inflation and the interrelation of input and output prices and subsidies is provided by Government efforts to reduce fertilizer subsidies and gradually move other agricultural prices toward international levels. Successive price increases have raised the price of fertilizer by 163%, from Rs. 28.5 per 122 pound bag of urea (\$57.6 per ton) in September 1972, to Rs. 75 per bag (\$151.5 per ton). The international price of urea, however, has risen since September 1972 from about \$100 to a high several months ago of over \$400 per ton. World market prices have dropped in May 1975 to below \$200 FOB Gulf ports. Since September of 1972, the GOP's procurement price of wheat has been increased by 118% (on the basis of Rs. 37 per maund - \$103 per ton - for wheat harvested in April 1975). Domestic farm-gate prices for cotton, paddy and sugarcane have risen respectively by 40%, 8% and 111% over the three years. On the basis of estimated fertilizer response, these price changes have lowered the benefit-cost ratio of fertilizer use on wheat from 4:1 to 3:1. This ratio has fallen from 8:1 to 3.7:1 for cotton, from 3:1 to 1.5:1 for paddy rice, and from 9:1 to 6.5:1 for sugarcane. <sup>1/</sup>

2.10. Wheat prices to farmers are held artificially low by Government procurement prices and subsidized sales to consumers through ration shops and policies that restrict the private sale and movement of food grains. Prices paid to farmers for rice and cotton are held down both by export duties and by the prices paid by the Government export monopolies for these crops. Prices of sugarcane and sugar have also been legally controlled, but at price levels that were at or near world market levels, until the abnormal increases in sugar prices that began in 1974. As of mid-May 1975 sugar retails at just under 20 cents per pound or slightly above the U.S. future market price. The more than doubling of the procurement price of wheat between the 1972 and 1975 crops, however, has now brought the price to just over \$100 per ton (about \$103) compared to the April cash price on the Chicago Commodity Exchange of about \$130 per ton (\$3.60/bu.). The price paid to millers for coarse milled rice on Government procurement for 1975 ranges from about \$100 for IRR-8 to about \$130 for IRR1-6, one-third its most recent export price. The price received by farmers for paddy probably is half that amount. Milled basmati is procured at \$2.40 from millers. The Government is attempting to support the domestic price of seed cotton at about 80 rupees per maund, or approximately 29 cents per pound of lint. Other agricultural prices are not controlled directly, but rather there are bans on their export (meat, fruit, vegetables). Other crops are sold at relatively free domestic market prices. This results in certain anomalies such as the price of grain being about 20% higher than the market price of wheat and the price of maize being above that of wheat.

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<sup>1/</sup> Based on FAO/GOP soil fertility trials and agricultural research station results outlined in IBRD Report 373-PAK, Multan Fertilizer Factory.

2.11. The 163% increase in fertilizer prices in the last 4 years has raised urea and DAP prices to about \$150 per ton. While below current world market prices, these prices are above world market prices of three years ago. World market fertilizer prices may not return to previous levels, but they are currently moving closer to Pakistan's current prices. While domestic fertilizer prices may also need to be increased in the future, it appears that these increases should follow, rather than precede, further increases in prices paid to farmers for their wheat, rice and cotton.

### C. Future Potential

2.12. Pakistan has considerable potential for increased production. It has the largest integrated irrigation system in the world, with some 140 million acre feet of water, and irrigation control over 33 million acres. In addition, it has over 100,000 tubewells. The climate over a large area is suitable for double or even triple cropping. While it is unduly optimistic to expect the Pakistanis in the short-run to use levels of technology now used in the U.S., even if these factors are discounted by 50%, production of sugar, rice, wheat and cotton could be substantially expanded. (See Table 1.) Actual on-farm experience indicates that similar results are possible in Pakistan: In most cases they require better levelling of land and better water management than at present and, of course, good seed and adequate fertilizer are essential ingredients.

Table 1  
Land and Water Productivity  
Principal Crops in Pakistan and Selected U.S. States

	<u>Milled Rice</u>	<u>Wheat</u>	<u>Sugar (Crystal Equiv.)</u>	<u>Cotton Lint</u>
Acreage Pakistan (Millions)	3.7	11.4	1.4	4.5
Production (Millions)	2.4 MT	6.5 MT	1.6 MT	.7 MT
Yield (MT/Ac.) Pak.	.65	.57	1.14	0.15
Yield U.S. (MT/Ac.) USA	1.75 (Calif.)	2.40 (Ariz.)	10.00 <sup>1/</sup> (Hawaii)	0.43 (Ariz.)
Approximate acreage required to produce Pak. crop under designated U.S. state conditions (Millions)	1.4 <sup>2/</sup>	2.7 <sup>3/</sup>	.3 <sup>4/</sup>	1.5 <sup>5/</sup>
Estimated total water required	12.7 million acre feet			
Estimated total acreage required	5.9 million acres			

- 1/ 18-month crop in Hawaii
- 2/ 3 ft. of Irrigation Water (4.2 MAF)
- 3/ 1.5 ft. of Irrigation Water (4.0 MAF)
- 4/ 5 ft. of Irrigation Water (1.5 MAF)
- 5/ 2 ft. of Irrigation Water (3 MAF)

III. FERTILIZER DEMAND, MARKETING AND DISTRIBUTION

A. Past Fertilizer Use in Pakistan

3.01. Since chemical fertilizer was first introduced into Pakistan, the consumption of nitrogen fertilizer has greatly exceeded domestic production. Although the GOP is attempting to correct this imbalance, consumption is projected to continue to exceed domestic production until 1979, due to the long lead time required to bring new domestic fertilizer plants into production.

TABLE 2

Past Fertilizer Consumption, Production and Import in Pakistan  
(1,000 nutrient tons)

<u>Year</u> <sup>1/</sup>	-----Nitrogen (N)-----			----- Phosphorus (P <sub>2</sub> O <sub>5</sub> )-----		
	<u>Demand</u>	<u>Production</u>	<u>Apparent Imports</u>	<u>Demand</u>	<u>Production</u>	<u>Apparent Imports</u>
1966	69.2	47.1	22.1	1.2	1.4	0.0
1967	107.8	52.0	55.8	3.9	0.7	3.2
1968	177.4	50.2	127.2	12.8	2.9	9.9
1969	203.5	79.0	124.5	38.6	2.5	36.1
1970	252.6	128.7	123.9	33.8	4.0	29.8
1971	271.5	129.6	141.9	30.5	4.5	26.0
1972	344.0	215.0	129.0	37.2	5.0	32.2
1973	386.0	254.0	132.0	48.7	8.0	40.7
1974	357.0	300.0	57.0	56.0	4.0	52.0

<sup>1/</sup> July 1 to June 30.

B. Projected Demand

3.02. Projections of nitrogen and phosphate fertilizer demand are shown below in Table 3. It is assumed that phosphate demand will grow more rapidly over the next 5 years than will nitrogen demand, since there is currently such an imbalance in the use of these two products in Pakistan. The Government is determined to rectify this imbalance.

Pakistan hopes to have at least a 3:1 ratio of nitrogen (N) to phosphate ( $P_2O_5$ ) in use by 1980, in contrast to the current ratio of more than 5:1. A ratio closer to 2:1 would actually be desirable.

TABLE 3

Fertilizer Forecast for Pakistan  
(1,000 nutrient tons)

<u>Year</u> <sup>1/</sup>	<u>Nitrogen (N)</u>			<u>Phosphorus (<math>P_2O_5</math>)</u>		
	<u>Demand</u>	<u>Production</u> <sup>2/</sup>	<u>Apparent Imports</u>	<u>Demand</u>	<u>Production</u>	<u>Apparent Imports</u>
1975	369	303	66	72	4	68
1976	535	310	225	100-120	10	90-110
1977	610	310	300	130-150	14	116-136
1978	660	383	277	170	28	142
1979	705	632	73	210	83	127
1980	750	878	(128)	250	148	102
1981	800	986	(186)	290	183	107
1982	855	1,025	(169)	330	225	105

<sup>1/</sup> July 1 to June 30.

<sup>2/</sup> A build-up of the production projections by plant is presented in Annex 6.

3.03. Pakistan experienced very rapid growth in fertilizer use from 1966 to 1971. Use of Nitrogen fertilizer increased by approximately 275% between 1966 and 1971 (a compound growth rate of over 30% per year). Demand continued to expand through 1973, reaching 386,000 nutrient tons, but declined 7.5% in 1974, and will have recovered only slightly in 1975. The decline and stagnation in fertilizer demand over the past two years is attributable to a combination of factors, including sharp increases in the retail price of fertilizer, fertilizer distribution and credit problems, and shortages of rainfalls and irrigation water. With the expected availability of Tarbela waters for irrigation of the 1976 wheat crop, a stabilization of retail fertilizer prices and improved distribution policies, and with more favorable crop prices, planners are projecting a substantial jump in

fertilizer consumption in 1976. Pakistan has targeted a 9-million ton and 10-million ton wheat crop in 1976 and 1977, respectively. To achieve these targets and the targets for other crops, more than 500,000 nutrient tons of nitrogen will need to be applied in 1976 and more than 600,000 tons in 1977.

3.04. Nitrogen fertilizer demand projections shown in Table 3 above reflect this assumed jump in sales over the next two years. Pakistan's Working Papers for the 1975-80 plan period (which do not, at this time, have any official GOP sanction) target total fertilizer use of 1.0 million nutrient tons in 1980, roughly three-fourths of which would be nitrogen, approximately one-fourth would be phosphate, and a very small amount of potash. If 750,000 nutrient tons of nitrogen fertilizer were to be used in 1980, compared with the actual 386,000 tons used in 1973, this would imply a 12% compound annual growth rate over the 6 year period. This rate of growth, while substantial, is certainly attainable with a sound set of fertilizer and crop pricing, distribution, and credit policies. It should be noted that these figures fit within the range considered reasonable by the two private sector urea producers in Pakistan and are very close to the demand projections contained in the draft TVA study. <sup>1/</sup>

3.05 In fact, a number of alternative projections of fertilizer demand have been made through 1980 in various official and non-official reports. An October 1974 study by Esso presented "low," "medium" and "high" estimates of fertilizer demand. <sup>2/</sup> The medium estimate for calendar year 1980 was 692,000 nutrient tons of nitrogen. A study by the GOP's ministry of Industries also contained projections of fertilizer demand through 1980. <sup>3/</sup> Although more than one set of estimates was presented in this report, the more conservative set, and the one given most credence, showed 1980 nitrogen fertilizer demand of 810,000 nutrient tons. Given this range of estimates, the 750,000 nutrient ton target used in the GOP's Working Papers for the Fifth Plan period (the figure used in this paper) seems reasonable.

3.06. It is recognized that the foregoing projections of demand and the supply projections contained in Annex 6 result in a modest surplus of urea during the first years of production of NFC's Mirpur Mathelo project and the Fauji-Agrico project, before demand again exceeds domestic productions. No difficulty is expected in disposing of any such surplus in the world market. Since natural gas is now substantially cheaper than other feedstocks for the production of nitrogen fertilizer,

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<sup>1/</sup> Tennessee Valley Authority, "An Appraisal of the Fertilizer Market and Trends in Asia", Muscle Shoals, Alabama, April 4, 1975 (Draft).

<sup>2/</sup> Esso Pakistan Fertilizer Company, Limited, "Pakistan Nitrogen Demand Forecast Study", Karachi, October 1974.

<sup>3/</sup> Ministry of Industries, Government of Pakistan, "Requirements and Production of Nitrogenous and Phosphatic Fertilizers in the Years 1974-75 and 1979-80", Report of Committee Set up by the Fertilizer Board, September 1974.

Pakistan should be able to export urea at prices both competitive and profitable. India would be the natural market given the expected shortfall in India between nitrogen fertilizer production and demand. This, of course, assumes the continuation of improving commercial relations between India and Pakistan.

C. Distribution System

3.07. Prior to mid-1973 fertilizer sales expanded rapidly with private distributors playing a major role in promotion and distribution. In 1973, the authority to regulate fertilizer distribution was transferred from the Central Government to the provinces. Soon thereafter three of the four provinces proceeded to reorganize their distribution systems in such a way that public agencies in these provinces now play the dominant role. The Sind set up the Sind Agricultural Supplies Corporation (SASC) which began operations in August 1973; the Punjab followed creating the Punjab Agricultural Development and Supply Corporation (PADSC). Both agencies were charged with responsibility for wholesale and retail trade and for operating fertilizer storage depots. In Baluchistan, fertilizer distribution was turned over to the Provincial Department of Agriculture. Only in the NWFP was the distribution system left unaltered. Table 4 below shows the relative importance of the public and private sectors in the four provinces.

Table 4

Public and Private Sector Fertilizer Marketing

<u>Province</u>	<u>% of National Consumption</u>	<u>Share Marketed by:</u>	
		<u>Public Sector</u>	<u>Private Sector</u>
Punjab	67.0%	83%	17%
Sind	22.5%	54%	46%
NWFP	9.0%	23%	77%
Baluchistan	1.5%	55%	45%
Pakistan	100.0%	70%	30%

Source: "The Fertilizer Marketing System in Pakistan";  
FAO Working Paper, June 1974, p. 6.

3.08. Note that almost 90 percent of Pakistan's fertilizer is consumed in the Punjab and Sind, therefore, the performance of PADSC and SASC is obviously of critical importance to the performance of the entire marketing system in Pakistan. A more detailed discussion of the revised fertilizer distribution system with a preliminary assessment is contained in Annex 7.

D. Marketing Program

3.09 FAFL has received GOP approval to market its own output and to conduct a pre-production seeding program. The seeding program will facilitate the timely organization of a marketing network, the establishment of brand identification and loyalty, and assist in the training of sales point personnel in salesmanship, service and sound management practices. FAFL's marketing plan will be reviewed by A.I.D. to assure that adequate attention is given to meeting the demand of the smaller farmers.

E. Pricing

3.10. Retail fertilizer prices are fixed, for each type of fertilizer, by the GOP. This price is uniform throughout the country without regard to transportation and marketing costs. The sale of fertilizer at prices higher than the established price is not allowed although during periods of slack demand some price cutting is done and past experience indicates that during shortages malpractices are likely to crop up in both public and private sector distribution. Scarce supplies go to the privileged; small farmers, particularly in isolated areas, suffer. Retail prices of urea have been changed seven times since 1971 (five permanent increases, one temporary reduction, and then a return to the previous price). On August 1, 1971, the retail price of urea was raised to Rs. 570 MT while the current price is Rs. 1,500 MT. The pricing of fertilizers, as well as other agricultural inputs, is used as a method to achieve the overall objectives of the Government's agricultural policy and attempts to take into consideration agricultural output prices, which, as discussed in Section II, are also controlled by the GOP. Only an indirect relationship exists between the actual cost of fertilizer and the retail prices established by the GOP. Fertilizers costing more than the retail prices (currently imported fertilizers) are subsidized, while a surcharge is imposed on the fertilizers (domestic) which cost less than the retail price.

3.11. The factory gate price of indigenous fertilizer is established periodically by the GOP based on audited costs of production, plus what the GOP considers a fair return on the invested capital. The current price which has been fixed by the GOP for the two private sector manufacturers is estimated to average about 35% less than the present retail price for urea. It should be noted that the factory gate price is established on a case-by-case basis and there is no requirements that a uniform price be paid to all producers. Currently, due to various circumstances, Esso reportedly receives a slightly higher price of its product than does Dawood-Hercules. <sup>1/</sup>

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<sup>1/</sup> See Annexus 5 and 6 for installed capacities and projected production levels of the two existing private sector urea plants.

Because of the increase in capital costs, Fauji-Agrico's output will be considerably higher cost than the two present domestic producers and, therefore, when the plant comes into production its factory gate price will have to take this into consideration.

3.12. To cover marketing costs, the GOP allows a fixed amount per ton on imported and domestic fertilizer. These margins are subject to periodic review in light of actual costs and are broken down into various components including minimum dealer commissions which must be paid by both the private sector manufacturers who wholesale their own product as well as the public sector organizations who use private agents.

#### F. Credit

3.13. Agencies engaged in wholesaling improved fertilizer are allowed three to six months credit. However, this is almost never passed down to the private retailers. Domestic private sector manufacturers sell to wholesalers as well as to retailers on a cash basis. The public sector producers usually sell on 30 days credit terms to their wholesalers. Many large and medium-sized farms can pay cash or obtain short-term loans for fertilizer purchases and other productive and consumptive needs, but millions of smaller farmers have had no easy access to credit. In the past, this has been an important constraint on increasing fertilizer utilization. The GOP recognizes that this is a problem area and has made efforts to improve the situation. See the Role of Credit in Facilitating Farmers' Access to Fertilizer in Annex 8.

### IV. THE COMPANY

#### A. Organization and Management

4.01. A public-limited company will be formed under the Companies Act of 1913 with a capitalization as shown in Section VI paragraph B. The basic document covering the relationships between the two major equity investors (the Fauji Foundation and Agrico-Chemical Company) will be the Participation Agreement, a draft of which is included as Annex 16. This document and exhibit G have been reviewed and approved by the GOP, subject to the submission of the other exhibits. A.I.D. has informally been provided with a copy of the Agreement. The Exhibits to the Agreement are currently being drafted and reviewed by Agrico and Fauji. After the documents have all been completed, they will be presented to the GOP. Among the Conditions Precedent to the A.I.D. loan will be final approval of the Participation Agreement, to include all exhibits, by the GOP and review and approval of the documents by A.I.D.

4.02. According to paragraph 7.03 of the draft Participation Agreement, and as will be provided in the Shareholders Agreement, the two promoters will nominate individuals to fill the following positions, subject to approval by the other party:

**Fauji:** Managing Director  
 Director of Finance  
 Director of Administration  
 Deputy Director of Marketing  
 Deputy Director of Operations

**Agrico:** Deputy Managing Director  
 Director of Operations  
 Deputy Director of Finance  
 Deputy Director of Administration  
 Director of Marketing

**B. The Fauji Foundation**

4.03. The Fauji Foundation is a nonprofit charitable trust set up in 1953 and operated for the benefit of veterans. The Foundation was capitalized at Rs. 18.0 million which came originally from the British Government, prior to independence, on the basis of the number of members in the British Armed Services. The funds have been invested in a number of industrial projects as shown in Table 5 below. Annexes 11 and 12 provide additional background information on the Foundation, its organization and purpose.

**Table 5**  
**Fauji Foundation**  
**General Information**

	<u>Fauji</u> <u>Cereals</u> <u>R. Pindi</u>	<u>Fauji</u> <u>Sugar</u> <u>Tando</u>	<u>Fauji</u> <u>Sugar</u> <u>Khoski</u>	<u>Modern</u> <u>Sugar</u> <u>S. Hill</u>	<u>Fauji</u> <u>Textile</u> <u>Jhelum</u>	<u>Lyallpur</u> <u>Cotton</u> <u>Lyallpur</u>	<u>Fauji</u> <u>Cotton</u> <u>M. Abdal</u>	<u>Founda-</u> <u>tion Gas</u> <u>Dhullian</u>
Year of Commence- ment of Production	1957	1961	1971	1972	1955	1934	1975	1973
Profits (1974) (Rs. in millions)	.6	31.3	14.4	(4.9)	.8	3.2	.6	(.4)
<b><u>Personnel</u></b>								
<b><u>Officers</u></b>								
Ex-Servicemen	1	5	8	6	6	3	2	5
Civilians	4	24	25	24	19	42	8	7
<b><u>Others</u></b>								
Ex-Servicemen	51	190	174	181	566	197	123	34
Civilians	38	1,009	994	790	1,902	6,283	331	30
Total	<u>94</u>	<u>1,228</u>	<u>1,201</u>	<u>1,001</u>	<u>2,493</u>	<u>6,523</u>	<u>464</u>	<u>76</u>
Capacity	Monthly 90,000 packets	2,000 TP/D	3,000 TP/D	1,500 TP/D	25,000 spindles 500 looms	51,000 spindles 1,115 looms	25,000 spindles	14,000 TP/D

4.04. Fauji's fiscal year-end is September 30. The foundation's 1973 and 1974 audited balance sheets and profit and loss statements are presented in Annex 15. At September 30, 1974, the Foundation's investment was Rs. 264.3 million (\$26.4 million equivalent), current assets were Rs. 183.2 million and the current ratio was 1.1:1. The Foundation's noncurrent assets include a time deposit in the amount of Rs. 117.9 million which has been reserved to cover Fauji's initial equity contribution. This amount, along with the projected profits from the Foundation's operations (see Annex 13) and borrowings will be adequate to cover the funds required to meet its total equity contribution. The Foundation's September 30, 1974, debt/equity ratio was 1.18:1, therefore, even if the profits projected for the next several years are less than expected, the Foundation's capital structure is strong enough to support the additional borrowings, which could be supported by the FAFL shares, and used to cover the equity requirements. Even in the very unlikely event that Fauji had to borrow an additional Rs. 100.0 million to cover its equity contribution, the Foundation's debt/equity ratio would be approximately 1.6:1. This is certainly well within the bounds of sound financial management. For comparison purposes the debt equity ratio of FAFL is expected to be 2.33:1 after completion of the project, i.e., before any profits are generated. Table 6 below presents a summary of the Foundation's financial situation during the past 5 years. Projections for the next 5 years are contained in Annex 13.

Table 6  
Fauji Foundation Pakistan  
Summary Financial Positions  
(Rs. Million)

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
Capital Employed	135.60	141.39	276.56	365.56	413.06
Foundation's Investment <sup>1/</sup>	116.04	130.16	160.59	215.19	264.29
Long-term Loans	19.56	11.23	115.97	150.37	148.77
Debt-Equity Ratio	0.31:1	0.26:1	1.10:1	1.11:1	1.18:1
<hr/>					
Net Fixed Assets	35.35	31.21	161.53	236.13	272.06
Total Assets	152.00	161.00	337.00	454.53	578.87
<hr/>					
Net Sales	96.00	110.00	210.00	310.56	479.51
Net Profits	12.48	15.50	33.10	42.93	45.65

<sup>1/</sup> Adjustments due consolidation of accounts not shown.

C. Agrico Chemical Company

4.05. Agrico Chemical Company is a division of the Williams Companies. The Williams Companies plans, designs, engineers and builds long-distance pipelines and related facilities abroad, operates a products pipeline domestically, and more recently has diversified into steel warehousing, LP-gas retailing and the production and distribution of fertilizers. In 1974 fertilizer sales accounted for 45% of total revenues and 64% of gross operating profits. The size and growing importance of Agrico's financial contribution in the Williams Companies can be seen in Annex 14, a summary of which is shown in Table 7 below:

Table 7  
The Williams Companies  
(in \$ Millions)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
Total Revenues	412.4	577.9	744.1	993.4
Operating Earnings	69.7	90.6	115.4	218.0
Net Income	30.8	38.0	48.4	95.6

Agrico Chemical Company

Revenues	50.5	205.4	312.0	461.8
Operating Earnings	3.7	17.7	37.5	139.9
Total Assets	36.0	162.6	205.6	494.0
Employees	653	2,918	2,602	3,025

4.06. The Williams Companies became a leader in the chemical fertilizer business as a result of its lease and purchase of most of the Gulf Oil Corporation's agricultural chemicals activities in April 1971, and its February 1, 1972, acquisition of Continental Oil Company's plant foods division in the United States and Canada. A new subsidiary, Wilchemco, Inc., was formed to operate the Gulf facilities. Shortly after the acquisition of Continental's plant foods division, the name Agrico was adopted for all of the Company's chemical fertilizer activities. Agrico is now one of the leading chemical fertilizer producers in the United States and a major factor in the world marketplace. Agrico manufactures and markets nitrogen, phosphate and compound fertilizers; major existing nitrogen facilities are located in Blytheville, Arkansas; Faustina, Louisiana; and Verdigris, Oklahoma, and have an installed capacity in excess of a million tons of anhydrous ammonia

per year. Phosphate production is concentrated in Florida, where Agrico mines in excess of six million tons of phosphate rock and produces phosphoric acid and 600,000 of TSP per year, and Faustina, Louisiana, with a capacity of approximately 1.5 million MT/Y of DAP. In addition to this project, Agrico is also participating in new fertilizer plants in Jordan, Brazil, Korea and Eastern Europe.

## V. THE PROJECT

### A. Project Scope:

5.01. The project will be located at Goth Machhi in the Punjab Province. The location is approximately 375 miles from Karachi along the main railway line and the Karachi-Lahore highway. The project will include a 1,725 ton per day (TPD) urea plant with an intermediate ammonia production plant of 1,000 TPD, along with all necessary ancillary facilities. On the basis of 315 days per year on-stream time, the plant will have annual capacities of approximately 543,000 tons of urea or 244,000 nutrient tons of nitrogen, with intermediate production capacity of 315,000 tons of ammonia. These are standard size capacities and the plant will employ modern commercially proven technology to ensure efficient operation. An area of 572 acres has already been earmarked for the location of the plants and the housing colony. Soil analyses and topographical surveys of the area have already been completed. The actual fertilizer production process to be used will depend on the results of international competitive bidding.

### B. Raw Materials and Utilities:

5.02. The raw material for the plant will be natural gas from the Mari gasfield which is jointly owned by ESSO Eastern, Mobile Oil and the GOP. Gas will be brought to the plant site via a 30-mile pipeline from the gasfield. This pipeline will be included in the project offsites and will be constructed as part of the total project. It will be owned and operated by the Fauji-Agrico Fertilizer Ltd. The Mari field is the second largest gasfield in Pakistan. Its total estimated reserves are  $3.942 \times 10^{12}$  (trillion) cubic feet ( $\text{ft}^3$ ), of which  $1.79 \times 10^{12} \text{ ft}^3$  are proven reserves. The owners of the gasfield have allocated the proven reserves as follows: ESSO's existing 100,000 TDP urea project -  $0.30 \times 10^{12} \text{ ft}^3$ , FAFI's project -  $0.75 \times 10^{12} \text{ ft}^3$ , and NFC's proposed 556,000 urea project -  $0.75 \times 10^{12} \text{ ft}^3$ . Under the extreme, and unlikely, assumptions that gas available at Mari will be limited to the  $1.79 \times 10^{12} \text{ ft}^3$  currently proven reserves and the very high gas requirements of  $59,411 \text{ ft}^3$  of gas per ton of urea produced, the Fauji-Agrico Fertilizer project, the existing ESSO project, as well as a proposed NFC project would be adequately supplied with gas through the year 2011 (31 years after start-up). A more detailed discussion of the natural gas situation in Pakistan is contained in Annex 9.

5.03. A power generating capacity for the project and the offsites is included in the capital costs and will be included in the total project design. It is expected that the power will be generated by using gas turbines. Also included will be an emergency diesel generator which, in the event of a failure of the main generation units, will provide necessary power for an orderly shut-down of the facilities and meet minimum lighting and security requirements. Other essential utilities to be designed and included as integral parts of the total project include a cooling water system, a water treatment system, and a steam generation system. Water for the plant will come from an irrigation canal, except for about three weeks per year when the canals will be closed for necessary maintenance. During this period tubewells will be used to provide the necessary water. A detailed discussion of water is contained in Annex 10.

C. Employment, Training and Operational Assistance:

5.04. It is estimated that the project will provide direct employment for about 1,200 persons; of this number approximately half will be key technical, maintenance and operational personnel. Recruitment, for the project, of this large number of qualified persons will, to a large extent, be the responsibility of the major Pakistani partner, the Fauji Foundation. As discussed in Section IV, Fauji currently has eight industrial plants in operation with a cumulative payroll of over 13,000 persons. Due to the rapid expansion of domestic fertilizer production currently going on in Pakistan, it is unlikely that many of the new recruits will have any experience of training in the specific jobs for which they will be hired. Therefore, training of key personnel to meet the specific requirements of the project will be essential to the early success of the project. It is expected that the U.S. partner, Agrico Chemical Company will design and supervise the overall training program. Since the GOP's sanction letter for this project specifies that the return on invested equity is tied to predetermined rates of production, it is in Agrico's financial interest to insure that the plant has a well trained and efficient staff.

5.05. The Technical Assistance and Know-how Agreements, which will be Exhibits D and F to the Agrico-Fauji Participation Agreements, obligate Agrico, for a stated fee, to provide the technical information and specific know-how required to operate a fertilizer plant of this nature. On the basis of Agrico's past experience in fertilizer production, both in the U.S. and abroad, it is expected that FAFL will have access to all the latest technical information. Also as a condition of Article VII, paragraph 7.03(a) of the Draft Participation Agreement, Agrico will nominate, subject to Fauji approval, individuals to fill the following positions: (a) Deputy Managing Director; (b) Director of Operations; (c) Deputy Director of Finance; (d) Deputy Director of Administration; and (e) Director of Marketing. While specific individuals have not yet been identified by Agrico to fill

these positions, it is our understanding that the persons selected will be experienced and highly qualified and, to the extent possible, during the early years, they will come from within Agrico's existing management organization.

#### D. Ecology

5.06. There are presently no statutory regulations in Pakistan for industrial effluents, although several of the provinces, including the Punjab, are presently considering the advisability of enacting some such legislation. Certainly the project designers will have to take this into consideration when they write the technical specifications. In any event, the project will be designed in accordance with European and U.S. standards in respect to solid, liquid and gaseous emissions. See Annex 10 for the Environmental Assessment.

#### E. Transportation

5.07. The proposed plant will be located on one of the main rail lines and close to the Karachi-Lahore grand trunk highway. The rail network is well spread throughout the major fertilizer consuming areas therefore, the basic rail structure as well as the road network will be available to handle produce distribution. Currently domestic production of fertilizer is moved equally by rail and road. During peak fertilizer shipping periods and when large foodgrain ships are in the port of Karachi, transportation of fertilizer often becomes a serious bottleneck in moving stocks. To ensure that transportation receives timely attention by the GOP, we plan to require that the Government do a Transportation Sector study to determine more precisely what needs to be done in the next four years to expand the transportation capacity to handle the large increase in domestic fertilizer production. Preparation of the scope of work for this study is a Condition Precedent in the draft Loan Agreement and completing the study is a Covenant (See Annex 25).

#### F. Project Execution

5.08. The directors and management of Fauji-Agrico Fertilizer Ltd. together with: The Fauji Foundation, Agrico Chemical Company, and the general contractor (who will contract with FAFL for the supplying of the plant) will jointly be responsible for the execution of the project. The GOP's May 6, 1975, sanction letter stipulates that "orders for plant and machinery shall be placed within 12 months from the date of issue of this letter and the target for completion of the project would be 30 months thereafter." A detailed Implementation Schedule will be prepared by the equity investors as Exhibit E(I) to the Fauji/Agrico Participation Agreement. This agreement along with all its exhibits will be subject to review and approval of A.I.D.

#### G. Role of Women

5.09. This is a capital intensive project, and with respect to FAA Section 113, it is not expected to have any direct effect on the role of women. However, as noted in other parts of this Project Paper the increased fertilizer production will assist in increasing foodgrain production and the benefits from this will accrue equally to men and women.

## VI. CAPITAL COSTS AND FINANCING PLAN

### A. Capital Costs

6.01. The total project cost is estimated at \$246.7 million including \$150.1 million in foreign exchange costs. Field work on this estimate was completed in May 1975 by James Chemical Engineering Company, a leading engineering firm in the fertilizer industry. The estimate is based on current price levels and includes an escalation factor of 22.5% for both foreign exchange and local currency costs. Additionally, 10% of both foreign and local erected plant costs have been provided as contingency. A summary of the capital costs is shown in Table 8 on the following page.

6.02. We have reviewed the Capital Cost estimate and consider it reasonably firm for purposes of Section 611 of the FAA.

6.03. The battery limit costs of the ammonia and urea plants, excluding escalation, are in line with costs of similar units now being contracted for; and the escalation factor of 22.5% appears adequate considering that the base estimate uses current equipment prices, which are expected to hold at the present level or possibly decline, and much of the equipment will be procured in the early stages of the project.

6.04. Included in the offsite estimate are storage facilities for 60,000 MT of urea (equal to 35 days of production), housing for 452 employees and their families, a bagging unit capable of bagging one day's production (24 hours of production) in one 8-hour shift and the 33 mile gas pipeline. The estimate was prepared by James with assistance from Fauji's technical staff and reviewed by the USAID Mission.

6.05. Duties, import license fees and stamp taxes are the rates agreed to by FAFL and the Government. Freight rates are based on the rates in effect earlier this year, which are higher than current rates, and take into consideration A.I.D.'s shipping rules.

6.06. Pre-production expenses include costs incurred, or to be incurred, by Fauji and Agrico in organizing the new corporation, outside studies (e.g. the James cost estimate) and initiation of its marketing program.

6.07. The initial working capital provides sufficient funds to allow the company to maintain adequate current assets and reasonable inventory levels. The interest during construction, estimated at \$37.3 million (or 15% of the total project cost), reflects the cost of money borrowed during the construction phase—at the current market rates as described in Annex 1d.

TABLE 8

FAUJI AGRICO FERTILIZER LTD.  
SUMMARY CAPITAL COSTS  
 (\$M)

	AMMONIA			UREA			OFFSITES			TOTAL		
	LOCAL	FOREIGN	TOTAL	LOCAL	FOREIGN	TOTAL	LOCAL	FOREIGN	TOTAL	LOCAL	FOREIGN	TOTAL
Total Equipment			19,182			11,948			33,886			65,916
Other Materials			10,521			4,716			24,576			39,813
Spares, Chem, Cat.												
Engin. Purchasing Fee			5,700			5,250			10,630			21,600
Supervision'			<u>1,900</u>			<u>1,350</u>			<u>3,000</u>			<u>6,250</u>
Total			37,303			23,264			72,112			132,679
Construction, Materials, Field Office, Overhead			1,550			900			2,817			5,267
Field Labor			3,078			2,313			4,200			9,591
Training			<u>900</u>			<u>900</u>			<u>900</u>			<u>2,700</u>
Sub Total	6,000	36,812	42,831	4,410	22,967	22,377	37,391	42,638	80,029	47,801	102,436	150,237
Pre production Expense												
Technical Assistance + 1,500										1,000	1,630	2,630
Construction Equipment											4,000	4,000
Freight										1,000	7,400	8,400
Sub Total										<u>4,000</u>	<u>7,007</u>	<u>11,607</u>
										53,801	123,073	176,874
Contingency (10%)												
Sub Total										<u>5,380</u>	<u>12,307</u>	<u>17,687</u>
										59,181	135,380	194,561
Duties and Import Licenses and Stamp Tax (1 MM + 2% C&F Value: 2% 193 MM)												
Working Capital										7,422		7,422
Interest During Construction										4,000	2,942	6,942
Total Cost										<u>26,013</u>	<u>11,802</u>	<u>37,815</u>
										96,616	150,124	246,740

3. Financing Plan

6.08. The proposed financing plan (Table 9 below) is based on a debt equity ratio of 70/30 and the fact that both the Fauji Foundation and Agrico Chemical Company will each own 30% of the total equity.

TABLE 9  
Financing Plan  
( \$ millions)

<u>Equity</u>	<u>Local Currency</u>	<u>Foreign Exchange</u>	<u>Total</u>	<u>%</u>
Fauji	22.2	-	22.2	9.0
Agrico	-	22.2	22.2	9.0
IFC	-	3.0	3.0	1.2
Foreign	-	4.9	4.9	2.0
Public	<u>21.7</u>	<u>-</u>	<u>21.7</u>	<u>8.8</u>
Sub-Total	43.9	30.1	74.0	30.0
<u>Debt</u>				
IBRD		50.0	50.0	20.3
AID		40.0	40.0	16.2
KFW		30.0	30.0	12.2
Local Institutions	<u>52.7</u>	<u>-</u>	<u>52.7</u>	<u>21.3</u>
Sub-Total	<u>52.7</u>	<u>120.0</u>	<u>172.7</u>	<u>70.0</u>
Total	96.6	150.1	246.7	100.0

6.09. The \$4.9 million foreign exchange equity investment not identified reflects a gap caused by a recent IFC decision to reduce its investment from \$8.0 million to \$3.0 million. To fill this gap, the GOP has tentatively identified several possible sources but has not yet completed discussions with the parties. To assure the lenders that the project would have adequate funding, the GOP has, in its Letter of Application for the A.I.D. Loan (Annex 17), made an unqualified statement that if the unidentified funding is not provided in a timely manner the GOP will undertake to make the required amounts available to the project from its own resources. The identify and commitment of these funds is a Condition Precedent to Disbursement (see Section 4.01(c) of the Loan Agreement, Annex 25).

6.10. Pakistani financing institutions will underwrite the \$21.7 million equivalent in local currency equity and will provide the \$52.7 million in local currency debt. During May 1975, A.I.D. met

with the financial institutions to discuss the prospects of raising these funds and to ascertain the likely terms and conditions on which the local currency would be made available. As a result of these meetings we are satisfied that it will be possible to raise the required local currency funds; however, it should be noted that the funds will be expensive and the Government may have to make some special arrangements to insure that the funds will be available. The Government recognizes this potential problem and has stated in its Application Letter (see para 4, Annex 17) that it will assure that all funds are firmly committed prior to any disbursement of the A.I.D. loan. A summary of A.I.D.'s meetings with the Pakistan financial institutions is contained in Annex 18.

## VII. FINANCIAL ANALYSIS

### A. Philosophy

7.01. In Pakistan the GOP controls the price of fertilizer, both at the factory gate and the selling point. Additionally, the GOP controls much of the production costs--natural gas price, wages and benefits--and all tax rates. Private sector producers, therefore, do not have independent control over the profits they earn; and to a large extent the annual return on invested capital depends on GOP decisions. To date, the factory gate price for fertilizer manufacturers, including the two private sector plants, are set on a case-by-case basis designed to allow a reasonable return of investment.

7.02 For this project the GOP and FAFL have agreed to a set of conditions designed to protect each party for the possible abuses inherent in a controlled economy. These conditions are detailed in the GOP's "Sanction Letter" attached as Annex 4. The pertinent condition is that the equity investors will be allowed a 20 percent return on their investment once the plant is complete and operating at 65% of rated capacity during the first 12 months of commercial operations, 85% during the next 12 months, and 90% thereafter. Ex-factory prices of urea produced by FAFL will therefore be set at a level to allow this return, and will be adjusted periodically for changes in production costs over which FAFL cannot control.

7.03 Based on the estimated capital and production costs the ex-factory price of urea, for the FAFL project, will be as follows:

FAFL Projected Ex-Factory UREA Prices

<u>Year</u>	<u>\$ per MT</u>	<u>Year</u>	<u>\$ per MT</u>
1979	256	1984	176
1980	217	1985	171
1981	191	1986	168
1982	184	1987	164
1983	180	1988	160

While these prices are higher than prices currently paid domestic producers they are in line with projected prices for all new plants now being constructed. For example, the IFFCO urea fertilizer expansion project, which is similar to the FAFL project, projects an ex-factory urea price of \$193.00 MT to allow a 10.3% financial rate of return<sup>1/</sup>. We, however, caution that the price projections are estimates and will only be determined once the plant is built and actual capital and operating costs are known. For example, a saving in the capital cost, a quicker construction schedule or a reduction in interest rates will reduce the ex-factory price; and correspondingly an increase in costs or time will increase the price. We believe, however, that the assumptions used in these projections are conservative.

<sup>1/</sup> See IBRD Report No. 591-IN, Appraisal of IFFCO Fertilizer Project-India, December 9, 1974.

B. Production Costs

7.04 The production cost structure at 90% capacity utilization is summarized below:

Table 10-A  
Cost Per Ton of Urea

<u>Variable Costs:</u>	
Natural Gas (feed and fuel)	\$13.08
Power	2.66
Water (make up, boiler and cooling)	2.45
Catalysts and chemicals	.61
Bags and bagging	6.95
Commissions (Agrico)	1.00
Sub-total	<u>26.75</u>
<u>Fixed Costs Excluding Depreciation:</u>	
Operating labor	1.41
Maintenance and materials	7.98
Supervision and control	2.25
Insurance	2.05
Sub-Total	<u>13.69</u>
Depreciation	<u>40.49</u>
Cost of production	<u>\$80.93</u>

7.05 The cost structure of the natural gas is presented in Annex 9. The current wellhead price to users (transmission companies) is Rs. 2.00 per MSCF (not including transmission costs or development surcharges). This includes 1.60 per MSCF in excise tax. The owners of the Mari gas field have presented the GOP with a number of inter-related requests, one of which is an increase from the Rs. 0.40 that they now receive per MSCF to Rs. 1.13 per MSCF. Action on this package proposal by the Government is not expected for several months. Even if the GOP approves the gas price increase to the producer, it should be noted that they do not necessarily have to pass all the increase on to the users since it could concurrently reduce the excise tax. The financial projections and analyses assume a gas cost of Rs. 2.73 MSCF thereby allowing for the possibility of the Mari gas field owners receiving the full increase requested.

7.06 Other variable costs include power, water, catalysts and chemicals, bagging and commissions. All appear reasonable with the exception of the power cost, which is higher than costs for other comparable plants, and the bagging cost, which is slightly lower than projections for other sub-continent projects. The commission cost represents a \$1.00 per MT charge by Agrico for its existing and future technical know-how which will be available to FAFL.

7.07 Depreciation is based on the straightline method using a 12-year plant life with a 10% salvage value; and maintenance and materials is assumed to be 4% per annum of plant cost. Both assumptions are acceptable.

### C. Other Costs

7.08 In addition to the costs of production shown in Table 10-A, FAFL will need to pay interest on its borrowed money, an additional fixed cost, but one that decreases as the debt is repaid. For projections FAFL has assumed that its foreign exchange loans will average 10% per annum and local currency loans will average 13.5% per annum. As of this date, negotiations have not yet been completed and the exact interest rates determined; but they are in line with the current cost of money. Annex 18 describes the cost structure of local currency borrowing in Pakistan. Using these rates the interest cost per ton of urea produced is \$37.01 in the first full year of operations.

7.09 The two other costs are income taxes and the contribution to the Workers' Participation Fund (a forced profit sharing fund). Both are computed as a percentage of profits. The present tax rate in Pakistan is 51% and the contribution to the Workers' Participation Fund is 7%.

7.10 Using the preceding "Other Costs" the final cost structure of a metric ton of urea, at 90% capacity in the full operating year is as follows:

Table 10-B  
Cost Per Ton of Urea

Cost of Production from Table 11	\$ 80.93
Interest	<u>31.08</u>
	112.01
Income tax	37.01
Workers' Participation Fund	4.91
Profit	<u>30.26</u>
Factory Cost	<u>\$184.19</u>

D. Financial Statements

7.11 Using the preceding assumptions, Annexes 20 through 22 show the FAFL's projected Balance Sheets, Income Statements and Source and Application of Funds Statements for the 12-year period. In summary, the company starts with a 70:30 debt:equity ratio in the first year of operation which reduces to 59:41 at the end of the fourth year and to 50:50 at the sixth year. Net income is projected to be \$9.9 million in the first year rising to \$14.9 in the second and succeeding year (20% return on equity). Debt service is covered 2.76 times in the first year rising to 3.02 in the third year and to .09 in the sixth year. Fifty percent of the first year's profits are projected to be paid as dividends and 90% of each year's profits thereafter; the balance is retained in the company.

7.12 As of this date negotiations on many of the cost items have not been completed and the terms of the other lenders are not known. The financial statements therefore are projections and indicative of the results obtained using the assumption previously cited. The final loan agreement will contain adequate financial covenants to assure the financial viability of FAFL and to protect the rights of the lenders. These covenants will be developed with the other foreign lenders and will be consistent in each agreement.

E. Financial Rate of Return

7.13 The financial rate of return--that is the return to the investors on a discounted cash flow basis--using the assumptions previously cited, is 8.3% (Annex 19). While this rate is lower than some projects it is acceptable and it will increase if the rate of production increases above the 90% figure used in the calculations.

## VIII ECONOMIC ANALYSIS

### A. World Fertilizer Prices

8.01. During the late 1960's, world fertilizer prices were low because there was an excess of supply, and investments in fertilizer new plants were modest. Consequently, when demand grew rapidly during 1970-1973, it was not matched with an increased supply and prices increased sharply, partly due to the scarcity and partly due to increases in costs. Freight charges, which also constitute a major portion of imported fertilizer costs, have also increased. The recent worldwide fertilizer shortage and the erratic prices, compounded by Pakistan's continuing foreign exchange scarcity, have made it difficult for the country to rely on imports to meet the growing domestic demand.

### B. Economic Rate of Return and Sensitivity Analysis

8.02. Except for gas prices, the economic costs of all other production inputs are based on their financial costs, adjusted for taxes. The base case economic price of urea is \$200 per MT. This price includes ocean freight cost and port handling charges of US\$30 per ton and internal freight and handling costs of US\$10 per ton. This price is, therefore, equivalent to an FOB price of \$160 per MT. The economic cost and benefit streams are shown in Annex 2. The internal economic rate of return for the project is 27.6%.

8.03. At the 90% of capacity, the project would increase the domestic fertilizer capacity by 489,000 TPY of urea or 224,000 TPY of plant nutrient. Based on a 90% capacity utilization, the project's output could help increase foodgrain production in the country by about 1.5 million TPY. The project will make it possible for Pakistan to avoid importing urea worth about US\$100 million annually.

8.04. Table 11 below shows the sensitivity of the internal economic rate of return to changing conditions. The rate is moderately sensitive to a slower build-up of capacity, a one year delay in construction and a 20% cost overrun. A reduction in the economic price of fertilizer from \$200 per MT to \$180 per MT coupled with a 20% cost overrun reduces the return by 6.8% to 20.8%. Even under these adverse assumptions the rate of return is satisfactory.

TABLE 11

Economic Rate of Return for Various Prices of Urea

Economic Price of Urea	\$180	\$200	\$220
<u>Cases</u>			
A. Base case	24.54	27.58	29.96
B. Slower capacity build-up <sup>1/</sup>	22.04	24.31	26.80
C. One year delay in construction	20.46	23.08	24.96
d. 20% cost overrun	20.77	23.53	29.96
<sup>1/</sup> Year 1 - 50%, year 2 - 60%, year 3 - 75% Years 4 to 12 - 90%			

IX. LOAN TERMS, CONDITIONS AND COVENANTS

A. Loan Terms

9.01. The A.I.D. loan will be extended to the GOP on standard A.I.D. terms of 40 years, with a 10-year grace period on the repayment of principal, and interest at 2% per year during the grace period and 3% per year thereafter. The proceeds of the A.I.D. loan will be reloaned by the GOP to Fauji-Agrico Fertilizer Limited on terms and conditions acceptable to A.I.D. The GOP has agreed, in paragraph 3 of its April 9, 1975 Sanction Letter to Fauji and Agrico (Annex 4) that the relending terms will include an interest rate of 10% and a 15-year repayment period beginning 2 years following the commencement of commercial operations. It is unlikely that the foreign exchange lenders will agree to have the start of repayment be a function of commercial operation as opposed to the more standard practice of tying it to the date of the first disbursement. To the extent possible, the terms to the company of all the foreign exchange loans, whether direct or through the GOP, should be similar. The current effective IRRD rate to industrial projects is 10% per year. Therefore, while specific agreements have yet to be negotiated, we believe the maturity may be 15 years including a 5-year grace period. The actual Loan Agreement covering the relending of the A.I.D. loan from the GOP to FAFL will be subject to A.I.D.'s review and approval.

B. Loan Conditions and Covenants

9.02. The A.I.D. Loan Agreement will contain conditions precedent to disbursement and particular covenants and warranties which will provide adequate assurance that the project will be carried out in an efficient

and timely manner. A draft Loan Agreement, which contains all of the specific terms and conditions is shown in Annex 25.

## X. IMPLEMENTATION PLAN

### A. Schedule

10.01. The GOP's Sanction Letter sets a target date for start-up of commercial operation of 42 months from the date of the Sanction Letter or November 1978. The timetable for the project will depend, to a certain extent, on how long it takes the other foreign exchange lenders to complete their project appraisals and to approve their respective loans. It is expected that all of the foreign exchange loans will be covered with interlocking Loan Agreements, and, therefore, it may not be possible, or desirable, for A.I.D. to execute its Loan Agreement in the 120 days stipulated in PD 57. The size and nature of this project will require loan disbursements continue into early 1980 (as noted below). Both the Bank and the KFW have told A.I.D. that they are willing to work on the IFB documents prior to authorization of their loans and, therefore, the following schedule is possible (it appears that the GOP's 42-month target date is unduly optimistic):

TABLE 12

### IMPLEMENTATION SCHEDULE

#### A.I.D. LOAN

Loan Authorization	June 1975
Loan Agreement signed	December 1975
All CP's met	July 1976
Final disbursement	June 1980

#### General Contract

Prequalifications of bidders	August 1975
Final draft tender documents	September 1975
Lender approval bidder's list and tender documents	October 1975
Tender documents issued	November 1975
Bids received	February 1976
Bid evaluation	June 1976
Lender approval proposed award	July 1976
Contract signed	August 1976
Contractor starts work	September 1976

Design and Procurement

Begin work	September 1976
Completion of basic engineering	December 1976
International advertisements all published	October 1976
Prequalification of bidders	December 1976
Lender approval prequalified bidders	January 1977
Detailed engineering completed	January 1977
Ordering major equipment items completed	April 30, 1977
Delivery of major items completed	January 31, 1978

Construction and Erection

Civil works	July 1978
Plant erection	January 1979
Gas pipeline	November 1978

Maintenance and Operation

Plant testing	February/March 1979
Performance test	March/April 1979
Begin commercial production	May 1979

B. A.I.D.'s Rights of Approval

10.02. A.I.D. will have the right to approve the terms of all contracts and major sub-contracts and all major contracting firms which supply engineering or construction services.

C. Procurement and Allocation of Foreign Exchange

10.03. All foreign exchange funds available for this project, with the exception of the \$40.0 million A.I.D. loan, will be untied. To insure the optimum use of these funds, and for ease of loan administration, the foreign exchange financing being provided by the lenders, including A.I.D., will, in part, be on the basis of "parallel" financing, i.e. specific items or categories of goods or services will be pre-allocated to a specific lender. Items not so preallocated will be financed by a lender selected after the contract has been awarded.

10.04. The procedures to be followed in the procurement of the preallocated goods and services will conform to the requirements of the lender financing them. The procedures to be followed in the procurement of the unallocated packages or items will comply with the IBRD requirements for international competitive bidding, but also

will meet the requirements of the lenders who may eventually finance them. The General Contractor will be required to prepare a detailed description of the procurement procedures which will be followed for the project. These procedures will be subject to the approval of the lenders prior to their implementation.

10.05. It is expected that A.I.D. funds will be used to finance all, or a major portion, of the ammonia plant unless the General Contractor is an American firm, then A.I.D.'s funds will finance the prime contractor. Any remainder will be used to finance a specific portion of the offsites.

## XI. PAKISTAN'S ECONOMIC PERFORMANCE AND REPAYMENTS CAPABILITY

### A. Pakistan's General Economic Performance

11.01. During FY 1975 Pakistan, like most countries, was in an economic recession. Per capita GNP in real terms declined by about 0.6%. Agriculture, the most important sector, was stagnant, with the output of wheat, the major agricultural crop, decreasing with an extended drought and the lowest river flows in Pakistan's history. In the industrial sector, export demand for textiles, the major industrial employer, was dampened by the worldwide recession. Industrial production was also hindered by a power shortage that was a direct result of the low river flows and their impact on hydroelectric potential. New investment in major industries lagged. One factor in the low level of new industrial investment was the uncertainty of private investors about their future role in Pakistan, whose government continues bound by election pledges to "Islamic Socialism", and nationalization of major basic industries and services. However, small scale industrial investments and construction continued to increase and were the bright spots in the economy.

11.02. Inflation continues to be a serious domestic economic problem, Pakistan's economy was already suffering from severe inflationary pressures before the summer of 1973, and these pressures were exacerbated by the August 1973 floods and the sharp rise in international prices. The wholesale price index increased by 24% in 1972 and declining tax revenues resulting from reduced export prices and unexpected and immediate needs for relief and rehabilitation expenditures helped push the wholesale price index up a further 32% during Calendar Year 1973. Fortunately, the increase has since slowed down to only about 20% in 1974. The petroleum import bill which increased from \$60 million in 1972/73 to \$225 million in 1973/74, increased further for the year 1974/75 to about \$375 million. The increase next year is projected to be much less. Similarly, where the upsurge in world fertilizer prices had been over 200% during the preceding years and had played

a major role in the disorganization of the domestic price structure and the resulting decline in domestic agricultural production, the situation now promises to be somewhat alleviated. The necessary adjustment in relative domestic price relationships has largely been accomplished. Nonetheless, prices will continue to rise, but probably at a lower rate.

11.03. The difficulties of the last two years have lead Pakistan to delay the implementation of its new Five Year Plan until early 1976. Nonetheless, the long run prospects for the economy are good and the investments called for in the plan, solidly based upon Pakistan's own natural resources and comparative advantage, should put the economy on the path to self-sustaining growth.

#### B. Balance of Payments Considerations

11.04. One part of the justification for this loan is the fact that Pakistan's imports and other payment obligations exceed its current capacity to earn foreign exchange. The result is that in the absence of the assistance proposed here, other imports of goods and services essential to Pakistan's development would have to be eliminated and the continuing effort to contain inflation would be set back. Pakistan's balance of payments has been placed under severe strain by the sharp increase in world commodity prices. Although the country's exports have grown substantially in recent years, the basis of this export growth continues to be precariously narrow, heavily concentrated on cotton, cotton products and rice. World prices for these commodities are declining and make urgent the need for Pakistan to broaden its export base and increase the efficiency of its production. The country's foreign exchange reserves will be equal to less than two months imports at the levels currently projected for FY 1975/76.

11.05. Since the devaluation of May 1972 the GOP has maintained the liberal import policy adopted at that time with the active support of the IMF and the Aid-to-Pakistan Consortium. The still growing inflationary pressures in Pakistan's economy make it more important than ever that there be no retreat from this policy. A restrictive policy for imports would severely handicap the country's development efforts and increase the upward pressure on domestic prices. Happily, Government spokesmen have assured representatives of the consortium countries that measures to reduce imports would be fiscal, not quantitative or direct in nature.

11.06. The combination of efforts to speed recovery, restrain inflation, step up development and increase the real incomes of Pakistan's most disadvantaged families, have placed a serious strain on the country's

balance of payments in the last few years. The unexpected need for large wheat imports led to large short-term borrowing by Pakistan, even though there was substantial and previously unexpected aid from OPEC countries. Some of this OPEC aid had quite short repayment periods, and by DAC standards was on relatively hard terms.

TABLE 12

Pakistan's Balance of Payments  
(US \$ Millions)

	<u>FY 1973</u> <u>Actuals</u>	<u>FY 1974</u> <u>Preliminary</u>	<u>FY 1975</u> <u>Projected</u>	<u>FY 1976</u> <u>Projected</u>
Exports	766	1,022	1,015	1,125
Imports	890	1,505	1,975	2,220
Trade Balance	- 124	- 483	- 960	- 1,095
Net Invisibles	40	51	- 15	- 50
Debt Service	186	197	243	422
Balance to be Financed	- 270	- 629	- 1,218	- 1,567
<hr/>				
Aid utilization	337	492	1,063	1,450
IMF & short term Borrowings	80	53	255	140
Errors & Omissions	7	- 17	--	
Change in Reserves				
(Negative Increase	- 154	101	- 102	- 23
(Reserve Position)	(468)	(367)	(479)	(502)

11.07. The 1972 devaluation coupled with rising international prices helped boost exports from \$560 million in FY 1972 to \$1,100 million in FY 1975. Imports amounted to \$890 million for FY 1973. The increased export earnings were largely due to higher worldwide commodity prices and would have been greater but for a number of export problems with raw cotton and textiles, and the softening of world market prices for these items by the summer of 1974. Import prices unfortunately rose even faster, and this turning of the terms of trade against Pakistan was rooted in such basic imports as fertilizer, POL, wheat and edible oil.

11.08. The GOP projects exports and imports for FY 1975 at \$1,350 million and \$2,500 million respectively, leaving a trade deficit of \$1,400 million. Slightly lower imports (presented in the table) of about \$2,470 million appear more likely. This includes \$390 million for POL, \$155 million for fertilizer, \$315 million for wheat, and \$625 million for machinery and capital goods.

11.09. In FY 1975-76 an improved export performance is expected as rice, small manufactures, fish, etc. continue their long-run upward trend. However, a continued high level of wheat imports arising from this year's poor crop will continue to put heavy pressure on Pakistan's balance of payments. Pakistan has set a target of 9 million tons of wheat production 1975/76, and is undertaking a major campaign to increase production (new fertilizer plants and, pending their completion, imports; rectification of agricultural price relationships; major improvements in water management and salinity control, etc.) to remove this constraint in the next few years. But these efforts, and the regular development program, will result in continued large-scale foreign aid requirements if Pakistan is to proceed with its long-run development unhampered.

11.10. Net invisibles continued to be high for Pakistan because of large home remittances. Worldwide inflation affects payments for travel, shipping and military imports as well as home remittances. As the world inflation declines and Pakistan emigrants (encouraged by the GOP and welcomed by the Arabs) continue to flow into the Middle East, particularly the Gulf States, it is hoped these will remain high, although their growth may decline. Short-term borrowings, which could have been included here, have been placed below the line in 1975/76. However, these do increase the debt servicing obligations of Pakistan. A reduction in short-term borrowings is indicated as softer funds are found, principally in the Middle East.

#### C. Pakistan's Repayment Prospects

11.12. Net official debt servicing by Pakistan amounted to about \$186 million in FY 1973 and is estimated to be \$197 million for FY 1974. On June 28, 1974, Pakistan agreed with the Aid-to-Pakistan Consortium

upon a package of debt relief and division of the debts contracted by it for the benefit of the former East Pakistan, now Bangladesh. The debt relief proposals incorporate a total of \$650 million to be received by Pakistan from its creditors in the Consortium over the next three years. In addition, Pakistan agreed to seek comparable debt relief from creditors outside the Consortium. Unfortunately, there remain significant short-run service obligations, and non-traditional, non-consortium donors have made commodity and cash loans available on what by DAC standards are hard terms. If commodity aid financing is not available in adequate amounts, Pakistan may continue to seek short-term borrowings in FY 1976. While these improved the short-term balance of payments position, the precedent should not be continued. It would seriously hamper the country's development options.

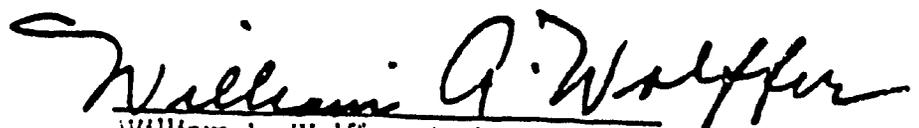
11.12. The combination of debt relief agreed upon and likely future improvement of Pakistan's balance of trade indicate that Pakistan will be able to repay this loan together with the other legitimate debts. During the next few years the economy will have little margin for maneuver but, in the longer run, the situation will improve significantly. Repayment prospects are, therefore, reasonable.

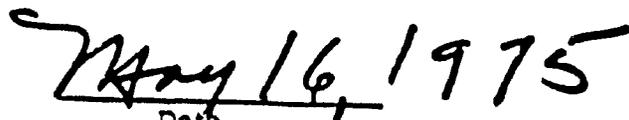
D. Impact on U.S. Balance of Payments

11.13. The impact of this loan on the U.S. balance of payments will be favorable. The proceeds of the A.I.D. loan, while available to finance purchases in Code 941 countries, will probably all be spent in the U.S. for goods and services. It is expected, based on considerable past experience, that U.S. suppliers will be competitive on some of the materials and services procured for the project and financed by some of the other foreign exchange lenders. Thus, while the U.S. is lending \$40 million, there will, no doubt, be more than this amount spent in the U.S. for this project.

PAKISTAN - FAUJI-AGRICO FERTILIZER PROJECT  
CERTIFICATION PURSUANT TO SECTION 611(e) OF  
THE FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

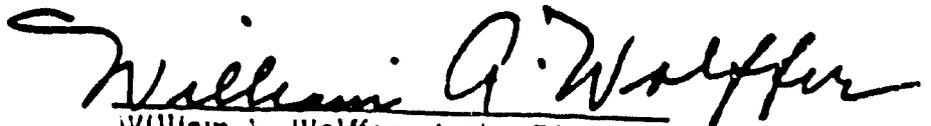
I, William A. Wolffer, acting principal officer of the Agency for International Development in Pakistan, having taken into account among other things the maintenance and utilization of projects in Pakistan previously financed or assisted by the United States and the commitment of the Government of Pakistan to carry out effectively the Fauji-Agrico Fertilizer Project, do hereby certify that in my judgment Pakistan has the financial and human resources capability to implement, maintain and utilize effectively the subject project.

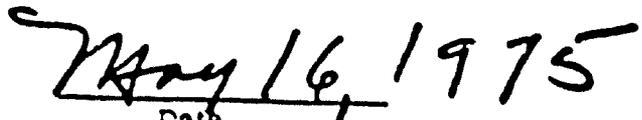
  
William A. Wolffer, Acting Director  
USAID/Pakistan

  
Date

PAKISTAN - FAUJI-AGRICO FERTILIZER PROJECT  
CERTIFICATION PURSUANT TO SECTION 611(e) OF  
THE FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

I, William A. Wolffer, acting principal officer of the Agency for International Development in Pakistan, having taken into account among other things the maintenance and utilization of projects in Pakistan previously financed or assisted by the United States and the commitment of the Government of Pakistan to carry out effectively the Fauji-Agrico Fertilizer Project, do hereby certify that in my judgment Pakistan has the financial and human resources capability to implement, maintain and utilize effectively the subject project.

  
William A. Wolffer, Acting Director  
USAID/Pakistan

  
Date

FAUJI-AGRICO FERTILIZER LIMITED  
CHECKLIST OF STATUTORY CRITERIA

BASIC AUTHORITY

1. FAA § 103; § 104; § 105;  
§ 106; § 107. Is loan being made
- |  |  |
|--|--|
| a. for agriculture, rural development or nutrition;  | Yes. The loan will assist in augmenting local production of fertilizer for use in agriculture. |
| b. for population planning or health;  | No.  |
| c. for education, public administration, or human resources development;   | No.  |
| d. to solve economic and social development problems in fields such as transportation, power, industry, urban development, and export development; | No.  |
| e. in support of the general economy of the recipient country or for development programs conducted by private or international organizations.     | No.  |

COUNTRY PERFORMANCE

Progress Towards Country Goals

2. FAA § 201 (b) (5), (7) & (8); § 208

A. Describe extent to which country is:

---

The following abbreviations are used:

- FAA - Foreign Assistance Act of 1961, as amended.  
FAA, 1973 - Foreign Assistance Act of 1973.  
App. - Foreign Assistance and Related Program Appropriation Act, 1974.  
MMA - Merchant Marine Act of 1936, as amended.

FAUJI-AGRICO FERTILIZER LIMITED  
CHECKLIST OF STATUTORY CRITERIA

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- |   |  |
|---|--|
| a. for agriculture, rural develop-<br>ment or nutrition;  | Yes. The loan will assist in aug-<br>menting local production of ferti-<br>lizer for use in agriculture. |
| b. for population planning or health;   | No.  |
| c. for education, public adminis-<br>tration, or human resources<br>development;  | No.  |
| d. to solve economic and social development<br>problems in fields such as trans-<br>portation, power, industry, urban<br>development, and export development; | No.  |
| e. in support of the general economy<br>of the recipient country or for develop-<br>ment programs conducted by private or<br>international organizations.     | No.  |

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FAA, 1973 - Foreign Assistance Act of 1973.

App. - Foreign Assistance and Related Program Appropriation Act, 1974.

MMA - Merchant Marine Act of 1936, as amended.

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

(1) Pakistan has long recognized the need to increase food production. On April 30, 1974, Pakistan entered into a major loan for an Agricultural Research Project. Additionally, Pakistan is, at present, increasing its domestic fertilizer production as evidenced by the Multan expansion project, and several other plants being built with foreign participation including the projected Fauji plant. Domestic nutrient ton production is forecast to increase from 321,000 to 1,250,000 over the next 4 years.

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

(2) The Government of Pakistan is committed to "Islamic Socialism" and nationalization of certain basic industries and services including banking in the context of mixed economy are part of its election pledges. The implementation of these pledges by nationalization has been uneven and has created uncertainties in the business community that has retarded new private domestic investment in large scale industry. However, the Government continues to welcome foreign investment in certain sectors, as evidenced by its concessions to foreign investors in fertilizer manufacture and the expansion of U.S. investments in food processing, tobacco, and in mineral exploration. Private domestic investment in medium and small scale industry continues at a high rate and Pakistan's leaders have publicly affirmed that a substantial degree of domestic and foreign private investment is essential to Pakistan's economic development.

(3) Increasing the public's role in the developmental process.

(3) The present Government describes itself as a "People's Government". During the summer of 1973 a new constitution establishing a parliamentary form of Government was put into effect in Pakistan. At the lower level, the fledgling Peoples Works and Integrated Rural Development programs contemplate more active participation in development at the village level.

(4) (a) Allocating available budgetary resources to development.

(a) Development expenditures are budgeted to increase from Rs. 6, 113 million in FY 74 to Rs. 8, 500 million in FY 75, a significant 39% increase. Respective GNP in these years are 60, 942 and a forecasted 77, 824 million rupees each, so that Government expenditures for development purposes will approach 11% of GNP.

(b) Diverting such resources for unnecessary military expenditure (See also Item No. 20) and intervention in affairs of other free and independent nations.) (See also Item No. 11).

(b) The budget for defense expenditure in FY 75 has increased by only 18%, less than half the increase in development expenditures, and less even than the wholesale price index. In FY 74 Rs. 4, 742 million was spent on defense and the budget now calls for Rs. 5, 579 million in FY 75. The recognition of Bangladesh coupled with the re-opening of communications with India, will have a moderating influence on defense spending. At this point in time, it is difficult to judge the effect of India's recent detonation of a nuclear device, or continued strains in Afghan-Pakistan relations on future defense budgets.

(5) Making economic, social and political reforms such as tax collection improvements and changes in land tenure arrangements, 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.

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

(7) Otherwise responding to the vital economic, political, and social concerns of its peoples, and demonstrating a clear determination to take effective self-help measures.

(5) The Bhutto Government has promulgated a quick succession of land, labor, banking, education, health and law reforms which, if implemented may enable it to achieve development objectives. The rule of law is publicly endorsed. Notwithstanding occasional action against newspaper editors, press freedoms are much greater than under previous regimes.

The project will have substantial amounts of both equity and loan support from Fauji Foundation and Pakistani Financial Institutions. (See Section VI for details of financial plans.)

(7) As the responses above suggest, the recipient Government has committed itself to meeting the vital economic, political and social concerns of its people. Since coming to power, the self-help measures the Government has taken include the rupee devaluation of May 1972, and import liberalization program, increases in tax revenues and other stabilization measures, steps to increase subsidies on farm inputs and substantial flood relief recovery and rehabilitation efforts. In the last six months it has lifted internal restrictions on the transport and sale of wheat, and increased the Government procurement price substantially, measures that will give significant increased incentive to agricultural production.

B. Are above factors taken into account in the furnishing of the subject assistance?

Yes.

Treatment of U.S. Citizens and Firms.

- |  |   |
|--|---|
| <p>3. <u>FAA § 620 (c).</u> If assistance is to government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) debt is not denied or contested by such government?</p>   | <p>No.</p>  |
| <p>4. <u>FAA § 620 (e) (1).</u> If assistance is to a government, has it (including government agencies or sub-divisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities?</p> | <p>The March 1972 Life Insurance Nationalization affected one American Company, which negotiated a satisfactory settlement, and received compensation in 1973. In addition, the nationalization of schools potentially affects one American church organization which owns substantial property in Pakistan. At the present time neither party is pressing the issue.</p> |
| <p>5. <u>FAA § 620 (a); Fishermen's Protective Act. § US.</u> If country has seized, or imposed any penalty or sanction against, any U.S. fishing vessel on account of its fishing activities in international waters.</p>   | <p>Not Applicable.</p>  |
| <p>a. has any deduction required by Fishermen's Protective Act been made?</p>  | <p>Not Applicable.</p>  |
| <p>b. has complete denial of assistance been considered by A. I. D. Administrator?</p>   | <p>Not Applicable.</p>  |

Relations with U. S. Government and Other Nations

6. FAA § 620 (a). Does recipient country furnish assistance to Cuba or fail to take appropriate steps to prevent ships or aircraft under its flag from carrying cargoes to or from Cuba? 

The Government of Pakistan has assured the U. S. that no such exports will be made; we are not aware of any violation of the stated policy.
7. FAA § 620 (b). If assistance is to a government, has the Secretary of State determined that it is not controlled by the international Communist movement? 

The Secretary of State has determined that Pakistan is not controlled by the international communist movement.
8. FAA § 620 (d). If assistance is for any productive enterprise which will compete in the United States with United States enterprise, is there an agreement by the recipient country to prevent export to the United States of more than 20% of the enterprise's annual production during the life of the loan? 

The demand and supply forecasts indicate that Pakistan will continue to need fertilizer to satisfy its domestic requirements at least until the early 1980's. Regardless, the loan will include appropriate provision for restriction of export to the United States in excess of 20% of Fauji's total annual production.
9. FAA § 620 (f). Is recipient country a Communist country? 

No.
10. FAA § 620 (i). Is recipient country in any way involved in (a) subversion of, or military aggression against, the United States or any country receiving U.S. assistance, or (b) the planning of such subversion or aggression? 

No.
11. 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? 

No.

12. FAA § 620 (l). If the country has failed to institute the investment guaranty program for the the specific risks of expropriation, in convertibility or confiscation, has the A. I. D. administration within the past year considered denying assistance to such government for this reason? Pakistan has instituted the investment guaranty program for the specific risk of appropriation, inconvertibility and war risk.
13. FAA § 620 (n). Does recipient country furnish goods to North Viet-Nam or permit ships or aircraft under its flag to carry cargoes to or from North Viet-Nam? No
14. FAA § 620 (q). Is the government of the recipient country in default on interest or principal of any A. I. D. loan to the country? No. Pakistan's default under a debt moratorium in May 1971 was relieved by a Debt Rescheduling agreement dated September 20, 1972. A longer term re-scheduling has been negotiated by member of the Aid to Pakistan Consortium in Paris, and bilateral discussions of its implementation are now going on.
15. FAA § 620 (r). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption? Diplomatic relations with the United States have not been severed.
16. FAA § 620 (u). What is the payment status of the country's U. N. obligations? If the country is in arrears, were such arrearages taken into account by the A. I. D. Administrator in determining the current A. I. D. Operational Year Budget? Pakistan is not delinquent in any obligations to the United Nations.

17. FAA § 481. Has the government of recipient country failed to take adequate steps to prevent narcotics drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully? **No.**
18. FAA, 1973 § 29. If (a) military base is located in recipient country, and was constructed or is being maintained or operated with funds furnished by U.S., and (b) U.S. personnel carry out military operations from such base, has the President determined that the government of recipient country has authorized regular access to U.S. correspondents to such base? **Not Applicable.**

Military Expenditures

19. FAA § 620 (a). What percentage of country budget is for military expenditures? How much of foreign exchange resources spent on military equipment? How much spent for the purchase of sophisticated weapons systems? (Consideration of these points is to be coordinated with the Bureau for Program and Policy Coordination, Regional Coordinators and Military Assistance Staff (PPC/RC).) **During fiscal year 1974, Pakistan's known defense expenditures were about Rs. 4,742 million, or about 25% of the overall GOP budget. This fiscal year Rs. 5,579 million or about 23% is for defense. The 1974 expenditure was about 6.1% of GNP, and this year is likely to be less. We have no precise estimate of foreign exchange resources utilized to acquire military hardware and other equipment, but believe these are over \$100 million annually, largely to replace obsolescent equipment supplied by the U.S. as military aid during the 1950s and early 1960s. Pakistan has purchased sophisticated weapons systems from abroad including Mirage**

(Contd. from page 8, Item # 19)  
jet fighters from France, armored  
personnel carriers from the U.S.  
and tanks and jet fighters from China.

## Conditions of The Loan

### General Soundness

20. FAA § 201 (d). Information and conclusion on reasonableness and legality (under laws of country and the United States) of lending and relending terms of the loan.
- The funds will be lent in compliance with the laws of the United States and of Pakistan. The lending terms, 40 years including a 10 year grace period, 2% interest during the grace period and 3% thereafter, are considered reasonable. The rate of interest is less than Pakistan's discount rate.
21. FAA § 201 (b) (2); § 201 (e). Information and conclusion on activity's economic and technical soundness. If loan is not made pursuant to a multilateral plan, and the amount of the loan exceeds \$100,000, has country submitted to A. I. D. an application for such funds together with assurances to indicate that funds will be used in a economically and technically sound manner?
- Studies have been conducted both by Pakistan and US consulting engineering firms which conclude that the project is economically and technically sound. In addition, preliminary assessments by donor agencies as well as the U.S. equity partner (Agrico) give similar indications.
- An application for the loan including assurances for the judicious use of funds has been received from the borrower.
22. FAA § 201 (b) (2). Information and conclusion on capacity of the country to repay the loan, including reasonableness of repayment prospects.
- Of late, Pakistan has been the recipient of substantial economic assistance from OPEC countries in addition to continued and expanding assistance from the Western Countries. It is expected that the inflow will continue in the future. The repayment prospects for this loan are reasonable.

23. FAA § 201 (b) (1). Information and conclusion on availability of financing from other free-world sources, including private sources within the United States. (See Section VI for Financing Plan). The project will be financed from a variety of sources - both public as well as private - in the US and the free-world.
24. FAA § 611 (a) (1). Prior to signing of loan will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the United States of the assistance? Yes. (a) Detailed engineering - financial and other plans as necessary, will be prepared. (b) Firm cost estimates will be developed. (See Section VI of Project Paper).
25. FAA § 611 (a) (2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of loan? No legislative action is required.
26. FAA § 611 (e). If loan is for Capital Assistance, and all U.S. assistance to project now exceeds \$1 million, has Mission Director certified the country's capability effectively to maintain and utilize the project? Acting Mission Director's Certification (611(e) is attached to this Project Paper.

Loan's Relationship to Achievement of Country and Regional Goals

27. FAA § 207; § 113  
Extent to which assistance reflects appropriate emphasis on; (a) encouraging development of democratic, economic, political, and social institutions; (b) self-help in meeting the country's food needs; (c) improving availability of trained manpower in the country; (d) programs designed to meet the country's health needs; (b) The production of fertilizer will directly benefit food production. (c) The project will provide opportunities for training Pakistani technicians to operate and maintain sophisticated plants. (f) The effect on employment women will be marginal. (a), (d), (e). The project will have no impact.

(Contd. from page 10, Item#27)  
(e) other important areas of economic, political, and social development, including industry; free labor unions, cooperatives, and Voluntary Agencies; transportation and communication; planning and public administration; urban development, and modernization of existing laws; or (f) integrating women into the recipient country's national economy.

28. FAA § 209. Is project susceptible of execution as part of regional project? If so why is project not so executed? Not Applicable.
29. FAA § 201 (b) (4). Information and conclusion on activity's relationship to, and consistency with, other development activities, and its contribution to realizable long-range objectives. This activity is complementary to other related activities in the field of agriculture, e.g., "Barani" Projects, Agricultural Research and will contribute very substantially toward the long range objective of making the country self-sufficient in food production.
30. FAA § 201 (b) (9). Information and conclusion on whether or not the activity to be financed will contribute to the achievement of self-sustaining growth. The activity will contribute to the achievement of self-sustaining growth.
31. FAA § 209. Information and conclusion whether assistance will encourage regional development programs. Not Applicable.
32. FAA § 111. Discuss the extent to which the loan will strengthen the participation of urban and rural poor in their country's development, and will assist in the development of cooperatives which will enable and encourage greater numbers of The project will have indirect but conspicuous effect on enlarging the participation of the rural poor and cooperatives in Agricultural development efforts, which in turn will contribute to overall economic development.

(Contd. from page 11, Item#32)  
*poor people to help themselves  
toward a better life.*

33. 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 resources requirements and relationship between ultimate objectives of the project and overall economic development. See item 32 above.
34. FAA § 281 (a). Describe extent to which the loan will contribute to the objective of assuring maximum participation in the task of economic development on the part of the people of the country, through the encouragement of democratic, private and local governmental institutions. Fauji Foundation is essentially a private sector enterprise. It is expected that distribution of the product will also be in the private sector. (Please see Item 32 above).
35. FAA § 281 (b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civic education and training in skills required for effective participation in governmental and political processes essential to self-government. Not Applicable.
36. FAA § 201 (b) (3). In what ways does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities? Please see 32 above.

37. FAA § 601 (a). Information and conclusions whether loan will encourage efforts of the country 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.

The loan will directly or indirectly: increase the flow of international trade, foster private initiative, and improve technical efficiency of industry, agriculture and commerce.

38. FAA § 619. If assistance is for newly independent country, is it furnished through multi-lateral organizations or plans to the maximum extent appropriate?

Not Applicable.

Loan's Effect on U.S. and A.I.D. Program.

39. FAA § 201 (b) (6). Information and conclusion on possible effects of loan on U.S. economy, with special reference to areas of substantial labor surplus, and extent to which U.S. commodities and assistance are furnished in a manner consistent with improving the U.S. balance of payments position.

It is unlikely that the loan will have any effect on employment in areas of substantial labor surplus in the U.S. With respect to the U.S. balance of payments, although bidders in Code 941 countries will be eligible, it is expected that most services and equipment will be purchased from the United States and that AID participation in the project will increase such purchases.

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

Practically all of the loan funds will be used to purchase goods and services from private sources.

41. FAA § 601 (b). Information and conclusion on how the loan will encourage U.S. private trade and investment abroad and how it will encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise). private  
See item 39 above for effect on U.S./trade. A U.S. company, Agrico Chemical Company, is a 30% equity investor in the borrowing entity. It is believed this large U.S. private investment will lead to other private American investment in Pakistan.
42. FAA § 601 (d). If a capital project, are engineering and professional services of U.S. firms and their affiliates used to the maximum extent consistent with the national interest? Yes.
43. FAA § 602. Information and conclusion whether U.S. small business will participate equity in the furnishing of good and services financed by the loan. Standard AID competitive selection procedure will be used for procurement under this loan. U.S. small business will have an equitable chance of participating.
44. FAA § 620 (h). Will the loan promote or assist the foreign aid projects or activities of the Communist-Block countries? No.
45. FAA § 621. If Technical Assistance is financed by the loan, information and conclusion whether such assistance will be furnished to the fullest extent practicable as goods and professional and other services from private enterprise on a contract basis. If the facilities of other Federal Agencies will be utilized, information and conclusion on whether they are particularly suitable, are not competitive with private enterprise, and can be made available without undue interference with domestic programs. Not Applicable.

Loan's Compliance with Specific Requirements

46. FAA § 110 (a); § 208 (e). In what manner has or will the recipient country provide assurances that it will provide at least 25% of the costs of the program, project, or activity with respect to which the Loan is to be made? As this is a multilateral project within the meaning of State 035028 (February 21, 1974), Section 110(a) is not legally applicable. However, the host country contribution to the project will be in excess of 25% of project costs. (See Section VI of the Project Paper).
47. FAA § 112. Will loan be used to finance police training or related program in recipient country? No.
48. FAA § 114. Will loan be used to pay for performance of abortions or to motivate or coerce persons to practice abortions? No.
49. 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? Yes.
50. FAA § 201 (d). Is interest rate of loan at least 2% per annum during grace period and at least 3% per annum thereafter? Yes.
51. FAA § 201 (f). If this is a project loan what provisions have been made for appropriate participation by the recipient country's private enterprise? Fauji Foundation itself has been classified as a private enterprise.
52. FAA § 604 (a). Will all commodity procurement financed under the loan be from the United States except as otherwise determined by the President? See item 39 above.
53. FAA § 604 (b). What provision is made to prevent financing com- No "bulk commodities" will be purchased under this loan.

(Contd. from page 15, Item#53)  
modity procurement in bulk at  
prices higher than adjusted  
U.S. market price?

54. FAA § 604 (d). If the cooperating country discriminates against U. S. marine insurance companies, will loan agreement require that marine insurance be placed in the United States on commodities financed by the loan? **Yes.**
55. FAA § 604 (e). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? **Not Applicable.**
56. FAA § 604 (f). If loan finances a commodity import program, will arrangements be made for supplier certification to A. I. D. and A. I. D. approval of commodity as eligible and suitable? **Not Applicable.**
57. FAA § 608 (a). Information on measures to be taken to utilize U. S. Government excess personal property in lieu of the procurement of new items. **Specialized equipment and machinery may have to be fabricated. These are not available as excess property items.**
58. FAA § 611 (b); App. § 101. If loan finances water or water-related land resource construction project or program, is there a benefit-cost computation made, insofar as practicable, in accordance with the procedures set forth in the Memorandum of the President dated May 15, 1962? **Not Applicable.**

59. FAA § 611 (c). If contracts for construction are to be financed, what provision will be made that they be let on a competitive basis to maximum extent practicable? Yes. A provision will be included in loan agreement on this subject.
60. FAA § 612 (b); § 636 (h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the United States are utilized to meet the cost of contractual and other services. US-owned local currency will not be utilized on this project. For Borrower Contribution, please refer to Section VI of the Project Paper.
61. FAA § 612 (d). Does the United States own excess foreign currency and, if so, what arrangements have been made for its release? The US owns excess Pakistan rupees. This loan will meet only foreign exchange costs. US owned rupees are programmed for use in several other projects, but not this one.
62. FAA § 620 (g). What provision is there against use of subject assistance to compensate owners for expropriated or nationalized property? Loan disbursement procedures to be included in the loan agreement will prevent use of the funds for purposes other than intended.
63. FAA § 620 (k). If construction of productive enterprise, will aggregate value of assistance to be furnished by the United State exceed \$100 million? No.
64. FAA § 636 (i). Will any loan funds be used to finance purchase, long-term lease, or exchange of motor vehicle manufactured outside the United States, or any guaranty of such a transaction? No.
65. App. § 103. Will any loan funds be used to pay pensions, etc., for military personnel? No.

66. App. § 105. If loan is for capital project, is there provision for A.I.D. approval of all contractors and contract terms? **Yes.**
67. App. § 107. Will any loan funds be used to pay UN assessments? **No.**
68. App. § 108. Compliance with regulations on employment of U.S. and local personnel. (A. I. D. Regulation 7). **These regulations shall be complied with.**
69. App. § 110. Will any of loan funds be used to carry out provisions of FAA § 209(d)? **No.**
70. App. § 113. Describe how the Committee on Appropriations of the Senate and House have been or will be notified concerning the activity, program, project, country, or other operation to be financed by the Loan. **Both Committees will be advised by AID/W in accordance with statutory requirements.**
71. App. § 501. Will any loan funds be used for publicity or propaganda purposes within the United States not authorized by Congress? **No.**
72. MMA § 901.b; FAA § 640C.
- (a) Compliance with requirement that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed with funds made available under this loan shall be transported on privately owned U.S. - flag commercial vessels to the extent that such vessels are available at fair and reasonable rates. **The loan agreement will contain standard provisions.**

- (b) Will grant be made to loan recipient to pay all or any portion of such differential as may exist between U.S. and foreign-flag vessel rates? No
73. Section 30 and 31 of PL 93-189 (FAA of 1973) No  
 Will any part of the loan be used to finance directly or indirectly military or paramilitary operations by the U.S. or by foreign forces in or over Laos, Cambodia, North Vietnam, South Vietnam or Thailand?
74. Section 37 of PL 93 - 189 (FAA of 1973); App. § 111. No  
 Will any part of this loan be used to aid or assist generally or in the reconstruction of North Vietnam.
75. App. § 112. No  
 Will any of the funds appropriated or local currencies generated as a result of AID assistance be used for support of police or prison construction and administration in South Vietnam or for support of police training in South Vietnamese?
76. App. § 504. No  
 Will any of the funds appropriated for this project be used to furnish petroleum fuels produced in the continental United States to Southeast Asia for use by non-U.S. nationals?

A. I. D. Loan No.

**CAPITAL ASSISTANCE LOAN AUTHORIZATION**

Provided from: Development Loan Funds

Pakistan: Fauji-Agrico Fertilizer Project

Pursuant to the authority vested in me as Administrator of the Agency for International Development ("A.I.D.") by the Foreign Assistance Act of 1961, as amended, ("the Act") and delegations of authority issued thereunder, I hereby authorize a Loan to the Islamic Republic of Pakistan ("Borrower") in an amount of Forty Million United States Dollars (\$40,000,000) pursuant to Part I, Chapter I, Section 103 - Food and Nutrition and Part I, Chapter II, Title I (Development Loan Fund) of the Act, to assist in financing the foreign exchange costs of goods and services required for the construction of a urea fertilizer plant at Goth Machhi ("Project").

This Loan shall be subject to the following conditions:

1. Interest Rate and Terms of Repayment

The Loan shall be repaid by the Borrower within Forty (40) years after the date of the first disbursement under the Loan, including a grace period of not to exceed ten (10) years from such date. Interest on the outstanding balance of the disbursements under the Loan and on any due and unpaid interest shall be at the rate of two percent (2%) per annum during the grace period and at the rate of three percent (3%) per annum thereafter.

2. Currency of Repayment

Repayment of funds due under the Loan and payment of interest thereon shall be in United States Dollars.

3. Other Terms and Conditions

a. Borrower shall assure A.I.D. that any other currencies required for the project will be made available in a timely fashion.

b. Borrower shall make arrangements satisfactory to A.I.D. with other responsible lenders for financing in sufficient amounts to meet the costs of the Project.

c. Unless A.I.D. otherwise approves in writing, procurement of goods and services financed under the Loan shall be from the United States or other Code 941 countries.

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

Date: \_\_\_\_\_

\_\_\_\_\_  
Administrator

No. Dev-II-9(14)/72-Vol. IV  
Government of Pakistan  
Industries Division

Islamabad, the 9th April, 1975

To

1. The Managing Director,  
Fauji Foundation,  
Harley Street,  
Rawalpindi.
2. M/s. Agrico Chemical Company,  
718, National Bank of Tulsa Building,  
Tulsa, Oklahoma 74103 USA.

Sub: ESTABLISHMENT OF A FERTILIZER PLANT  
BASED ON MARI GAS.

Dear Sirs,

I am directed to refer to your letters No. 1-1/FP, dated 17.2.75, 1-2/FP, dated 25.3.75 and 1-2/FP, dated 3.4.75 and to convey to you in supersession of letter of even number dated the 3rd December, 1974, the permission of the Government of Pakistan for joint establishment of a urea fertilizer manufacturing plant with a capacity of 1,725 metric tons urea approximately corresponding to 1,000 metric tons ammonia per stream day and the necessary related facilities. This permission is subject to the terms and conditions as set forth in the subsequent paragraphs.

2. (i) The project will be located at Goth Machhi  
in Punjab.
- (ii) The investment in and financing plan of  
the project will be as under:

(Expressed in Million US \$)

<u>Equity</u>	<u>Local Currency</u>	<u>Foreign Currency</u>	<u>Total</u>
Fauji Foundation	22.00	-	22.00
Agrico	-	22.00	22.00
International Finance Corporation (IFC)	-	8.00	8.00
Foreign participants to be arranged	-	5.00	5.00
Pakistan Public through Government industrial Development and financial institutions or corporations	15.00	-	15.00
Sub Total	<u>37.00</u>	<u>35.00</u>	<u>72.00</u>
<u>DEBT</u>			
USAID	-	50.00	50.00
World Bank	-	50.00	50.00
German Aid (KFW)	-	20.00	20.00
Pakistan Financing Institutions	<u>48.00</u>	-	<u>48.00</u>
Sub Total:	<u>48.00</u>	<u>120.00</u>	<u>168.00</u>
Grand total:	<u>85.00</u>	<u>155.00</u>	<u>240.00</u>

3. For the successful operation of the project by the Company the Government shall:

- (i) Arrange to borrow and relend to the Company the USAID and KFW foreign currency loans. The terms under which these funds will be made available to the Company shall reflect the need to finance the project at the lowest possible costs, and shall include a fifteen (15) year repayment period beginning 2 years following the commencement of commercial operation.

- (ii) Arrange to borrow and relend to the Company on acceptable terms the World Bank loan. In the event that such borrowing by the Government is not feasible, the Company shall endeavour directly to borrow the foreign currency funds from the World Bank under the sponsorship and with the assistance of the Government at terms acceptable to it.
- (iii) Obtain firm commitments from and arrange to make available the proportionate equity subscription of the Pakistan Public through industrial development and financing institutions or corporations.
- (iv) Obtain firm commitments from Pakistani financing institutions to make available their loan to the Company on a pari passu basis with the contribution of equity; and use its best efforts to obtain such commitments from the international lending organizations but if the loan giving agencies object, the project will not be delayed and the Company shall provide equity without delay.
- (v) Permit the Company to maintain and operate a foreign equity and loan deposited in a foreign branch of a Pakistan scheduled bank subject to the conditions that its operation shall be in accordance with the relevant rules and regulations of the State Bank of Pakistan.
- (vi) Guarantee for repayment of foreign loans and interests on the following terms and conditions:-
  - (a) The necessary loan Agreement will be subject to prior approval of Government.
  - (b) A guarantee fee of 1-1/2% would be paid to Government by the proposed Fertilizer Company which would set up the fertilizer plant and other related facilities.
  - (c) The sponsors will create a mortgage on the entire fixed assets of the Project in favour

of the Government or any of its agencies as a first charge. Under the mortgage deed, if there is continuous default for three instalments, Government may take over the management of the plant until the arrears are cleared.

4. The Company shall directly borrow the local currency funds from Pakistani financing institutions and obtain firm commitments in respect thereof acceptable to Agrico and Fauji from the said institutions through intervention of the Government.

5. As the investment in the proposed Project exceeds Rupees two million (Rs. 2 million) a public limited company will be formed for the same.

6. (i) Plant and machinery to be imported must be new, modern and most competitively priced.
- (ii) The design of the plant and the details of the imported machinery and equipment and cost thereof would be subject to the Government approval.
- (iii) Two years supply of spare parts will be arranged as part of the project.
- (iv) After the Project goes into production, licences for the project requirements of imported chemicals, consumable stores and spares etc. will be subject to the Import Policy in force from time to time. The Government shall expedite such requests so as not to interrupt the efficient operation of the project and shall promptly provide the necessary foreign exchange for the said imports.
- (v) Exemption from customs duty will be admissible on plant and machinery as defined in Central Board

of Revenue's Notification No. SRO-393(I)/74 dated the 21st March, 1974. The exemption so given shall be in accordance with the Central Board of Revenue's Notification No. SRO-372(I)/72 dated the 8th June, 1972.

7. Payment of customs duties where applicable shall be allowed in the form of debentures under the existing rules.

8. Foreign equity investment would be repatriable in accordance with investment guarantee as set forth in the Government statement of Industrial Policy 1959, the relevant extracts of which are reproduced below:-

- "(i) Foreign capital in approved industries established after September 1, 1954, may be repatriated at any time thereafter to the extent of the original investment to the country from which investment originated. There is no restriction on the remittance of current profits to the country from where investment originated.
- (ii) Any part of the profits derived from investment and ploughed back into approved industrial projects with the approval of the Government of Pakistan, may be treated as investment for the purpose of repatriation.
- (iii) Appreciation of any capital investment under (i) and (ii) may also be treated as investment for repatriation purposes. Such repatriation facilities will be subject to exchange control regulations as are in force from time to time and will not apply (i) to the purchase of shares on the stock exchange, unless it is an integral part of an approved investment project, and (ii) to the capital invested in Pakistan before September 1, 1954".

Protection in case of nationalization of the Company would also be made available in accordance with the terms of the said statement of Industrial Policy of February, 1959.

9. Agrico shall make available to the Company until the commencement of commercial operation and for a fixed consideration of US dollars 1.5 million, all Agrico's present proprietary and technical information or that which it may subsequently acquire, unless prohibited by law or contract, and which relates to the engineering, design, equipment procurement and operation of plants similar to the Project, including advice relating to the technical, legal, financial, administrative, managerial and marketing supervision during all stages of implementation of the Project upto commencement of commercial operation. The aforementioned know-how fee shall be paid in the first year of commercial operation. Subsequent to the commencement of commercial operation, Agrico shall continue to make such know-how available to the Company as it pertains to the operating management, control and technical services related to production, debottlenecking and expansion for a fee of US dollar one (\$1.00) per ton of product sold for a period of ten (10) years.

10. The foreign exchange expenditure on account of start up assistance, post start up assistance, marketing and Head Office expenses shall not exceed \$3.00 million which amount will be in addition to \$1.5 million lump sum and \$1.00 per ton of urea mentioned in the preceding paragraph.

11. A certificate of approval of investment by Agrico in the Project would be issued by the Government for the purpose of obtaining OPIC insurance in USA.

12. The ex-factory price of urea shall be so determined for a period of 10 years from the commencement of commercial operation so as to allow a 20% return on equity after taxes if plant efficiency to the extent of 65% in the first year, 85% in second year and 90% in subsequent years in terms of urea is attained. The dividends accruing to the foreign shareholders shall be exempted from the Inter-corporate Tax. In case the exchange rate of US dollar in terms of Pakistani rupee appreciate at any time within the period stipulated above the percentage return on equity will be proportionately increased.

13. The company will be allowed to market urea and

phosphatic fertilizer, either indigenous and/or imported prior to the commencement of the production for its "seeding" programme and after commencement of production, in addition to marketing its own urea fertilizer it would also be allowed to market phosphatic fertilizer in exchange of its urea fertilizer. For this purpose the Company would also be allowed to import, subject to the availability of foreign exchange, and market phosphatic and other compound fertilizers. The price and quantum of such imports will, however, be negotiated by the Company with the Government on a yearly basis.

14. The Company would be permitted to export its product in case the Government find that it is surplus to the requirements of the country.

15. All possible assistance would be rendered to the Company for acquiring requisite consents/authorizations, permits and licences for the project site and all related infra-structure services and facilities, such as water, electric power, and transportation and communication facilities, including rail sidings laying of water and gas pipelines, installation of necessary tele-communication systems and telephone lines and to import motor vehicles required for the project.

16. The Company shall be provided with a timely and adequate supply of gas at the plant site from the Mari Gas field, pursuant to a gas supply contract to be entered into between the Company and gas suppliers.

17. Prior permission of the Deptt. of IP&S will be taken for the employment of foreign technicians. The payment by the Company of salaries, prerequisites and benefits to Directors of the Company employed by it shall be subject to approval by the Controller of Capital Issues under the normal rules. Concessions as normally and generally admissible to foreign technicians in respect of repatriation of salaries and exemption from income tax will be allowed under the normal rules.

18. The Company would be allowed to alter, improve, extend, expand or debottleneck the plant within two years following start-up of the commercial operations of the plant subject to a maximum expenditure of 5% of the plant and equipment value, and if this includes foreign exchange expenditure, the same shall be allowed by the Government.
19. The Company will be assisted in obtaining relevant documentations and approvals from Provincial Governments etc.
20. Normal concessions in force from time to time will be allowed for import of commissary supplies for contractors or expatriates during their stay in Pakistan.
21. In case the Government allows any better terms to other Fertilizer Plants or Companies until the expiry of a period of two years following the commencement of commercial operations, it will give the same terms to the Company.
22. Application for issue of capital should be made to the Controller of Capital Issues, Ministry of Finance, Government of Pakistan.
23. The Participation Agreement between the Fauji Foundation and Agrico USA, (Annex-A) is hereby approved subject to the terms and conditions of this letter and the following:-
  - (i) This Agreement mentions a number of Exhibits which have not been received from you so far. These would require to be submitted to the Government for their consideration and approval where necessary. In order to ensure their expeditious clearance, the provisions to be contained therein should be in accordance with the principles accepted by the Government and should not go beyond the scope of the conditions and undertakings spelled out in this permission letter.

(ii) ARTICLE V - Clause 5.04:

The Government shall have no objection to the provision of this clause but the sale, transfer/ authorization of share should be subject to the normal rules and regulations.

(iii) ARTICLE VII - MANAGEMENT:

Sub-Clause 7.03(b): There shall be no objection to the appointment of Managing Director, Deputy Managing Director and Chairman etc. and powers and functions being determined by the Board of Directors as long as all this is done in accordance with the normal rules and regulations.

(iv) ARTICLE XI - SETTLEMENT OF DISPUTES:

Clause XI.02: The words "at London, England" occurring after "language" shall be dropped.

(v) ARTICLE XV: Will be deemed to have been dropped.

24. The industrial undertaking shall be put into operation within a period of 34 months and firm orders for plant and machinery should be placed within 12 months of the date of issue of this letter.

25. The Department of Investment Promotion and Supplies and Director of Industries, Government of Punjab will watch the implementation of your industrial undertaking and carry out checks and inspections as may be necessary. A quarterly progress report should also be sent to the following within seven days of the close of each quarter until such time as the plant is put into operation.

(a) Director-General, IP&S, Government of Pakistan, Karachi.

(b) Director of Industries, Government of Punjab, Lahore

A schedule of implementation of the project should be drawn

and submitted to the Department of IP&S for approval within three months of the date of issue of this letter.

26. Import application for plant and equipment should be forwarded in duplicate to the Department of IP&S along with the original quotations/invoices of the suppliers for recommendation to the Chief Controller of Imports and Exports, for issue of import licences.

27. No alteration or amendment of any of the terms of this letter will be made without the prior approval of the Government.

28. Any other matter not specifically covered by the conditions of this sanction or the general orders in force from time to time will be subject to the normal rules of Government and in regard to any matter in which an exception is to be made, separate approval of Government will be required.

29. For the purpose of interpreting this sanction letter the applicable law shall be the laws of the Republic of Pakistan.

30. In case of disputes between the Government and Agrico arising out of these undertakings, or any investment made under it, the same shall be referred to Arbitration in accordance with the rules and regulations of the International Centre for Settlement of Investment Disputes, Washington, D.C. followed, if the dispute remains unresolved within ninety (90) days of the communication of the report of the conciliation Commission to the Parties, by arbitration pursuant to the Convention on the Settlement of Investment Disputes between States and Nationals of other States ("The Convention"). For purpose of this undertaking, it is accepted that:

- (i) Agrico is a national of the United States of America; and
- (ii) Any wholly-owned subsidiary of Agrico is a national of the United States of America.

The decision and award of the Centre shall be final and binding upon the Government and Agrico as the case may be and enforceable in any Court of competent jurisdiction. Conciliation or arbitration shall be conducted in English language.

31. You are requested to kindly acknowledge receipt of this letter in token of acceptance of the terms and conditions of this letter.

Yours faithfully,

( A. R. KHAN )  
JOINT SECRETARY

Encl: Annex 'A' as  
stated in para 23

No. Dev-II-9(14)/72-Vol. V  
Government of Pakistan  
Industries Division

Islamabad, the 6th May, 1975.

To

1. The Managing Director,  
Fauji Foundation,  
Harley Street,  
Rawalpindi.
2. M/s. Agrico Chemical Company,  
718 National Bank of Tulsa Building,  
Tulsa, Oklahoma 74103 USA.

Sub: ESTABLISHMENT OF A FERTILIZER PLANT  
(BASED ON MARI GAS)

Dear Sirs,

With reference to this Division's letter of even number dated 9th April, 1975, Agrico's telex No.735, dated 18th April, 1975 and the discussions held with Agrico and Fauji representatives at Karachi on 1-5-1975 and at Islamabad on 2-5-1975, I am directed to state that it has been agreed to replace paras 3, 5, 6, 9, 10, 12, 13, 23 and 24 of the letter dated 9th April, 1975 by the following reworded paras of same number respectively:-

Para 3.

For the successful operation of the Project by the Company the Government shall:

- (i) Arrange to borrow and relend to the Company the USAID and KFW foreign currency loans. The terms under which these funds will be made available to the company shall reflect the need to finance the project at the

lowest possible costs, and shall include a fifteen (15) year repayment period beginning 2 years following the commencement of commercial operation as defined in para 2.02 of the Participation Agreement.

- (ii) Arrange to borrow and relend to the Company on acceptable terms the World Bank loan. In the event that such borrowing by the Government is not feasible, the Company shall endeavour directly to borrow the foreign currency funds from the World Bank under the sponsorship and with the assistance of the Government at terms acceptable to it.
- (iii) Obtain firm commitments from and arrange to make available the proportionate equity subscription of the Pakistan Public through industrial development and financing institutions or corporations.
- (iv) Obtain firm commitments from Pakistani financing institutions to make available their loans to the Company on a pari passu basis with the contribution of equity; and use its best efforts to obtain such commitments from the international lending organizations but if the loan giving agencies object, the project will not be delayed and the Company shall provide equity without delay.
- (v) Permit the Company to maintain and operate a foreign currency equity and loan deposited in a foreign branch of a Pakistan scheduled bank subject to the condition that its operation shall be in accordance with the relevant rules and regulations of the State Bank of Pakistan.
- (vi) Guarantee for repayment of foreign loans and interests on the following terms and conditions:-

- (a) The necessary loan Agreement will be subject to prior approval of Government.
- (b) A guarantee fee of 1-1/2% in rupees would be paid to Government by the proposed fertilizer company which would set up the fertilizer plant and other related facilities. The commercial rate of interest on foreign loans would be so fixed as to include this guarantee fee. Interest would be incurred from the date of disbursement of loan and the accrued interest will become payable after start of commercial operation.
- (c) The sponsors will create a mortgage on the fixed assets of the project upto the extent of the guarantee amount in favour of the Government or any of its agencies as a first charge. Under the mortgage deed if there is default for three sequential instalments, the Government may take over management of the plant until the arrears are cleared unless rescheduling of payments of instalments is agreed to in advance.

Para 5.

As the investment in the proposed project exceeds Rs. 2 million (rupees two million), a public limited company is authorized and will be formed, and the appropriate exemptions and waivers shall be granted by the Controller of Capital Issues in accordance with the policy laid down in this behalf.

Para 6.

- (i) Plant and machinery to be imported must be new, modern and competitively priced.
- (ii) The design of the plant and details of the imported machinery and equipment and cost thereof would be subject to the Government approval which shall not be unduly withheld.

- (iii) Two years supply of spare parts will be arranged as part of the project.
- (iv) After the Project goes into production, licences for the project requirements of imported chemicals, consumable stores and spares etc. will be subject to the Import Policy in force from time to time. The Government shall expedite such requests so as not to interrupt the efficient operation of the project and shall promptly provide the necessary foreign exchange for the said imports.
- (v) Exemption from customs duty will be admissible on plant and machinery as defined in CBR Notification No. SRO-393(I)/74 dated the 21st March, 1974. The exemption so given shall be in accordance with the CBR Notification No. SRO-372(I)/72 dated 8th June, 1972 and it shall also be available for the gas and water pipelines required to be laid for the project. Further, any change in the existing rate of duty would not be applicable to the plant and machinery for this project until its coming into commercial operation.

Para 9.

Agrico shall make available to the Company until the commencement of commercial operation and for a fixed consideration of US dollars 1.5 million, all Agrico's present proprietary and technical information or that which it may subsequently acquire, unless prohibited by law or contract, and which relates to the engineering, design, equipment procurement and operation of plants similar to the Project, including advice relating to the technical, legal, financial, administrative, managerial and marketing supervision during all stages of implementation of the Project upto commencement of commercial operation. The aforementioned know-how fee shall be paid in the first year of commercial operation. Subsequent to the commencement of commercial operation, Agrico shall continue to make such know-how available to the Company as it pertains to the operating, management, control and technical services related to production, debottlenecking and expansion for

a fee of US dollar one (\$ 1.00) per ton of product sold for a period of ten (10) years. These payments for which necessary foreign exchange would be provided by the Government would be made free of all taxes and withholdings through appropriate notification under Income Tax Act of 1922 and shall be in accordance with a know-how agreement which would be subject to the approval of the Government.

Para 10.

The foreign exchange expenditure on account of start up assistance, post start up assistance, marketing and Head Office expenses shall not exceed \$3.00 million which amount will be in addition to \$1.5 million lump sum and \$1.00 per ton of urea mentioned in the preceding paragraph. This amount shall be spent in terms of a Technical Assistance Agreement between the Company and Agrico. The agreement would be subject to Government approval.

Para 12.

The ex-factory price of urea shall be so determined for a period of 10 years from the commencement of commercial operation as to allow a 20% return on equity after taxes on a plant efficiency of 65% in the first year, 85% in the second year and 90% in the subsequent years in terms of urea. It is agreed that if the plant operates at higher efficiencies, the price of urea shall still be determined on the aforementioned basis. The dividends accruing to the foreign shareholders shall be exempted from any dividend withholding tax or other charges on dividends through appropriate notification under Income Tax Act of 1922 and necessary foreign exchange would be provided by the Government. In case the exchange rate of US dollar in terms of Pakistani rupee appreciates at any time within the period stipulated above the percentage return on equity will be proportionately increased.

Para 13.

The Company will be allowed to market throughout Pakistan urea, phosphatic and compound fertilizers, either indigenous and/or

imported prior to the commencement of the production for its "seeding" programme and after commencement of production, in addition to marketing its own urea fertilizer it would also be allowed to market phosphatic fertilizer in exchange for its urea fertilizer. For this purpose the Company would also be allowed to import, subject to the availability of foreign exchange, and market phosphatic and other compound fertilizers. The price and quantum of such imports will, however, be negotiated by the Company with the Government on a yearly basis.

Para 23.

The Participation Agreement between the Fauji Foundation and Agrico USA, (Annex-A) is hereby approved subject to the terms and conditions of this letter and the following:-

(i) This Agreement mentions a number of Exhibits which have not been received from you so far. These would require to be submitted to the Government for their consideration and approval where necessary.

(ii) ARTICLE V - Clause 5.04.

The Government shall have no objection to the provision of this clause but the sale, transfer/authorization of share should be subject to the normal rules and regulations.

(iii) ARTICLE VII - MANAGEMENT.

Sub-Clause 7.03(b). There shall be no objection to the appointment of Managing Director, Deputy Managing Director and Chairman etc. and powers and functions being determined by the Board of Directors as long as all this is done in accordance with the normal rules and regulations.

(iv) ARTICLE XI - SETTLEMENT OF DISPUTES.

Clause XI.02. The words "at London, England" occurring after "language" shall be dropped.

(v) ARTICLE XV. will be deemed to have been dropped.

Para 24.

Orders for plant and machinery shall be placed within 12 months from the date of issue of this letter and the target for completion of the project would be 30 months thereafter.

2. All other terms and conditions of the sanction letter remain unchanged.

3. You are requested to kindly acknowledge receipt of this letter in token of acceptance of the aforementioned amended terms and conditions.

Yours faithfully,

( A. R. Khan )  
Joint Secretary

...  
Islamabad, the 14th May, 1975.

- To :
1. M/s. Agrico Chemical Company,  
718 National Bank of Tulsa Building,  
Tulsa, Oklahoma 74103 USA
  2. The Managing Director,  
Fauji Foundation,  
Harley Street,  
Rawalpindi.

Sub: ESTABLISHMENT OF A FERTILIZER  
PLANT BASED ON MARI GAS

Dear Sirs,

I am directed to state that the following may be substituted for the existing para 12 of this Government's letter No.Dev-II-9(14)/71-Vol.V dated the 6th May, 1975:-

Para-12:

"The ex-factory price of urea shall be so determined for a period of 10 years from the commencement of commercial operation as to allow a 20% return on equity after taxes on a plant efficiency of 65% in the first year, 85% in the second year and 90% in the subsequent years in terms of urea and for this purpose 100% efficiency of the plant shall mean 315 production days in a year at the rate of 1725 metric tons per day. It is agreed that if the plant operates at higher efficiencies, the price of urea shall still be determined on the aforementioned basis. The dividends accruing to the foreign shareholders shall be exempted from any dividend withholding tax or other charges on dividends through appropriate notification under Income Tax Act of 1922 and necessary foreign exchange would be provided by the Government. In case the exchange rate of US dollar in terms of Pakistani rupee appreciates at any time within the period stipulated above the percentage return on equity will be proportionately increased."

2. I am further directed to acknowledge your telex No. 881 dated the 8th May 1975 and to note that you have accepted the terms of this Division's letter referred to above and that necessary action has been set in motion towards implementation of the project. I am also to request that the schedule of implementation of the project may now be supplied to the Department of Investment Promotion and Supplies as envisaged in para 25 of the sanction letter with a copy to this Division.

Yours faithfully,

( A. R. KAJI )  
Joint Secretary

CURRENT AND PROJECTED INSTALLED CAPACITIES  
(Metric Tons)

Note: Items within bracket are intermediate products

ANNUAL PRODUCTION

Plant	Product	Rated Capacity	N <sub>2</sub>	F <sub>2</sub> O <sub>5</sub>
1. Pak-American Fertilizers Limited, Daudkhel	Ammonia (82% N <sub>2</sub> )	(25,000)	(25,000)	-
Sub-total:	Ammonia Sulphate (20.8% N <sub>2</sub> )	90,000	18,700	-
-----				
2. Lyallpur Chemical & Fertilizer Limited:				
A - Lyallpur Plant	Sulphuric Acid	6,400	-	-
Jaranwala Plant	"	(16,000)	-	-
Jaranwala Expansion	"	(16,000)	-	-
Total Sulphuric Acid:		38,400		
B - Lyallpur Plant	SSP (20.7% available P <sub>2</sub> O <sub>5</sub> )	18,000		3,700
Jaranwala (after expansion)	"	72,000		14,900
Sub-total		90,000		18,600
-----				
3. Pak-arab Fertilizer Limited, Multan (1977)	Ammonia	(300,000)	(246,246)	-
	Nitric (Uhd)	(396,000)	-	-
	Nitric (C&I)	(57,000)	-	-

	CAN (26.5% N <sub>2</sub> )	450,000	119,250	-
	NP (23:23)	304,500	70,035	70,035
	Urea (46.3%)	71,940	33,308	-
<b>Sub-total</b>	<b>CAN/NP + Urea</b>	<b>826,440</b>	<b>222,593</b>	<b>70,035</b>
-----				
4. Mirpur Mathelo Fertilizer Project (1978)	Ammonia	(330,000)	(270,600)	-
	Urea	556,800	257,798	-
-----				
5. <u>Hazara Complex:</u>				
a) Chinese Urea Plant (1977)	Ammonia	(56,100)	(46,002)	-
	Urea	(95,897)	(44,400)	-
b) Pakistan Fertilizers Limited (1977/78)	MAP	(103,546.3)	(11,908)	(55,915)
	UAP	202,950	54,797	54,797
-----				
6. Dawood-Hercules	Ammonia	(200,000)	(164,000)	-
	Urea	345,000	158,000	-
-----				
7. Esso	Ammonia	(100,000)	(82,000)	-
	Urea	173,000	80,000	-
-----				
8. Fauji-Agrico (1979)	Ammonia	(315,000)	(258,000)	-
	Urea	544,000	250,000	-

Total Installed Capacity in 1979  
(Nutrient Tons)

	<u>Nitrogen</u>	<u>P<sub>2</sub>O<sub>5</sub></u>
NFC	553,908	143,432
Dawood-Hercules, Lahore	158,000	-
Esso, Dharki	80,000	-
Fauji's, Sadiqabad	250,000	-
	<u>1,041,908</u>	<u>143,432</u>

**PROJECTED**

**Nitrogenous Fertilizer Production in Pakistan**  
(Nutrient Tons)

<u>Plant</u>	<u>Product</u>	<u>1974<sup>1/</sup></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>
1. Daud Khel	AS	19,014	19,400	19,000	19,000	19,000	19,000	19,000	19,000	19,000
2. Lyallpur	SSP	-	-	-	-	-	-	-	-	-
3. Multan	CAN	16,492	16,700	17,000	17,000	48,000	88,000	106,000	114,000	114,000
	Urea	15,134	9,100	16,000	16,000	21,000	28,000	31,000	33,000	33,000
	NP	-	-	-	-	21,000	49,000	61,000	66,000	66,000
4. Mirpur Mathelo	Urea	-	-	-	-	-	77,000	180,000	225,000	245,000
5. Hazara	Mix	-	-	-	-	16,000	38,000	48,000	52,000	52,000
6. Dawood-Hercules	Urea	158,416	165,000	165,000	165,000	165,000	165,000	165,000	165,000	165,000
7. Esso	Urea	90,637	93,000	93,000	93,000	93,000	93,000	93,000	93,000	93,000
8. Fauji	Urea	-	-	-	-	-	25,000	175,000	219,000	238,000
<b>Totals</b>		<b>299,693</b>	<b>303,200</b>	<b>310,000</b>	<b>310,000</b>	<b>383,000</b>	<b>632,000</b>	<b>878,000</b>	<b>986,000</b>	<b>1,025,000</b>

<sup>1/</sup> July 1 - June 30.

Note: For purposes of preparing figures new facilities are projected to produce 60 percent of rated capacity during first year of operation 80 percent the second year and 95 percent thereafter.

Pakistan: The Fertilizer Distribution System

Prior to mid-1973 fertilizer sales expanded rapidly with the private distributors playing a major role in promotion and distribution. In 1973, the authority to regulate fertilizer distribution was transferred from the Central Government to the provinces. Soon thereafter three of the four provinces proceeded to reorganize their distribution systems in such a way that public agencies in these provinces now play a dominant role. The Sind set up the Sind Agricultural Supplies Corporation (SASCo) which began operations in August 1973; the Punjab followed creating the Punjab Agricultural Development and Supply Corporation (PADSC). Both agencies were charged with responsibility for wholesale and retail trade and for operating fertilizer storage depots. In Baluchistan, fertilizer distribution was nationalized and turned over to the Provincial Department of Agriculture. Only in the NWFP was the distribution system left unaltered. The table below shows the relative importance of the public and private sectors in the four provinces. Note that almost 90 percent of Pakistan's fertilizer is consumed in the Punjab and Sind; therefore, the performance of PADSC and SASCo is obviously of critical importance to the performance of the entire marketing system in Pakistan.

Table 1 - Public and Private Sector Fertilizer Marketing

<u>Province</u>	<u>% of National Consumption</u>	<u>Share Marketed by:</u>	
		<u>Public Sector</u>	<u>Private Sector</u>
Punjab	67.0%	83%	17%
Sind	22.5%	54%	46%
NWFP	9.0%	23%	77%
Baluchistan	1.5%	55%	45%
Pakistan	100.0%	70%	30%

Source: "The Fertilizer Marketing System in Pakistan;" FAO Working Paper, June 1974, p. 6.

Figures 1, 2 and 3 summarize the present fertilizer distribution system in the Punjab, Sind, and NWFP. The number of licensed retail agents operating in both public and private sectors for each province is given and where possible, an estimate of the number of unlicensed retail sub-agents has also been made. Each agency's firm's share of the provincial market is also shown; clearly, there is no relationship between the number of dealer outlets and the proportion of total fertilizer marketed. This is especially so in the case of the Integrated Rural Development

Projects (IRDP) and cooperative societies. In each province, the IRDP and cooperative societies are a formal part of the public sector's marketing system, but in practice they distribute negligible amounts of fertilizer. Finally, note that the allocation of ESSO's and Dawood-Hercules' production among the provinces is also shown.

Prior to the partial "nationalization" of the fertilizer marketing system, four large commercial companies known as "principal agents" operated throughout Pakistan, dealing in both domestically produced and imported fertilizers. Each principal agent had its own distribution network; these private sector dealers competed among themselves and with two public sector bodies -- the Rural Supply Cooperative Corporation (RSCC), which handled most of the public sector's production, and the Agricultural Development Corporation (ADC), which confined itself primarily to newer fertilizers or geographic areas where the private sector was not operating. The developments of 1973 put two of the principal agents completely out of business. [Jaffer Brothers Ltd., and Pakistan National Oils Ltd., (PNO)] and required ESSO to withdraw to the southern part of the Punjab and concentrate its marketing efforts in the Sind (where 86 percent of ESSO's production is now marketed). Dawood-Hercules was prohibited from selling to Jaffer Brothers and PNO, but its distribution subsidiary continued to operate in the NWFP and the Punjab.

A definitive assessment of the new marketing system's performance is difficult to make. Little more than one year has passed since the reorganization, and adjustments are undoubtedly still being made. Coincidental to the market reorganization, the retail fertilizer market was buffeted by extraordinary events. A major flood in August and September of 1973 caused widespread damage to roads and some railroads, destroyed crops, and disrupted normal family and farm operations. To offset this, a major credit program was launched; in the Punjab alone, Rs. 146 million of fertilizer credit, much of it in kind, was distributed. The net effect of each of these separate events is impossible to determine. During this same period, the retail price of fertilizer was abruptly raised on two separate occasions -- from Rs. 840/ton to Rs. 1100/ton in August 1973, and then to Rs. 1500/ton in April 1974 and then temporarily reduced by 12.5 percent from December 1974 to January 31, 1975. (prices quoted for urea). An unusually dry 1974 summer and fall reduced acreage and undoubtedly adversely affected fertilizer use. So, while it is safe to conclude that in the short run the market reorganization caused serious dislocation, final judgement on the new system's performance awaits the test of time.

We can, however, make some observations about the size and dispersement of the retail marketing force before and after "nationalization".

No estimate of the number of fertilizer retail agents operating just prior to the 1973 "nationalization" exists. As a proxy for this datum, let us compare the distribution system of 1970 with the post-nationalized marketing structure of today. Details of this "before" and "after" market reorganization are summarized below:

TABLE 2. Estimated Number of Fertilizer Retail Agents Operating in 1970 and Currently.

Province	Private		Public		Total	
	1970	1974	1970	1974	1970	1974
Punjab	928	657	161	600	1800	1257
Sind	403	204	53	359	456	543
NWFP	101	204	36	105	137	405
Baluchistan	11		4	36	15	36
Pakistan	1443	1161	254	1100	2408	2261

Source: 1970 data from Fertilizer Marketing & Distribution in West Pakistan, Chemical Consultants, Ltd. Lahore. August 1970, p. 61.

1973 data from PIDE monograph number 18, The Pricing Of Agricultural Capital Inputs in Pakistan, p. 12.

1974 data from The Fertilizer Marketing System in Pakistan, FAO Working Paper, Changer Shuja, Rome. June 1974, pp23-25.

The 1970 information undoubtedly understates the actual number of agents operating in 1973, as both the public and private sectors must have expanded during these years when total fertilizer consumption was rising steadily. The actual number of fertilizer agents operating in the Punjab in mid-1973 was probably about 1800, with another 700, perhaps many more, subagents working alongside the formal marketing channels. The present total of 1257 retail agents in the Punjab represents a reduction in the size of the sales force by one third to one half, depending on whether

the subagents operating prior to the reorganization are counted. The dramatic increase in the number of public sector agents in the Sind and NWFP between 1970 and 1974 and in the private sector in NWFP may be more apparent than real. The 1974 data count licensed commission agents and it is unclear whether commission agents were counted among the retail agents in the 1970 survey. Whatever definition of "retail agents" is accepted, the general pattern is unmistakable. The total number of agents in Pakistan decreased -- by at least 150, and if the 505 commission agents counted in the 1974 data are excluded, the decline becomes fairly dramatic ( a reduction of over one-fourth of the total number of agents). Within each province, except NWFP where no market reorganization took place, the pattern is the same; the public sector increased the number of its outlets at the expense of the private sector.

A major reason given for the "nationalization", especially in the Punjab, was to improve farmers' access to fertilizer supplies by dispersing the fertilizer outlets. Before reorganization, fertilizer outlets were concentrated in market towns. A 1971 survey showed that 70 percent of all fertilizer consumed by farmers was purchased from market town agents, and only 30 percent was procured in villages. The actual number of locations at which fertilizer was available before market reorganization is a point of some controversy. PADSC claims that private distributors operated at only 285 sites in the Punjab, whereas Dawood maintains that it alone had distributors at 312 different locations. ESSO, Jaffer Brothers, and PNO were also operating in the Punjab at this time, and it is certain that their distribution network did not precisely duplicate Dawood's or each other's networks. Whatever the location of these outlets, PADSC boasts that 75 percent of their 600 outlets are now located in rural areas, thus greatly enhancing farmers' access to fertilizer supplies. The actual number of PADSC sales points varies from 8 in Jhelum District to 89 in Multan District. Data for the Sind are not available, but in this case there is not as great a controversy over the location of market outlets and its impact on farmers' access to fertilizer.

The performance of the new fertilizer marketing system should be judged in terms of the efficiency and equity with which it disburses fertilizer supplies to farmers. The reasons given by the government for the reorganization of the fertilizer distribution system were:

1. To increase the total consumption of fertilizer countrywide.

2. To improve and increase distribution in outlying rural areas, i. e. outside the immediate vicinity of market towns.
3. To increase small farmers' access to fertilizer supplies.

If these goals are taken as the criteria with which to assess the distribution systems' performance to date, one might observe that:

1. With respect to the goal of increasing total fertilizer consumption, it is premature to make a judgement; the tumultuous events of the last year and one-half make it impossible to isolate the impact of market reorganization on fertilizer consumption during this period.
2. With respect to the second goal of improving the geographical distribution of fertilizer, the public and private sectors differ sharply, but insufficient data are available to make a final judgement. While it appears likely that there were in fact more sites at which fertilizer was retailed before reorganization than after (at least in the Punjab), the location of the sites relative to actual and "potential" fertilizer markets is not known.
3. In terms of the third criterion - improved small farmer access to fertilizer supplies - some data on pre-1973 utilization rates are of interest. Data on fertilizer utilization by different classes of farmers since the distribution system reorganization are not available. Estimates of per acre rates of fertilizer consumption by various sizes and tenurial classes of farmers made on the basis of one survey conducted in 1972 indicated that:
  - a. On the average small farmers surveyed (less than 5 acres) spend slightly more for fertilizer per irrigated acre than large farmers (more than 50 acres), and farmers in intermediate size groups (5-15 acres, 15-25 acres, and 25-50 acres) used less fertilizer per acre than large farmers.
  - b. Within each tenurial class, the relationship identified in #1 held true. Small farmers used fertilizer most intensively, closely followed by large farmers. The various intermediate (size of farm) groups all used fertilizer less intensively, although there was no consistent pattern of relative intensity among these three intermediate (size of farm) groups.

- c. Data on expenditure rates by tenurial class showed that owner-operators spend over twice as much per irrigated acre for fertilizer as did tenants. Owner-cum-tenants fell in between, consuming about 20 percent less fertilizer per acre than did owner-operators. (For details of these patterns, see Tables 3 and 5).
- d. The data suggest that owner-operators spent 49 percent of the total spent but operated less than 40 percent of the irrigated acreage whereas tenants spent less than one-fifth of the total fertilizer supply but operated one-third of the country's irrigated acreage (table 3 and 4). The data do not indicate the percentage of farmers in different size groups or income groups using fertilizer.

In contrast to this study, evidence from several more limited surveys done approximately at the same time, but confined to between one and three districts in Punjab, produced quite different results. In these studies, large farmers used more nutrient pounds of nitrogen per acre than did small farmers. One of these studies concluded that owner-cum-tenants had higher application rates than either owner-operators or tenants. It appears reasonable to conclude that on the heavily irrigated alluvial plains commercial fertilizer is fairly readily available. The greater fertilizer expenditures per irrigated acre on small farms than on medium and medium large farms may be attributed to the purchase of barn yard manure, and the intensive cultivation of small plots with persian wheels. Also around major cities small farms often are intensively used for garden crops. Practically no fertilizer is purchased for use in unirrigated areas, where the poorest rural families predominate.

The Role of Credit in Facilitating Farmers'  
Access to FertilizerAID-DLC/P-2114  
UNCLASSIFIED1. Introduction

Drawing on a wide variety of sources, this paper addresses the role of credit in facilitating farmers' access to fertilizer supplies. The availability, sources, and terms of fertilizer credit are analyzed in terms of distinct farm groups. We conclude that the quantity and quality of fertilizer credit is a function of both size of farm and tenurial class.

- a. Most fertilizer is purchased with farmers' own resources (86.5 percent). However, large farmers and owner-operators are less dependent on credit to finance their fertilizer purchases than are small and medium sized farmers and tenants.
- b. Lack of cash resources and limited access to credit are principal reasons for not using fertilizer or using less fertilizer than farmers deem desirable.
- c. Numerous sources of fertilizer credit exist, both institutional and non-institutional. The terms of credit from these sources varies considerably, but generally the terms of institutional credit are much more attractive than the terms of non-institutional credit.
- d. Farmers' access to institutional credit varies by size of farm and tenurial class. Small farmers and tenants are forced to rely more heavily on relatively expensive non-institutional credit, while large farmers and owner-operators capture the lion's share of "cheap" institutional credit.
- e. The supply of institutional fertilizer credit has increased rapidly in the last five years because of the dramatic expansion of ADB's lending and the entry of commercial banks into the market on a large scale for the first time.
- f. The absolute amount and relative importance of institutional fertilizer credit appears to be increasing.

- g. Three years ago relatively few farmers obtained any fertilizer credit. The number of farmers and the amount of fertilizer credit they obtain from all sources today is not known, but we believe the fertilizer credit situation has improved somewhat.

## 2. Importance of farm credit in financing fertilizer purchases

Although credit is important in increasing farmer's access to and use of fertilizer, evidence from a 1971 survey suggests that most fertilizer purchases are financed with farmers' own resources. All sources of credit (institutional and non-institutional) accounted for only 13.5 percent of all fertilizer purchased by the farmers surveyed. Disaggregating the farmers surveyed shows: (a) tenants are twice as dependent on credit as other tenurial classes and (b) large farmers are least dependent on fertilizer credit, whereas farmers with 15 to 25 acres are most dependent on credit to finance fertilizer purchases. Table 1 and 2 summarize the relative importance of fertilizer credit to various tenurial classes and different size holdings.

Table 1 - Percent of Fertilizer Purchased on Credit and Cash By Tenurial Class

Tenurial status of farmers	Fertilizer purchased on credit as % of total fertilizer purchases	Fertilizer purchased with farmers' own resources as % of total fertilizer purchases	Total
Owner-operator	10.4%	89.6%	100%
Owner-cum-tenant	12.5%	87.5%	100%
Tenant	22.7%	77.3%	100%
Owner-non-operator	8.8%	91.2%	100%
All farms (average)	13.5%	86.5%	100%

Table 2 - Percent of Fertilizer Purchased on Credit and Cash By Size of Farm

<u>Size of Farm (Acres)</u>	Fertilizer purchased on credit as % of total fertilizer purchases	Fertilizer purchased with farmers' own resources as % of total fertilizer purchases	Total
0-5	13.2%	86.8%	100%
5-15	15.0%	85.0%	100%
15-25	17.3%	82.7%	100%
25-50	13.1%	86.6%	100%
50+	10.0%	90.0%	100%

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### Size of Farm (Acres)

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15-25	17.3%	82.7%	100%
25-50	13.1%	86.6%	100%
50+	10.0%	90.0%	100%

### 3. Evidence of credit as a constraint

The relatively small amount of credit use to finance fertilizer purchases should not be misinterpreted as evidence of the unimportance of fertilizer. In a survey in three districts of the Punjab in 1970, three-fourths of the farmers not using fertilizer (13.4 percent of the sample were using no fertilizer) cited lack of funds as the reason. In the same study, three-fourths of those farmers using fertilizer cited non-availability of funds as a primary difficulty which limited their use of fertilizer. A separate study during the same period in a different part of the Punjab corroborated these conclusions. As Table 3 shows, small farmers experienced significantly greater difficulties than large farmers in financing their fertilizer purchases.

Table 3 - Non-Availability of Funds as a Constraint in Limiting Fertilizer Use by Size of Farm

Size of holding (Acres)	% of farmers reporting non-availability of funds as reason why fertilizer was "not easily available"
2.5-7.5	81.6%
7.5-12.5	77.6%
12.5-25.0	79.2%
25.0-50.0	47.4%
50.0 and over	40.0%
All sizes	75.0%

The most conclusive evidence that credit availability limits fertilizer use is found in farmers' responses when asked how much fertilizer credit they wanted for the coming year. Countrywide, farmers, renters, and others declared they needed 188 percent more fertilizer credit for 1972 than they received in 1971. Sharp differences are evident between tenurial classes. Tenants' perceptions of their incremental fertilizer credit needs were significantly lower than other people's. (Perhaps tenants' aspirations are limited by their perception of what is possible.)

Table 4 - Perceived incremental fertilizer credit needs

<u>Tenurial status</u>	<u>% increase in perceived fertilizer credit needs for 1972 compared to actual credit obtained in 1971</u>
Owner-operator	247%
Owner-cum-tenant	189%
Tenant	73%
Owner-non-operator	604%
Average (weighted by Rs. value)	188%

4. Relative importance of sources of fertilizer credit

Considerable information is available on the existence and relative importance of sources of rural credit, but not on the relative importance of various sources of fertilizer credit. Thus, we do know that in a recent year (1971):

- a. Approximately 99 percent of fertilizer credit from all sources was extended on a short-term basis (re-payment period 18 months or less);
- b. Almost 92 percent of all short-term was from non-institutional sources. (For details see Table 5).
- c. We estimate that less than 20 percent of all of the available fertilizer credit was supplied by institutional sources, based on the following conclusions:

Estimated ADBP credit (CY 1971)	Rs. 11 million
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Estimated Cooperative Societies & Taccavi credit	Rs. 9 million
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Rs. 20 million

Estimated Max. possible institutional fertilizer credit	Rs. 20 million
Total fertilizer credit (CY 1971)	Rs. 102.6 million

→ 20%

Table 5 - Relative importance of sources of short-term credit

<b>Institutional Sources</b>		<b>8.31%</b>
Cooperative Societies	1.04%	
Cooperative Banks	.27	
ADBP	1.05	
Commercial Banks	5.09	
Taccavi Loans	.40	
Other	.41	
<b>Non-institutional Sources</b>		<b>91.68%</b>
Friends and Relatives	68.92%	
Professional Moneylenders	3.02	
Landowners	5.86	
Commission Agents and Merchants	9.60	
Mill Owners	.38	
Other	3.85	

- d. The absolute value of ADBP credit for fertilizer appears to be rising (see Table 6 below), but the relative importance of all institutional and non-institutional sources remains unknown.

Table 6 - Value of fertilizer credit extended annually - ADBP

<u>Fiscal Year</u>	<u>ADBP</u>	<u>Fertilizer Price Index</u>	<u>Credit Deflated by Fertilizer Price Index</u>
1968-69	10,000,000	1.00	10,000,000
1969-70	16,000,000	1.00	16,000,000
1970-71	9,500,000	1.01	9,406,000
1971-72	12,500,000	1.01	12,376,000
1972-73	41,000,000	1.37	29,927,000
1973-74	112,850,000	2.22	50,833,000

The dramatic rise in the institutional supply of credit for fertilizer in 1972-73 and 1973-74 reflects two GOP decisions. In December 1972, the State Bank, at the direction of the Ministry of Finance, instructed the commercial banks to increase credit availabilities for the agricultural sector. The Agricultural Credit Advisory Commission, a subcommittee of the National Credit Consultative Council (NCCC), advises its parent body how much agricultural credit should be made available by source and function (i. e., fertilizer; seed, tractors, tubewells, etc.). The NCCC uses these recommendations in making sectoral allocations, all within a "safe ceiling" limit on overall credit expansion. (The safe ceiling is incorporated in the State Banks IMF standby letter of intent). During the last two fiscal years, the NCCC has significantly increased the agricultural sector's share of the total private sector allocation. This action has been made more effective by also increasing commercial banks' participation in the financing of the agricultural sector, and by increasing the amount of credit to be made available for short-term credit purposes, especially fertilizer.

The second GOP decision was part of the response to the disastrous flood of August and September 1973. To keep food production from being drastically reduced, the GOP mounted a special agricultural credit campaign for rabi 1973-74. Between November 1, 1973 and February 28, 1974, institutional sources advanced a total of Rs. 24.24 crore, of which Rs. 14.60 crore (about 60 percent) was for fertilizer. It is important to note the reasons for this "healthy" increase in institutionally furnished fertilizer credit. Firstly, the 1973-74 rabi credit campaign was in response to a catastrophe, and this impetus is now lacking. Secondly, the NCCC's decision to expand fertilizer credit is a policy decision which reflects the current priorities of the GOP and not a change in demand for fertilizer credit. Thus, the NCCC could well reallocate this expanded credit to other sectors of the economy as new priorities emerge.

Although institutional credit has expanded vigorously, we do not know what has happened to the overall fertilizer credit situation. (1) Farmers may have substituted more attractive institutional credit for credit formerly obtained from non-institutional sources. (2) Credit is fungible and farmers may be buying the same quantity of fertilizer with more institutional credit and diverting cash resources formerly used for fertilizer to other purchases formerly made on less attractive credit terms.

While it is true that the total amount of institutional fertilizer credit has expanded rapidly, the rising cost of fertilizer in the last two and one-half years (from Rs. 28.50 to Rs. 75 per bag of urea) has absorbed over half of the fertilizer purchasing power of the incremental credit from the ADBP. See Table 6. Thus, in real terms, ADBP fertilizer credit has expanded less than 6 fold rather than over 11 fold.

• With respect to the dramatic rise in institutional credit (primarily the ADBP and commercial banks), it appears safe to conclude:

- a. The ADBP and commercial banks have significantly expanded the absolute amount of fertilizer credit advance during the last two years.
- b. The percentage of total fertilizer sales financed by the ADBP has increased from roughly 2-1/2 percent in calendar 1971 to 11.3 percent in FY 74.
- c. The relative importance of credit in financing fertilizer purchases evidently is increasing. In calendar year 1971, only 13.5 percent of fertilizer purchases were made on credit from all sources, whereas by FY 1974 the ADBP alone was financing 11.3 percent of all fertilizer sales. It is not likely that the increase in ADBP financing was all just substitution for other credit sources. It is reasonable to conclude that the relative importance of credit fertilizer sales is increasing.

The only information available on the relative importance of the various non-institutional source of credit in the fertilizer market comes from a mid-1960's study. This sample was limited (confined to Sargodha District), and the study is now 10 years old. The farmers' preferences were limited by their awareness of available credit sources; today institutional sources of credit, especially the ADBP and the commercial banks, are much more prominent. Nevertheless, this study (Table 7) is indicative of the relative importance of the various sources of non-institutional fertilizer credit.

**Table 7 - Farmers' preferred sources of credit for fertilizer and seed, Sargodha District, 1964**

<u>Credit source</u>	<u>Preferred source of fertilizer and seed credit as % of farmers interviewed</u>
<b>Institutional</b>	<b>14.4%</b>
ADBP	1.4
Cooperative Societies	13.0
<b>Non-institutional Sources</b>	
Commission Agents	18.5
Friends and Relatives	17.0
Shopkeeper	7.0
Landlord	82.8*

\*This is the percent of tenants (not all tenorial classes interviewed) that preferred landlords as a source of fertilizer and seed credit.

These days, fertilizer agents apparently are not as important a source of credit as was the case 10 years ago. Both public and private sector principal agents in the Sind and the Punjab extend no credit to their dealers, and they are of the opinion that their licensed dealers in turn extend very little credit to farmers. Sub-dealers, (non-licensed commission agents)--no longer legally operate in the Punjab, although they continue to play an important role in the Sind.

5. Terms and availability of institutional sources of fertilizer credit

Farmers of different sizes and tenorial classes rely on different sources for fertilizer, and these sources offer different terms and credit. Tables 7 and 8 summarize the terms and the most important features of ADBP credit. Commercial banks' agricultural credit practices are similar to the ADBP's. These two sources account for most of the institutional fertilizer credit in Pakistan today. Salient features of terms of credit from these banks include:

Table 9 - Lending by ADBP  
By type of loan, 1973-74

<u>Type of Loan</u>	<u>Total.</u>		<u>Average Rs. /Loan</u>
	<u>No. of Loans</u>	<u>Million Rs. Value</u>	
Surety loans	119,851	127.45	1063.40
Security loans	32,296	251.71	7793.84
Hypothicated loans	423	36.41	86,075.65
Spot lending		112.60 <u>1/</u>	
Passbook		144.02 <u>4/</u>	
Fertilizer loans, all kinds	92,567	112.85 <u>2/</u>	1219.07 <u>3/</u>

1/ All spot lending is on surety; thus 88 percent of surety loans were in the spot loan campaign.

2/ ADBP financed 11.3 percent of all fertilizer sales in FY 74.  
(Rs. 112,850,000)  
(Rs. 997,406,900)

3/ At Rs. 75/bag, the average fertilizer loan would finance enough fertilizer to cover between 16 and 22 acres. (The national Pakistan average fertilizer utilization rate is between 3/4 and 1 bag per acre.)

4/ All passbook loans are security loans; thus 57 percent of secured loans were made against passbooks.

Two special programs that both the ADBP and commercial banks participate in are of interest because they enhance farmer access to bank credit. They are the "Spot lending" program and the passbook program. The "spot lending" program is important because:

- a. Spot lending is all done on a surety basis, and therefore security requirements are relaxed.
- b. A representative of the participating bank comes to farmers in their villages at a place and time that is publicized in advance, thus greatly enhancing farmer's access to bank credit.
- c. Credit is extended "on the spot" and in kind in the form of a supply order for agricultural inputs which is issued by the bank representative and secured by a third party guarantor.
- d. Most spot credit goes for fertilizer (95 percent in FY 73).
- e. Farmers are supplied fertilizer by presenting the supply order to a licensed fertilizer dealer. 80 percent of the fertilizer supply orders must be filled by public sector fertilizer dealers.
- f. During the FY 74 spot lending campaign, the ADBP extended Rs. 112.60 million in short-term credit and Rs. 112.85 million in fertilizer credit. However, we do not know how much of the spot credit was for fertilizer. But, because of point d, we infer that most of the ADBP spot credit was fertilizer credit and was issued in kind.

In FY 1974 a passbook system was introduced which was intended to simplify lending procedures by minimizing the amount of documentation required. The passbook, which is issued by the Registrar, certifies the title and value of the passbook holder's lands. Once issued, the passbook may be presented to either the ADBP or commercial banks who will issue a secured loan against the certified value of the farmer's lands; the transaction is much the same as making a deposit with a savings passbook.

BEST AVAILABLE DOCUMENT

Although the passbook was intended to guarantee all landed farmers access to bank credit while reducing the cost and red tape of obtaining a secured loan, the impact of the program in its first year was limited to a relatively small number of farmers. By the end of May 1974 only about 20,000 passbooks had been issued in the Punjab. Despite the small number of passbook holders, the ADBP issued Rs. 144 million (35 percent of its total credit in FY 74) of credit on the passbooks. Evidently, the average size of passbook loans was relatively large. Also, there are widespread reports of irregular fees being charged to farmers who apply for passbooks and loans on passbooks. Taken together, the evidence suggests that the passbook system has not reached small farmers and it has not effectively reduced the real cost of secured loans for large farmers.

6. Terms and availability of non-institutional sources of credit

Little can be said about the terms of non-institutional credit. In the only known study done on the subject (1971) the average rates of interest charged by non-institutional sources were found to be 20 percent from family and friends, 32 percent from money lenders and 46 percent from merchants. From these figures we cannot proceed to conclude what rate of interest farmers pay for non-institutional fertilizer credit because:

- a. These are average rates of interest for all types of farmers; interest rates may vary for farmers of different size holdings and tenurial classes.
- b. These findings may not be representative of areas outside of the sample area.
- c. Inflationary pressures are much stronger today than they were at the time of the study; non-institutional lenders may well have raised their interest rates to maintain their real earnings at 1971 levels.
- d. The terms of non-institutional interest may vary by function of loan as well as source. Thus, the terms of fertilizer credit may be significantly different from the averages for all types of loans.

Even less is known about the other terms of non-institutional credit -- security requirements and payment periods. Conventional wisdom holds that commission agents, who may or may not be licensed fertilizer dealers, are a major non-institutional source of fertilizer credit. Typically, they sell fertilizer on credit and secure the loan against the crop for which the fertilizer was procured. The farmer is required to repay the loan at harvest time, usually in the form of a specified quantity of produce. Thus, interest on this kind of loan becomes hidden in the lump sum value of the produce surrendered. Often the crop is valued at the time the loan is made at a rate well below what will prevail in the market at harvest time, thus inflating the real rate of interest considerably. Commission agents who are able to store these loans repaid in kind, and sell the produce when commodity prices rise, earn an attractive bonus on their interest.

#### 7. Differential class access to fertilizer credit

Sections "5" and "6" focused on the terms and availability of institutional and non-institutional credit. The available evidence suggests that the bulk of institutional fertilizer credit (ADBP) does not reach small farmers: (a) The average size fertilizer loan will finance enough fertilizer to cover 16 to 22 acres at current rates of application. (b) Surety loans which provide small farmers with virtually their only access to institutional fertilizer credit average Rs. 1063.40, enough to cover 14 to 17 acres. (c) Most secured loans issued against either "old fashioned" land mortgages or the newly introduced passbooks channel credit to large farmers.

We conclude that the bulk of institutional fertilizer credit does not reach small farmers and therefore small farmers are much more dependent on "expensive" non-institutional credit to finance their fertilizer purchases than are large farmers. From the evidence we have examined, we conclude that it is with respect to the terms of credit and not the availability that small farmers face serious disadvantages vis-a-vis large farmers.

#### 8. Class access to fertilizer credit

Throughout this paper we have discussed the relative credit position of various classes of farmers in terms of dependence on credit and access to credit. By "dependence" we have meant the degree to which farmers' cash resources are not sufficient to

finance their fertilizer purchases. The index of dependence we have used is the percent of a farmer's total fertilizer purchases which he buys on credit. Recall that large farmers were found to be the least dependent on credit, buying only 10 percent of their total fertilizer supplies on credit. With the terms "access to credit" we have meant the total amount of fertilizer credit a farmer is capable of obtaining relative to his needs. The index of "access to credit" that we have used is the amount of rupees obtained per irrigated cultivated acre. A farmer's overall fertilizer requirements are certainly dictated by the amount of acreage he cultivates and as virtually all fertilizer is applied to irrigated acreage we have narrowed the definition to exclude cultivatable Barani lands. Applying this index, we found that small farmers (less than 5 acres) enjoy the greatest access to credit. The concepts behind these terms are quite distinct, the former is a measure of financial self sufficiency and the latter is a measure of credit availability.

Table 10 - Summarizes the amount of fertilizer credit available to farmers by size of farm and tenurial class.

Table 10 - Access to fertilizer credit by size of farm and tenurial class

(Mean value of total money lent  
(Rs./acre\* and Rs./household)

Size of Holding (Acres)	All Farms		Owner Operators		Owner-cum-Tenants		Tenants	
	Rs/acre	Rs/HH	Rs/acre	Rs/HH	Rs/acre	Rs/HH	Rs/acre	Rs/HH
0-5	4.17	7.40	2.81	3.48	5.42	14.03	5.36	1.35
5-15	2.74	19.06	2.39	13.32	2.45	17.34	3.13	29.00
15-25	2.98	37.94	3.62	33.67	2.46	31.17	2.90	41.00
25-50	2.76	49.38	3.04	50.52	3.00	53.34	2.08	70.00
50-	3.06	139.16	3.05	143.40	3.19	145.40	2.75	101.00
Ave.	2.93	26.38	2.93	22.83	2.81	30.57	3.03	28.00

\*Calculated as an average across the entire class, and thus includes all farmers who did not use any fertilizer credit:

$$\frac{\text{Total Fertilizer Credit}}{\text{Total Cultivated Irrigated Acreage}}$$

ith class of farmers

Note: Only irrigated acreage is used in this calculation; the assumption is justified by evidence that suggests that negligible amounts of fertilizer were used in the Barani lands.

Examining the table, one is struck by the very low values of the means, both per acre and per household for all categories of farmers. At Rs. 28.50/bag, which prevailed at the time of the survey, the average size loan taken by farmers with less than 15 acres would not have been enough to finance even one bag of fertilizer! Clearly many and perhaps most farmers in each category were not using any fertilizer credit, although the data does not permit us to exclude non-credit users and determine the average size fertilizer loan per acre and per household among actual borrowers for each class. Consequently, the average values of rupees per acre borrowed tend to cluster over a fairly narrow range, obscuring differences among the various classes of farmers that might otherwise emerge. A much different pattern might emerge if the averages were calculated only for those farmers using some credit.

The pattern that does emerge from the data is rather remarkable. Tenants and owner-cum-tenants easily enjoy the greatest access to fertilizer credit. We hypothesize that landlords are the main source of this credit, and they are more liberal in extending credit to their tenants than are other credit sources to their respective clients. This is logical because under the terms of traditional "batai" tenancy (share-cropping), landlords share a fixed portion of the crop (usually 50 percent). By extending credit to his tenants, the landlord is able to earn more "rent" from his land by capturing a fixed portion of the incremental income arising from the use of fertilizer.

Among owner-operators, the pattern of access to credit approximates more closely our a priori expectations. Small owner-operators (0 to 15 acres) average less credit per acre than do medium and large farmers. Institutional credit almost certainly is readily available to only medium or larger farmers, while landlord credit is simply excluded by definition. Consequently, small owner-operators do not fare as well.

There is one other interesting feature of the data. Tenants access to fertilizer credit is an inverse function of size of farm -- except for large tenants (over 50 acres). The traditional landlord-tenant relationship provides a ready explanation for this paradox. It is highly unlikely that tenants who hold 50 or more acres of irrigated land are really "batai" tenants. They almost certainly are large commercial farmers who have taken the land on lease. This hypothesis is corroborated by supportive evidence from the dependency index: large tenants

are only half as dependent on credit to finance their fertilizer purchases as are the other size tenants and their dependency is of the same magnitude as farmers in the other tenurial categories.

## 9. Conclusions

The observations that we have been able to make have been fairly limited. Our most important data source is a field investigation concluded in 1972. This serves as a benchmark of the fertilizer credit situation then, rather than as a description of things as they are today. This should not be discouraging; with the wealth of benchmark data now at our disposal, follow-on surveys will permit a much needed analysis of the fertilizer credit market as it performs today. Data with the commercial banks and the ADBP can serve as important sources of information about institutional credit. Given both the importance of the issues and the availability of the information, the topic of fertilizer credit is certainly deserving of further research.

**NATURAL GAS IN PAKISTAN : SUPPLY, DEMAND, AND PRICES****I. Summary and Conclusions**

In Pakistan total natural gas reserves are estimated to be 17.43 million million cubic feet. These are at ten locations in Baluchistan, Sind and Punjab. Three locations are in operation, i.e., the following fields: Sui (Baluchistan), Mari (Sind), and Dhulian (Punjab). These have estimated gas reserves of 14.27 million million cubic feet, 82% of the known total. Since 1955, when gas was first introduced in Pakistan on a commercial basis, 1.03 million million cubic feet of gas have been consumed, leaving intact estimated reserves of 16.40 million million cubic feet.

Natural gas consumption in Pakistan has increased from 1.3 million million BTUs in 1955 to an estimated 122.5 million million BTUs in 1973. Gas consumption is forecast to reach approximately 346 million million BTUs annually by 1986, an 8.3 percent per annum growth from the 1973 level.

The Sui fields' reserves are estimated to last through the year 2000. The proposed Fauji Foundation fertilizer plant will be based on the Mari gas fields. These fields have estimated reserves of 3.942 million million cubic feet, of which 0.05 million million cubic feet have been consumed since 1967 by the existing Mari gas based Esso fertilizer plant. These Mari fields have "assured" reserves of 1.793 million million cubic feet, while the remaining reserves of 2.149 million million cubic feet are "reasonably assured".

The GOP is contemplating additional use of Mari gas -- to its maximum for fertilizer production. Current plans call for 4 fertilizer plants. These are: the existing 170,000 tons per annum Esso plant, the proposed 540,000 tons per annum Fauji plant, and two proposed National Fertilizer Corporation (NFC) plants of 550,000 tons and 600,000 tons per annum capacity, respectively.

Combining the high and the low extremes of gas consumption per ton estimates with the low "assured" and higher "reasonably assured" estimates of gas availability, the Mari gas fields may last as long as 2032 for all four plants or only until 2000 for only three plants.

## I. Summary and Conclusions

In Pakistan total natural gas reserves are estimated to be 17.43 million million cubic feet. These are at ten locations in Baluchistan, Sind and Punjab. Three locations are in operation, i.e., the following fields: Sui (Baluchistan), Mari (Sind), and Dhulian (Punjab). These have estimated gas reserves of 14.27 million million cubic feet, 82% of the known total. Since 1955, when gas was first introduced in Pakistan on a commercial basis, 1.03 million million cubic feet of gas have been consumed, leaving intact estimated reserves of 16.40 million million cubic feet.

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Combining the high and the low extremes of gas consumption per ton estimates with the low "assured" and higher "reasonably assured" estimates of gas availability, the Mari gas fields may last as long as 2032 for all four plants or only until 2000 for only three plants.

Gas prices in Pakistan of equivalent \$0.04 per MCF received by gas fields' owners at wellhead are perhaps the lowest in world. In the U.S. average wellhead prices are approximately \$0.21 per MCF. The U.S. gas prices are 425% higher than Pakistan's at wellhead, 132% higher at city gate, 176% higher for industrial consumers, and 103% higher for domestic consumers. Prices of other fuels in Pakistan are significantly higher than gas prices.

Recommendations:

1. A shadow price of Rs.5 - Rs.6 per MCF at the wellhead would be equal to the typical world wellhead gas price.

2. Shadow pricing of gas at other sale points (transmission and distribution) should be based on a wellhead shadow price of about Rs 5 - Rs.6 per MCF. (The GOP currently uses Rs.1.26 per MCF in determining gas tariffs.)

3. The GOP should develop firmer estimates on gas requirements per ton of urea production.

4. Additional drilling at Mari must be undertaken to determine the exact level of "assured" reserves.

5. A decision on the contemplated NFC II plant of 600,000 tons per annum capacity. should be deferred until, by additional drilling, the "reasonably assured" reserves of 2.149 million million cubic feet have been turned into "assured" reserves.

II. Gas Availability:

In Pakistan, natural gas has been discovered at 10 fields with total estimated gas reserves of 17.43 million million cubic feet. Annex 1 presents known gas reserves, their utilization, and the heat (energy) value of each of the ten fields. Currently the Sui, Mari and Dhulian fields are operational. These three fields contain approximately 81 percent of the known available gas in Pakistan. The field with the largest available reserves, 7.7 million cubic feet, is at Sui in Baluchistan, followed by Mari in Sind, with 3.89 million million cubic feet. Annex 2 presents the location of gas fields in Pakistan.

The Sui gas is utilized for domestic, commercial and industrial uses all over the country. The Dhulian gas is also so used, but only for consumers in the northern Punjab. The Mari field is used by only one consumer -- Esso Fertilizers located near the gas fields -- and GOP policy is to reserve this field for fertilizer plants only.

III. Demand For Gas

Natural gas consumption in Pakistan began in the mid 1950s and grew rapidly, often in place of other available fuels. Gas consumption and gas consumption as a percent of total energy consumption for the period 1955 - 1973 are presented below:

<u>Year</u>	<u>Million Million BTUs of Gas Consumption</u>	<u>Gas Consumption As % of Total Energy Consumption</u>
1955	1.3	1.5
1960	24.9	17.8
1968	74.2	29.1
1970	95.0	31.6
1972	111.2	33.4
1973 (Est.)	122.5	NA

The increased proportionate use of gas (from 1.5% of the total energy use in 1955 to 33.4% in 1972) was matched by a declining proportionate use of other petroleum products (Their share declined from 71.1% in 1955 to 41.8% in 1972.) and coal (Its share declined from 22.0% in 1955 to 8.7% in 1972).

GOP forecasts of natural gas consumption in Pakistan place consumption at approximately 346 million million BTUs annually by FY 1986. This is an 8.3% per annum growth over the 122.5 million million BTUs consumption level for FY 1973. These GOP demand forecasts include gas consumption by the proposed Karachi Steel Mills and the gas based fertilizer plants likely to be established both in the Sind and the Punjab provinces.

The Asian Development Bank Report on the Sui Karachi Gas Pipeline Project of February 1974 projects the Sui fields gas reserves to last through the year 2000.

Mari fields gas reserves of 3.942 million million cubic feet of "reasonably assured" reserves are projected to last for about 390 years, if this gas is used only for the existing Esso plant of 170,000 tons per annum capacity.

There are five available estimates of gas (feed and fuel) requirements for the proposed Mari gas based 540,000 ton per annum Fauji fertilizer plant. These estimates are:

1. The Mari gas fields owners (Esso) estimate that gas requirements for a Mari gas based 540,000 ton per annum fertilizer plant would range between 70 million cubic feet per day to 75 million cubic feet per day. The annual gas requirements on 310 working days per annum basis, therefore, range between 21,700 to 23,250 million cubic feet.
2. The Chemical Consultants (Pakistan) Ltd feasibility report for the Mari gas based Fauji plant estimates gas requirements at 78.75 million cubic feet per day for a 1750 ton per day plant. The annual requirements (310 days) are, therefore, 24,412 million cubic feet.
3. The Government of Pakistan estimates the daily requirements for the Fauji Plant at 90 million cubic feet or 27,900 million cubic feet per annum.
4. Fauji Foundation's independent gas consumption estimates for a 540,000 ton per annum plant are 30,000 million cubic feet per annum.
5. The existing Mari gas based 170,000 tons per annum Esso plant consumes 10,100 million cubic feet of gas per annum. If it is assumed that the gas requirement per ton of fertilizer for the proposed Fauji plant is the same as that for the existing Esso plant, then the annual gas requirements for the Fauji plant would be in the neighbourhood of 32,082 million cubic feet per annum.

The wide range of the estimated annual gas requirement, from 21,700 million cubic feet to 32,082 million cubic feet for a 540,000 ton plant, would not affect the length of the fertilizer project's potential life, if only one plant of this size were to be established in addition to the

existing Esso plant of 170,000 tons. At the high extreme assumption of an annual gas requirement of 32,082 million cubic feet, the Mari fields can provide gas to both Esso and Fauji for the next 101 years after the plant goes into operation in 1978, assuming intact reserves of 3.9 million million cubic feet. Further, even if only the "assured" reserves of 1.794 trillion cubic feet are considered (This would be extremely conservative, as it is known that there exist another 2.149 trillion cubic feet of "reasonably assured" reserves.), these reserves would suffice for about 50 years for both the proposed Fauji plants (using 32,082 million cubic feet of gas per annum) and the existing Esso plant (after the Fauji plant goes into operation in 1978).

However, the GOP is contemplating additional use of the Mari gas -- to its maximum for fertilizer production. Two additional fertilizer plants of 550,000 and 600,000 tons annual capacity, are being considered, both to be managed by the GOP owned National Fertilizer Corporation (NFC) and based on the Mari gas. If the two NFC plants are to be based on the Mari gas in addition to the proposed Fauji and the existing Esso plants then gas supply begins to be a relevant limiting factor. Firmer estimates of gas requirements per ton of fertilizer produced and more precise information on the available "assured" reserves are needed before such further investment is undertaken.

The range of assumptions on which the life of the Mari gas fields can be usefully estimated are:

1. Gas Reserves:

Reasonably Assured	a)	3.942 Trillion Cu.ft.
Assured	b)	1.793 Trillion Cu.ft.

2. Range of Gas Requirements  
per ton of fertilizer

a)	40,185	cubic feet
b)	43,056	" "
c)	45,207	" "
d)	51,667	" "
e)	55,555	" "
f)	59,411	" "

3. Output Per Plant:

a)	Esso (existing)	170,000 tons per annum
b)	Fauji (proposed)	540,000 tons per annum
c)	NFC I (proposed)	550,000 tons per annum
d)	NFC II (proposed)	600,000 tons per annum

4. Technology:

Gas requirements per ton of fertilizer (Urea) remain the same for the Fauji and the two NFC plants.

These assumptions can be combined with a number of alternative paths of development, which yield estimates of Gas field life as follows:

Mari Gas Fields Life

Assumption 1a: Gas Reserves of 3.942 Trillion Cubic Feet, combined with following patterns of fertilizer plant development:

	<u>Esso</u>	<u>Esso+ Fauji</u>	<u>Esso+ Fauji+ NFC I</u>	<u>Esso + Fauji+ NFC I+ NFC II</u>
	<u>Fertilizer Production Capacity (000) Tons Per Year</u>			
	170	170+	170+	170+
		540=	540+	540+
		710	550=	550+
			1260	600+
				1860
<u>Year of Production:</u> (Years of Use)	1967 (0)	1968 (11)	1979 (12)	1982 (15)
	<u>Post 1967 Field Life in Years</u>			
<u>Gas Requirements/ton</u>				
40,185 Cu.Ft.	577	146	87	65
43,056 Cu.Ft.	539	137	82	62
45,207 Cu.Ft.	513	130	78	60
51,667 Cu.Ft.	449	115	70	54
55,555 Cu.Ft.	417	108	65	51
59,411 Cu.Ft.	390	101	62	48

Assumption 1b: Gas Reserves of 1.793 Trillion Cubic Feet.

	I	II	III	IV
	Production Capacity : (000) Tons Per Year			
Years of Production:	170	710	1260	1860
(Years of Use):	1967	1978	1979	1982
	(0)	(11)	(12)	(15)
Gas Requirement/ton	Post 1967 Field Life in Years			
40,185 Cu. Ft.	262	70	44	35
43,056 Cu. Ft.	245	66	42	<u>33</u>
45,207 Cu. Ft.	233	63	41	<u>32</u>
51,667 Cu. Ft.	204	56	37	<u>29</u>
55,555 Cu. Ft.	190	53	35	<u>28</u>
59,411 Cu. Ft.	177	50	33	<u>27</u>

If it is assumed that a twenty or more years gas availability is a justification enough to undertake an investment in a fertilizer plant, then the above calculations, under varying assumptions combined with a number of alternatives of gas usage, reveal the following:

1. If the total available gas at the Mari gas fields is in fact 3.942 trillion cubic feet, then the 3 contemplated fertilizer plants (in addition to the existing Esso plant), all of them installed by 1982, have enough gas upto the year 2015 under the extreme assumption of gas requirement of 59,411 cubic feet per ton of Urea. If the gas requirement per ton of urea reduces to 40,185 cubic feet, then this gas is enough to last through the year 2012.
2. Then there is the extreme (and unlikely) assumption that there is no gas available at Mari except the currently available 1.793 trillion cubic feet of "assured" reserves. Even this unrealistic assumption justifies the construction of the Fauji and NFC I plants under the extremely high gas requirements of 59,411 cubic feet of gas per ton of Urea produced. Under this set of assumptions, Esso, Fauji and NFC I would be adequately supplied thru

the year 2011. The investment in the NFC II plant (along with the other 3 plants, i.e., Esso, Fauji and NFC I) by 1982 cannot be undertaken if the Mari gas reserves are 1.793 trillion cubic feet. This proposition is rejected because in less than 20 years, after the NFC II plant goes into operation (in 1982), will the Mari gas get exhausted. Only under the condition of 40,185 cubic feet gas requirement per ton of Urea is the investment in NFC II justifiable. Under this condition, gas lasts through the year (1967 + 35) 2002 for all the 4 plants. The year 2002 is exactly 20 years away from the year 1982 when the NFC II plant goes into operation. For all higher gas requirements per ton of Urea (43,056; 45,207; 51,667; 55,555; and 59,411) the Mari gas gets exhausted earlier than the year 2002 which is less than 20 years from 1982 when NFC II starts operating.

#### IV. Gas Fields Ownership & Distribution Mechanism

The Sui fields are managed by the Pakistan Petroleum Limited (PPL), the Mari fields by Pak-Stanvac Project (PSP) and the Dhulian fields by Pakistan Oilfields Limited (POL).

Pakistan Oilfields is incorporated in Pakistan. The majority shares (70 percent) are held by the Attock Oil Co. which is incorporated in the U.K. The GOP owns an 18 percent share in POL and the remaining 12 percent of the shares are scattered among the general public.

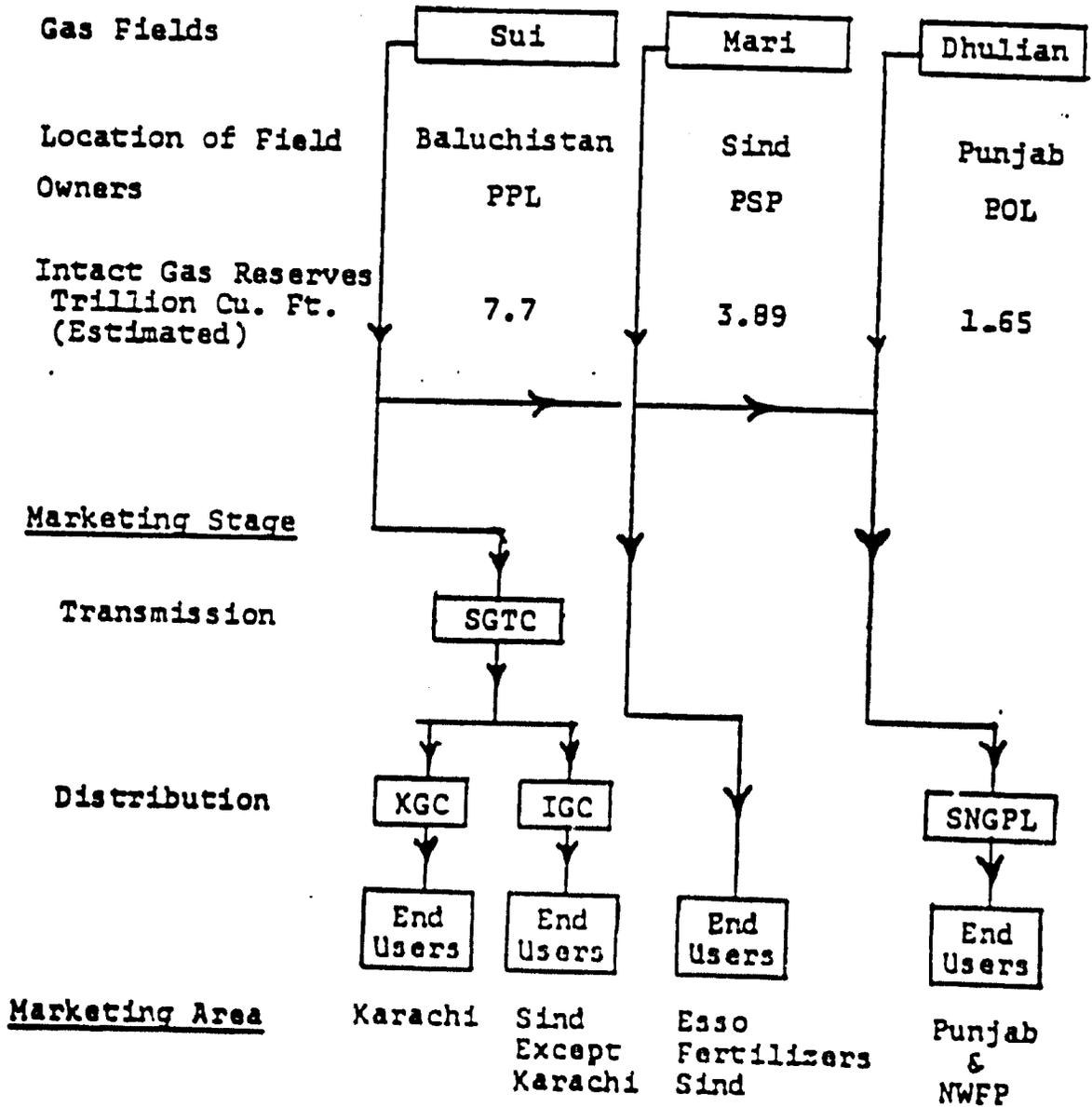
Pakistan Petroleum Limited is incorporated in Pakistan. Burmah Oil Company owns 70 percent of the shares, the GOP 29.3 percent, and the general public 0.7 percent.

Pak-Stanvac Project (PSP) is owned by Esso Standard Eastern Inc. (37.5 percent), Mobil Oil (37.5 percent), and the GOP (25 percent).

PPL sells gas at wellhead to both the Sui Gas Transmission Company (SGTC) and the Sui Northern Gas Pipelines Limited (SNGPL). PSP sells gas at wellhead to only one consumer, Esso Fertilizers which is located near the gas fields. POL sells gas at wellhead to SNGPL.

SGTC is a gas transmission firm and does not sell gas to end users. SGTC sells its entire product to the two distribution firms of the southern region of Pakistan, namely, the Karachi Gas Company (KGC) and the Indus Gas Company (IGC). KGC retails gas to the end users in Karachi,

while IGC retails gas to the end users in the rest of Sind. It may be noted that SNGPL purchases gas directly from the owners of the Sui and the Dhulian fields for sales to the end users in Punjab and NWFP. A schematic diagram showing the relationship between the various sale points is presented below:



## V. Pricing Structure

Gas pricing at all levels of marketing (wellhead, distribution, and retail) is administered by the Government through the Ministry of Fuel, Power and Natural Resources. As a rule, Gas tariffs charged by gas companies do not exceed the maximum rates fixed by the Director of Gas Operations within the Ministry of Fuel, Power and Natural Resources.

PPL and the PSP receive Rs.0.40 per thousand cubic feet (MCF) of gas as the wellhead price for the gas sold. However, the gas transmission firm, SGTC, and the distribution firm, SNGPL, pay Rs 1.26 per MCF for the Sui gas. The difference between the two prices (the Rs 0.40 per MCF price received by PPL and the Rs 1.26 per MCF price paid by SGTC and SNGPL) is collected by the Government in the form of excise duties and development surcharges. The Esso Fertilizers pay Rs 1.55 per MCF as the wellhead price. Again, the PSP receives only Rs 0.40 per MCF. The difference between the Rs 1.55 and the Rs 0.40 prices is collected by the Government. Information on the Dhulian gas price is not available but is most likely in the range of Rs 1.26 to Rs 1.55 per MCF for the customers (SNGPL) at wellhead and Rs 0.40 for POL -- the difference between Rs 1.26 to Rs 1.55 and Rs 0.40 being collected by the Government as taxes.

Slab type (marginal or step -- varying with quantities) tariff rates are applied for bulk sales by SGTC to the two distribution companies, namely, KGC and IGC. The prices decline for successive incremental slabs of gas purchased by the distribution companies. The average selling price of gas to the KGC by SGTC in 1973 was Rs 1.61 per MCF (thousand cubic feet) as against Rs 1.72 per MCF (thousand cubic feet) received by SGTC from IGC. This price differential reflects a greater bulk purchase of gas by KGC than the IGC's purchases. Unfortunately, we do not have access to the average price paid by the SNGPL to PPL and POL for gas distribution in Punjab and NWFP. However, it is safe to assume that the bulk purchase average price paid by SNGPL for 1973 would also be in the neighbourhood of Rs 1.60 - Rs 1.80 per MCF. It may be noted that in August 1973, gas prices were increased by Rs 0.48 per MCF of which Rs. 0.15 per MCF was retained by the SGTC, while the remaining Rs 0.33 per MCF was Government's share as development surcharge. The above

noted average price paid by KGC and IGC in 1973 includes the increased prices of August 1973.

In June 1974 the Government again raised the gas prices paid by SGTC and the three distribution firms, namely KGC, IGC and SNGPL. The gas field owners, however, were not affected by the price increase and they continued to receive Rs 0.40 per thousand cubic feet. The three distribution firms now pay 50% more at each slab level over the August 1973 price level.

Commercial end users in the Punjab and the NWFP, (e.g., excepting those using gas for household or domestic purposes) have all been subject to some recent price increase, ranging from 45% to 50%, over the August 1973 prices. The gas price increases in Sind and Karachi in June 1974 were relatively small. In fact, in some cases gas prices declined in June 1974 over the earlier price tariffs established in August 1973. A comparative price picture in August 1973 and June 1974 is presented below:

	<u>Recent Gas Price Changes</u> (Price in Rupees Per MCF)		
	<u>August 1973</u>	<u>June 1974</u>	<u>% Increase</u>
Gas field owners	0.40	0.40	0
Excise Duty & Surcharge	NA	NA	
SGTC and SNGPL	0.84	1.26	50
<u>SNGPL Distribution (NWFP &amp; Punjab)</u>			
General Industrial	3.53 - 3.73*	5.30 - 5.60*	50
Cement Factories	3.53 - 3.58*	5.30 - 5.37*	
Electric Utility	23	4.85	50
Commercial	6.88	10.00	45.3
Domestic	6.40	6.40	0

Besides the above rates charged from the general industrial, commercial, and domestic consumers, SNGPL has also entered into individual contracts with large size end users. These include: WAPDA, WPIDC fertilizer factories at Multan and Daud Khel, and the Dawood Hercules Fertilizer factory at Sheikhpura. It is not possible to find the average gas price paid per MCF for these end users because

\* The range represents the upper and the lower limits of tariff slabs.

contracts in each case include a price per MCF plus a fixed annual rental regardless of the amount of gas consumed. We have access to only the Dawood Hercules contract terms for which the annual fee in 1973 amounted to Rs 448,800 which increased by 50% in June 1974 to Rs 673,200. The fixed annual rentals for other consumers are not available.

The rates charged by SNGPL from some major end users in Punjab and NWFP are presented below:

	<u>August 1973</u>		<u>June 1974</u>		<u>% Increase*</u>	
	<u>Rs/000</u> <u>Cu. Ft.</u>	<u>Fixed</u> <u>Charges</u> <u>(Rs 000)</u>	<u>Rs/000</u> <u>Cu. Ft.</u>	<u>Fixed</u> <u>Charges</u> <u>(Rs 000)</u>	<u>In</u> <u>Price</u>	<u>In</u> <u>Fixed</u> <u>Charges</u>
<u>WAPDA (Power)</u>						
Multan	2.18	NA	3.27	NA	50	50
Lyallpur	2.18	NA	3.27	NA	50	50
Abdullahpur	3.23	NIL	4.85	NIL	50	50
Shahdara	3.23	NIL	4.85	NIL	50	50
<u>Fertilizer</u> <u>Factories</u>						
Multan	2.18	NA	3.27	NA	50	50
Daud Khel	2.18	NA	3.27	NA	50	50
Sheikhupura	2.24	448.8	3.21	673.2	50	50

The Asian Development Bank Report of November 1973 on the Multan Fertilizer Project calculated an average price of Rs 3.14 per MCF at 100% capacity utilization for the gas purchased from the SNGPL. This estimated price takes into account the fixed annual rental and the gas price per MCF. If other gas based fertilizer manufacturers are also consuming gas in similar or greater quantities as is consumed by the Multan plant, then in 1973, the average price of gas for fertilizer plants was likely in the neighborhood of Rs 3.15 per MCF. The tariffs for the SNGPL gas based WAPDA thermal electric power plant were in the neighborhood of Rs 3.20 per MCF after the August 1973 price increase.

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\*The June 8, 1974 Gazette of Pakistan notification increased gas prices by 50% both for the fixed annual rentals for which the terms were not disclosed, and for the price per MCF of gas for which the terms were made available in the Gazette notification.

The KGC and IGC gas tariffs for Karachi and Sind, respectively, are lower than the above noted SNGPL tariffs for Punjab and NWFP. The KGC and IGC tariffs for August 1973 and June 1974 are presented below:

	(Price in Rupees Per MCF)	
	<u>August 1973*</u>	<u>June 1974*</u>
<u>KGC Customers</u>		
Domestic Consumers	6.40	4.30 - 6.30
Commercial	6.88	3.30 - 4.90
KESC	2.63	2.95
Industrial (Includes Electric Utilities)	2.13 - 3.73	2.45 - 3.30
<u>IGC Customers</u>		
Domestic Consumers	6.40	4.30 - 6.30
Commercial	6.88	3.30 - 4.90
Industrial and WAPDA	3.13 - 3.73	3.26 - 3.82

The Esso fertilizer plant is based on Mari gas. From June 1969 to June 1974 it paid a wellhead price of Rs 0.80 per MCF. Since June 1974 Esso pays a gas price of Rs 1.55 per MCF at wellhead including a government excise duty of Rs 1.15. Therefore, PSP continues to receive a price of Rs 0.40 per MCF established in 1966 when it started selling gas to Esso Fertilizers. The price paid by Esso Fertilizers is significantly lower than prices paid by other fertilizer plants located in Multan, Daud Khel and Sheikhpura. These Sui gas based plants, as noted earlier, paid a price of about Rs 3.20 per thousand cubic feet till June 1974, and since then a 50% increase in gas price raised the price in the neighbourhood of Rs 4.80 per thousand cubic feet.

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\*The ranges represent the upper and the lower limits of tariff slabs.

The significant price differential between the Mari gas based Esso plant and the Sui gas based plants is due to the fact that Esso purchases gas directly from PSP at the wellhead. On the other hand, all other fertilizer plants located in Punjab purchase gas from SNGPL which distributes gas at factory sites located near fertilizer markets. The Esso plant is far removed from the market. The advantage of cheaper gas availability at wellhead and a factory location near the gas fields for the Esso plant is partly off-set by the transportation costs incurred in shipping the final product to the market. A separate study on the locational aspects of fertilizer factories would have to be taken to determine whether it is more economical to build fertilizer plants next to the gas fields (thereby reducing the cost of gas but increasing the cost of transportation of final product to farm level) or near the fertilizer markets (thereby reducing the cost of transportation of final product to farm level but increasing the costs of gas).

#### VI. The Proposed Fauji Fertilizer Plant & Government Gas Pricing

The proposed Fauji fertilizer plant will be located 30 miles from the Mari fields. Fauji will buy gas from PSP at wellhead and lay its own gas pipes from the gas well to the factory. In all likelihood Fauji would look for a price negotiation similar to the terms offered to the Esso Fertilizers. In other words, gas prices would not increase between now and the period of Fauji plant completion.

PSP states that the present gas extraction from the Mari fields is enough for the Esso plant only. Any additional demands on Mari gas fields would require new investments in digging wells. Well digging costs have increased from \$300,000 to \$500,000 per well during the last six months and these costs are still on the increase. Such incremental investments cannot be undertaken for new customers if PSP continues to receive Rs 0.40 per MCF. PSP also contends that on such low gas prices established in 1966 the returns on incremental investments would be approximately 3% - 4%. They contend a reasonable rate of return on investment would require a gas price to PSP of about Rs 1.15 per MCF at wellhead. Therefore, the Government would have to either drastically reduce the excise duty from Rs 1.15 to Rs 0.40 per MCF for the Fauji plant sales so that both Esso and Fauji pay the same wellhead price of Rs 1.55 per MCF, or the government would have to fix a price of Rs 2.30 per MCF for Fauji without altering the government excise duty share of Rs 1.15 per MCF. This will be a case of price discrimination where one consumer (Esso) would pay Rs 1.15 per MCF, while the other (Fauji) would be charged Rs 2.30 per MCF.

## VII. Gas Pricing in Pakistan & International Gas Prices

Gas prices paid by Pakistani end users range from an equivalent \$0.16 per MCF (the wellhead price for Esso Fertilizers) to equivalent \$1.00 per MCF (for commercial users in Punjab and NWFP located over 600 miles from the gas fields). The gas field owners, however, receive equivalent \$0.04 per MCF. The wide difference between what the gas field owners receive and what is paid by the end users is accounted by: government development surcharges and excise duties, gas transmission companies transportation costs and profits; and the gas distribution firms distribution costs and profits which, as noted earlier, are regulated by the Government at each level of sales (gas fields owners, transmission, distribution, and end users) and distributional region (Karachi, Sind, NWFP, and Punjab).

It is reported that the current U.S. wellhead average gas price is \$0.21 per MCF while new wellhead gas contracts are negotiated at \$0.40 - \$0.50 per MCF. City gate prices range between \$0.39 to \$0.77 per MCF. Industrial end users prices range between \$0.60 to \$1.00 per MCF while gas prices for domestic uses range between \$1.00 and \$1.60 per MCF.

Indonesian gas export price at wellhead is approximately \$0.16 - \$0.17 per MCF whereas the recent Iranian sales to Russia are reported to have taken place at about \$0.50 per MCF. A 1972 barter deal for gas export from USSR to U.S. placed the contract at \$1.04 per MCF at Port Murmansk (USSR). The average gas price for the Canadian and Mexican exports to the U.S. are reported at \$0.46 per MCF in late 1973. By March 1974 new sales contracts for exports from Canada (Gulf Coast) to the U.S. were reported at \$0.55 per MCF.

These above observations indicate:

1. International gas prices have a wide range;
2. Despite the wide international gas price range, international wellhead gas prices are significantly higher than the Pakistani wellhead prices;
3. End users in other countries pay much higher gas prices than those prevailing in Pakistan; and
4. International gas prices are on the increase.

The table below compares the U.S. gas prices with those in Pakistan:

	Prices Per MCF		
	Pakistan Equivalent U.S. \$	U.S. \$	U.S. Price As % of Pakistan
Wellhead Price	0.04	0.21	525
City Gate Prices	0.25 <u>1/</u>	0.58 <u>2/</u>	232
Industrial Consumers	0.29 <u>1/</u>	0.80 <u>2/</u>	276
Domestic	0.64	1.30 <u>2/</u>	203

1/ Average of Prices paid by KGC and IGC.

2/ Average of the highest and the lowest prevailing prices.

The above table shows that the gas prices at wellhead in the U.S. are 425% higher than those in Pakistan. Even the least price differential between the two countries, i.e., for domestic uses, reflects over 100% higher U.S. prices than those in Pakistan.

#### VIII. Comparison of Gas and Other Fuel Prices in Pakistan

The Government of Pakistan examined the prices of gas and various other fuels for equivalent heat quantities (BTUs) in June 1974 when prices of various fuels were revised upward. The findings of their analysis are presented below:

Fuel	Fuel Costs Equivalent To 1000 Cubic Feet of Gas	
	Rupees	Price As % Of Gas Price
LPG	32.40	506
Furnace Oil	31.26 <u>1/</u>	488 <u>1/</u>
Charcoal	20.17	315
Kerosene	17.30	270
Wood	14.34	224
HSD (High Speed Diesel Oil)	12.18	190
Gas	6.40 <u>2/</u>	100

1/ A recent newspaper news on international prices of furnace oil places furnace oil cost equivalent to 1000 cubic feet of gas at Rs 14.31 which is still 124 percent higher than gas price for domestic uses in Pakistan.

2/ Price paid by domestic consumers.

The above table shows that the cheapest energy source in Pakistan is gas and the next cheapest fuel after gas is HSD. However, even HSD is 90% more expensive than gas.

A common fuel in Pakistan is furnace oil. In fact, most industrial units switched from furnace oil to gas after gas was made available at a much cheaper price. Furnace oil (which as a byproduct of domestic refinery operations is exported from Pakistan) is 388% more expensive than gas at the price paid by domestic consumers, and 904% more expensive than the gas price of about Rs.3 per MCF paid by industrial consumers in Karachi. In Pakistan the gas price to oil prices ratio (Gas prices/Oil prices) is significantly less than that prevailing in the U.S. for 1971, the year for which the most recent data are available to us. The comparison is presented below:

Ratio of Gas Prices to Oil Prices (Domestic Uses)

U.S. Average All Regions 1971 = 0.724

Pakistan Average All Regions 1974= 0.205

IX. Shadow Pricing Of Gas

The gas pricing data for Pakistan and other countries, and also the price data on other fuels both in Pakistan and abroad, lead us to the following conclusion:

Gas prices in Pakistan at all levels of sales (at well-head, at transmission, and at distribution) are significantly lower than in other countries. Further, the ratio of gas prices to prices of other fuels is also much lower in Pakistan than in other countries.

This conclusion is shared by the Asian Development Bank Report of February 1974, although the Report only considers the impact of the low gas prices on financial returns to SGTC.

Ideally, shadow pricing of gas involves determining the future replenishment costs of additional gas drillings required for replacing the gas consumed between now and the time when the existing gas wells are fully utilized. These drilling costs are then discounted to determine their present value (PV). Unfortunately, we do not have data on well drilling costs as well as the "expected values" of striking gas per new well drilled.

Another method of using a shadow price would be to use the export price of gas. If such international export prices are considered as the shadow price of gas, then the price would be in the range of Rs 5 - Rs 6 per MCF at transmission point. This price is based on the current export contracts negotiated abroad and discussed in Section VII. A shadow price of Rs 5 - Rs 6 per MCF is significantly higher than the current price of Rs 1.26 (Rs 0.84 per MCF paid by SGTC in November 1973 plus a 50% increase since June 1974) paid by SGTC. The shadow prices to distribution firms and end users can then be determined by using a mark-up on distribution costs including profits. If it is assumed that the mark-up on distribution costs (and their profits) remains constant, then Rs 3.74 - Rs 4.74 per MCF may be added for each type of consumer. Major utilities and industrial bulk gas purchasers will then have to pay a price of approximately Rs 8 - Rs 9 per MCF.

Natural Gas Reserves in Pakistan  
(Million Million Cubic Feet)

<u>Gas Field</u>	<u>Estimated Reserves</u>	<u>Proven Reserves</u>	<u>Utilized Reserves</u>	<u>Remaining Reserves</u>	<u>Heat Value BTUs/ Cubic Foot</u>
Sui	8.63	NA <u>1/</u>	0.93	7.70	933
Mari	3.94	1.793	0.05	3.89	723
Uch	2.50	NA	-	2.50	NA
Dhulian	1.70	NA	0.05	1.65	1100
Khairpur	0.25	NA	-	0.25	NA
Khand Kot	0.20	NA	-	0.20	842
Zin	0.10	NA	-	0.10	NA
Hundi	0.05	NA	-	0.05	830
Sari Sing	0.03	NA	-	0.03	830
Mazarari	0.03	NA	-	0.03	976
	<u>17.43</u>		<u>1.03</u>	<u>16.40</u>	

1/ Not Available.

ANNEX 10

ENVIRONMENTAL IMPACT

1. Environmental/Resource Linkages:

A. The Site - The Government of Pakistan has determined that the Fauji Agrico Fertilizer Plant will use gas from the Mari gas field and will be located in the Sadiquabad Tehsil of the Rahihyar Khan District of the Province of Punjab. Fauji has surveyed and with GOP assistance will acquire 572 acres of agricultural land at Machhi Goth on which wheat and cotton and sugar cane are now growing. There are only a few mud houses on the site. The Tibbi Minor water course, which crosses the property, will be relocated.

B. Transportation - The proposed site is adjacent to the Machhi Goth Station on the main line of the Pakistan railway and about one mile from the National highway from Karachi to Peshawar. The plant will be 386 rail miles and 420 road miles from Karachi, the seaport, and 395 road miles from Lahore, the provincial capital. FAFL will improve and pave the dirt road from the national highway to the site and will build about 3.2 miles of railroad siding from the main line to the plant. Thus adequate transport facilities will be available both for import of equipment during construction and of materials needed for operations and for export of urea.

C. Raw Materials - Natural gas, the only raw material for the project, will come from ESSO's Mari Gas Field, which is located 33 miles away, near Dhaharki in the Province of Sind. The ESSO Fertilizer plant is at Dhaharki about five miles from the sale point of the field (gas measurement meter) and the proposed NPC Fertilizer Plant will be a Mirpur Methelo 11 miles away. The proven gas resources at Mari are said to be adequate to supply the three proposed plants until the year 2011.

D. Water - During most of the year the plant will draw water (about ten cubic feet per second) through a new lined, two-mile channel from a canal called the Adam Sohaba Distributary. For about three weeks every year canals in Pakistan are shut down for annual maintenance; they may also be shut down at other times for other reasons. To ensure uninterrupted operations, alternate source of water is needed. Since the ground water at the site is saline, FAFL has selected a site about five miles northwest of the plant to drill fourteen tubewells, each with a capacity of one cusec, along both sides of the Ahmadpur Lamma Distributary. At this point the ground water is not saline and there is sufficient recharge from seepage of fresh water from the canal to ensure that the ground water supply is neither depleted nor degraded. Water from both sources will require some treatment, depending on the ultimate use - cooling, process, boiler feed water and domestic. The treatment facilities will have

-2-

sufficient flexibility to permit use of water from either source, or both simultaneously, at different seasons consistent with minimizing treatment costs.

E. Other Utilities - FAFL will use natural gas to produce steam for plant use and to generate power.

F. Other Area Activities - There are two other factories within two miles of the proposed site - A sugar mill and a cotton ginning and oil processing mill. There is some light industry in Sadiqabad five miles away.

## 2. Physical Aspects:

A. Topography - The area is virtually flat, with a slope of about one foot per mile toward the southeast. The plant site is at an elevation of 264 feet above mean sea level. The soils have been formed almost entirely from relatively homogeneous alluvium deposited by the Indus River system. Since the depth of ground water is 10 to 11 feet, there is no surface evidence of water logging salinity.

B. Population - There are a number of scattered villages in the vicinity of the plant with populations of less than one thousand people each. Sadiqabad, the Tehsil headquarters, had a population of 37,225 according to 1972 census.

C. Climate - The temperature varies from a mean monthly minimum of 40 degrees Fahrenheit in January to a mean monthly maximum of 110 degrees Fahrenheit in June. The median annual rainfall is 1.93 inches. The evaporation rate has been conservatively estimated to be about five feet a year by a consulting firm that prepared a feasibility report for a salinity control and reclamation project in the area (Scarp 6).

## 3. Waste Disposal:

A. Effluent Standards - Although there are presently no statutory regulations in Pakistan for industrial effluents, the Punjab Provincial Government will probably enact legislation in 1975 establishing a pollution control authority. Effluent standards will be based, initially at least, on those prevailing in Europe and the United States. The plant will be designed in accordance with European and U.S. standards in respect to solid, liquid and gaseous emissions. Mufflers will be required on noise polluting discharges. Noxious gas control devices within the plant will comply with European and U.S. standards, and first aid equipment will be strategically placed through the plant area as a safety measure in case of an accidental gaseous discharge. Training programs prescribed by the contract will include training in industrial hygiene and safety for

-3-

key personnel as well as specialist technicians to be employed by the company for these inspection and enforcement activities. European and American standards require explosion proof electric motors in the plant.

The only raw material for the project is natural gas. The minute amounts of sulfur in the gas will be removed as either elemental sulfur or as a metallic sulfide, both of which have commercial value and will presumably be sold to manufacturing firms which require sulfur. The urea dust from the prilling tower will be recovered not only for environmental considerations, but because it is a valuable recoverable substance.

**B. Waste Characteristics** - The sources of waste waters will be: Water treatment plant effluent; Blowdown from cooling towers, boiler and compressors; process condensate; spills and leaks; and domestic sewage from the housing colony. These wastes contain ammonia, urea, metals such as chromium and zinc, oil and suspended solids of various types. Ammonia and urea dust from the prilling tower are potential sources of air pollution.

**C. Waste Treatment** - FAFL plans to discharge all of the liquid wastes to an evaporation pond on the site. Conditions at the site are ideal for this inexpensive method of disposal: Rainfall is less than two inches per year. The evaporation rate is at least 60 inches per year, and the ground water is saline and unfit for human consumption or agricultural use. One analysis by an engineering firm retained by Fauji shown that the ground water at the plant site at a depth of 20 feet contains 1,800 PPM of total dissolved solids. On the other hand, a map in the feasibility report for scarp 6 shows isogram lines for total dissolved solids at depths to which test wells are normally drilled (100 feet or more). The line for 10,000 PPM of dissolved solids passes through the plant site. Assuming pond losses of six feet per year (five feet evaporation and one foot seepage), a pond of 120 acres will adequately dispose of a flow of ten cusecs of wastes. This method of disposal has been used effectively at the ESSO plant at Dhaharki where similar conditions exist. At the ESSO plant, which is about one-third the size of the proposed Fauji-Agrico plant, less than one fourth of the installed 100 acre evaporation pond is actually used.

During the next decade the Government of Pakistan plans to complete Scarp 6, the saline zone of which includes the plant site. The consultants propose reclaiming land in the saline zone by installing large tubewells and pumping out saline water into drainage channels leading to evaporation ponds in the desert area south and east of Sadiqabad. When these drainage channels are completed, FAFL will be able to discharge its wastes into them and reclaim the evaporation pond for other uses, including plant expansion if that proves feasible.

According to the operation manager at the ESSO plant, the ammonia and urea losses to the atmosphere have not created any nuisance, odor problem or health hazard in this sparsely-settled area. Because they represent pro-

duction, and therefore financial, losses; however, several plant modifications have been made to reduce them to a minimum.

#### 4. Socio-Cultural Factors.

The plant will employ directly about 1,200 persons. The company will provide housing, LLD Educational facilities for about 500 to 600 of the key technical, maintenance and operational personnel. Most of the rest of the employees will come from, and live in, the town of Sadiqabad and commute five miles to work. With a population 40,000, Sadiqabad should be able to absorb any new inhabitants without too much disruption or overburdening of its facilities. In addition to those directly employed by the plant, hundreds of others in the community will provide goods and services to the plant and its employees. Thus the economy of the area should improve.

5. Public Health Aspects - FAFL will provide occupational health safeguards and other safety precautions for its worker and for local inhabitants, equivalent to those provided in similar plants in the United States and Europe. It will provide health care for its workers and their families.

#### 6. Discussion:

A. The adverse environmental effects of the project that cannot be avoided are limited to the displacement of a few hundred people and the loss of less than one thousand acres of irrigated agricultural land.

B. Although there will be noise and dust during construction, this short term use of the environment should present no serious problems in this thinly populated area. Thus environmental degradation during the construction period will be minimal.

C. The disposal of wastes to an evaporation pond without treatment is both sound technically and economical and should have no adverse effect on the environment. The seepage into the ground of one foot of waste water per year will not degrade and aquifer that is already highly saline. When the drainage channels of the proposed Scarp 6 are completed, FAFL will be able to dispose of its wastes through these channels to evaporation ponds in the desert and to reclaim its pond area for other uses.

7. Alternatives to the Project: Pakistan intends to use its resources of natural gas to become self-sufficient in nitrogenous fertilizer. To achieve this goal this plant, or one similar to it, will have to be built. Since the gas in Mari Field has been reserved for fertilizer production, the only alternative would be to locate the plant closer to the field. While such an alternative would reduce the cost of the gas pipeline, there are distinct socio-cultural advantages to having the plant within commuting distance of a town like Sadiqabad, which has much more to offer in the form of a labor force, markets, educational and medical facilities than the isolated villages near the gas field.

## FAUJI FOUNDATION

### Origin

1. The Fauji Foundation, formerly the Post War Services Reconstruction Funds, is a Charitable Trust created under the Charitable Endowments Act 1890 and is devoted exclusively to the welfare of ex-servicemen and their families and families of soldiers who died in wars since the creation of Pakistan.

### Aim

2. The aim of the Foundation is to provide and generate funds for the welfare of ex-servicemen and their families. This is achieved by:-

- a. investment in industrial undertakings at the discretion of the Committee of Administration (the supreme governing body) and the income is utilized for the collective benefit of the beneficiaries.
- b. the Foundation's funds are not utilized for contributions towards measures which it is the responsibility of the Government to take.
- c. no cash grants are made to individuals.
- d. the objects of the endowments do not extend beyond the four provinces of Pakistan and the centrally administered Tribal Areas.

3. The main welfare fields of endeavour are medical facilities for ex-servicemen and their families, and education stipends for ex-servicemen and their children.

### Organization

4. The Foundation is controlled by a Committee of Administration (supreme governing body) consisting of the following:-

- a. Secretary Ministry of Defence - Chairman

- b. Four Principal Staff Officers of GHQ Pakistan Army (of General rank). - Members
- c. Two Principal Staff Officers (one each) from the Naval and Airforce Headquarters. - Members

The above body is responsible for laying down general policy, approval of Annual Budgets and Audited Accounts and for investments/disinvestments, overall control over the functions of the Foundation.

5. The executive functions for the day to day functioning of the Foundation vest in the Board of Directors who exercise all the powers of the Committee of Administration less those enumerated in para 4 above. The Board of Directors consists of:-

- a. Secretary Ministry of Defence - Chairman
- b. Managing Director - Vice Chairman and Chief Executive
- c. Industries Director - Member
- d. Financial Director - Member
- e. Welfare Director - Member

Directors (except a above) are full time employees of the Foundation and are located at the Head Office in Rawalpindi.

6. Due to changing circumstances and the urges of the times dictated by expanding industrial and welfare activities the Board has been reorganized on a number of occasions - the current composition of the Board reconstituted in March 1975 is as under:-

- a. Secretary Ministry of Defence - Chairman
- b. Managing Director

- c. Advisor
- d. Financial Director
- e. Welfare Director
- f. Director Coordination & Personnel
- g. Director Textile Projects
- h. Director Sugar Projects

7. Each industrial and welfare project has its own separate Board of Management for conducting its business, headed by the Managing Director in the case of industrial projects and by the Chairman in the case of welfare projects. Appropriate members of the Central Board of Directors in addition are members of the Boards of Management on which the General Manager of the Project and the relevant technical experts at Head Office are also members.

#### Growth of the Foundation

8. The Foundation has grown to its present size and stature as listed in the chronological order of the projects being set up:-

#### Industrial Projects (Sole proprietary rights)

- a. Fauji Textile Mills Jhelum  
(25,000 spindles, 500 looms) - 1954
- b. Fauji Cereals (Manufacturers of  
breakfast foods) - 1954
- c. Fauji Sugar Mills Tando Mohd Khan (Sind)  
(2,000 Tons daily crushing capacity) - 1959
- d. Fauji Sugar Mills, Khoski (Sind)  
(3,000 Tons daily crushing capacity) - 1971
- e. Lyallpur Cotton Mills, Lyallpur  
(50,000 Spindles, 1,000 Looms) - 1972

- f. Modern Sugar Mills Sangla (Punjab)  
(1,500 Tons daily crushing capacity) - 1972
- g. Foundation Gas (Marketing Company  
for distribution of Liquefied Petroleum  
Gas) - 1972
- h. Fauji Cotton Mills, Hasan Abdal (Punjab)  
(25,000 Spindles) - 1974
- j. Controlling interest in Khyber  
Tobacco Company Limited Mardan - 1960  
(33% share)
- k. Being set up
- (1) Fauji Cotton Mills Mianwali - 1975/76  
(25,000 Spindles)  
Land has been acquired and  
machineries are on order..
- (2) Fertilizer Project

Welfare Projects

- I. Fauji Foundation Medical Centre - 1960  
(Hospital of 300 Beds and a  
modern Limb Fitting Centre)
- m. Fauji Foundation Hospital Kallar  
Kahar (Punjab) - 1975  
(50 Beds)
- n. Fauji Foundation Hospital Lachi - 1975  
(NWFP)  
(50 Beds)
- o. Fauji Foundation Hospital Lawa  
(Punjab) - under construction - 1976  
(50 Beds)
- p. Fauji Foundation Hospital Basal - 1976  
(Punjab - 50 Beds)

- q. Fauji Foundation Hospital Mansehra - 1976  
(N.W.F.P.)  
(50 Beds)

Serials p & q are in an advanced stage of planning  
and land has been acquired for their construction.

BIODATA - DIRECTORS FAUJI FOUNDATION

- Name : Maj Gen (Retd) Mohammad Nawaz Malik
- Designation : Managing Director
- Academic Qualifications : a. B. A. (Punjab University)  
b. Graduate Pakistan Army Staff College  
c. Graduate of Joint Services Staff College U. K.
- Service Experience : 30 years experience in Command and Staff appointments in the Pakistan Army including Military Secretary at General Headquarters and command of an Infantry Division.
- Business Experience : 15 Sept. 70 to date as Managing Director Fauji Foundation.
- Name : Lt Col (Retd) Mohammad Saifdar Beg
- Designation : Industries Director
- Academic Qualifications : a. B. A. (Punjab University)  
b. Graduate Pakistan Army Staff College
- Service Experience : 20 years experience in command and staff appointments including two tenures of command of an Infantry Battalion and Grade I Staff Officer at General Headquarters, Pakistan Army.
- Business Experience: : a. Joined as Administrative Officer Post War Services Reconstruction Funds (now Fauji Foundation in Sep. 1961).  
b. Promoted Controller of Industrial Projects Fauji Foundation in April 1963.  
c. Promoted Production Director in Sept. 1963.  
d. Promoted Industries Director September 1971.  
e. Has performed duties of No. 2 to Managing Director Fauji Foundation since April 82 in addition to being directly responsible for the running and performance of all Industrial Projects.

- f. Has been Director of the Central Board of Directors since 1962.
- g. Redesignated as Advisor to the Board of Directors Fauji Foundation in April 1975.

3. Name : Mr. M. Y. Pasha
- Designation : Financial Director
- Academic Qualifications : a. B. A. (Punjab University)  
b. Registered Accountant (Pakistan)  
c. ACA (Institute of Chartered Accountants in England & Wales).
- Service Experience :
- Business Experience : a. Joined as Financial Controller January 1962.  
b. Promoted Financial Director in December 71.
4. Name : Brig (Retd) Ghulam Hussain
- Designation : Welfare Director
- Academic Qualifications : a. B. A. (Punjab University)  
b. Graduate from U. K. Army Staff College, Camberley  
c. Graduate from School of Artillery, Fort Sill, Oklahoma.
- Service Experience : 28 years service in varied command and staff appointments including Instructor Staff College, Military Attachee in Moscow, command of Artillery and Infantry Brigades.
- Business Experience : Director Welfare since August 1972.
5. Name : Brig (Retd) Mohammad Afzal Khan
- Designation : Director (Coord. & Planning)

**Academic Qualifications** : a. B. A. (Muslim University Aliqarh)  
b. Graduate Pakistan Army Staff College.  
c. Graduate Command and Staff College, Fort Leavenworth.

**Service Experience** : 28 years service in the Army in various command and Staff appointments including Senior Staff Officer at CENTO HQ. and command of Infantry Brigade.

**Business Experience** : a. Deputy General Manager Sugar Mill, November 70 - June 71.  
b. General Manager Sugar Mill, June 71 - June 72.  
c. General Manager (Sugar Projects at Head Office) June 72 - April 73).  
d. Promoted Director (Sugar) April 73 - April 75.  
e. Promoted as Director (Coordination & Planning) to the Central Board of Directors.

**Name** : Brig (Retd) M. Hamid Hussain

**Designation** : Director (Textiles)

**Academic Qualifications** : a. Graduate of Pakistan Army Staff College.  
b. Graduate Command and Staff College, Fort Leavenworth.  
c. Graduate of the Army War College, Pakistan.

**Service Experience** : 28 years service in Command and Staff appointments including Deputy Commandant Staff College, Command of three Infantry Brigades and Vice Chief of General Staff, General Headquarters.

**Business Experience** : a. General Manager Textiles Mills June 70 - April 72.  
b. Resident Representative Faqir Foundation, March 73 - December 74.  
c. Director (Textiles) Dec. 74 - March 75.  
d. Promoted as Director (Textiles) on the Central Board of Directors, April 75.

7. **Name** : Col (Retd) Fazal Dad Khan
- Designation** : Director (Sugar)
- Academic Qualifications** : B. A. Muslim University Aligarh
- Service Experience** : 26 years service in the Army in Command and Staff appointments and vast experience of procurement of non warlike stores from the Defence Services.
- Business Experience** :
- a. Sales Manager, Sugar Mills, February 71 - June 71.
  - b. Deputy General Manager Sugar Mill, June 71 - December 71.
  - c. General Manager, Sugar Mill, Jan. 72 - June 73.
  - d. Chief Procurement Manager Head Office, June 73 - March 75.
  - e. Promoted Director Centran Board of Directors as Director Sugar Projects, April 75.

PAUJI FOUNDATION  
FIVE YEAR PLAN  
MASTER CASH FORECAST

1974/75 - 1978/79

(Rs in lac)<sup>1/</sup>

	Page No	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
Revenue Receipts	2	648.49 <sup>1/</sup>	264.43	387.43	510.49	541.05
Less: Revenue Expenditure	7	145.91	173.61	207.42	246.39	280.00
Revenue Surplus		502.58	90.82	180.01	264.10	261.05
Capital Receipts	10	242.11	11.40	1.40	1.40	1.40
		744.69	102.22	181.41	265.50	262.45
Less: Capital Expenditure	11	439.50	1338.50	110.50	248.50	69.50
Surplus/(Deficit)		305.19	(1236.28)	70.91	17.00	192.95
Opening Balance		1126.52	1431.71	195.43	266.34	283.34
		1431.71	195.43	266.34	283.34	476.29

<sup>1/</sup> 1/2 Loc = Rs. 100,000  
 Rs. 648.49 Loc = Rs. 64,849,000

SUMMARYREVENUE RECEIPTS

(in in lae)

	<u>Page</u> <u>No</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
Dividends	3	461.98	141.56	306.56	416.56	436.56
Interest	4	127.70	69.09	22.51	30.53	35.55
Office Expenses	5	41.62	45.78	50.36	55.40	60.94
Miscellaneous	6	17.19	8.00	8.00	8.00	8.00
		<u>648.49</u>	<u>264.43</u>	<u>387.43</u>	<u>510.49</u>	<u>541.05</u>

DIVIDEND INCOME

(Rs in Lak)

	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
<u>OWN PROJECTS</u>					
FSM (T) <sup>1/</sup>	200.00	100.00	100.00	100.00	100.00
FSM (Farm)	5.83	7.50	7.50	7.50	7.50
FTM	-	-	20.00	30.00	40.00
FC	6.54	4.00	4.00	4.00	4.00
FSM (K)	228.80	25.00	60.00	65.00	65.00
LCM	15.00	-	30.00	50.00	50.00
FO	-	-	10.00	35.00	35.00
MSM	-	-	30.00	50.00	50.00
PCM (H)	-	-	30.00	50.00	50.00
PCM (M)	-	-	10.00	20.00	30.00
<u>OTHERS</u>					
NTT Units	0.18	0.18	0.18	0.18	0.18
KTC	3.75	3.00	3.00	3.00	3.00
PTC	1.88	1.88	1.88	1.88	1.88
	<u>461.98</u>	<u>141.56</u>	<u>306.56</u>	<u>416.56</u>	<u>436.56</u>

1/ See page 15 for project names

INTEREST INCOME

(Rs in lacs)

	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
FTM	-	6.00	8.40	8.40	8.40
FCM (H)	25.15	-	-	-	-
LCM	2.16	-	-	-	-
NSM	2.37	-	-	-	-
FO	1.70	-	-	-	-
Govt Securities	0.01	-	-	-	-
KTC	0.23	-	-	-	-
House Building Loans	0.07	0.07	0.08	0.09	0.10
Temporary Advances	0.01	0.02	0.03	0.04	0.05
Fixed Deposits	89.82	63.00	14.00	22.00	27.00
On Retained Profits :					
FBM (K)	5.99	-	-	-	-
FC	0.19	-	-	-	-
	<u>127.70</u>	<u>69.09</u>	<u>22.51</u>	<u>30.53</u>	<u>35.55</u>

OFFICE EXPENSES

(Rs in lao)

	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
FSM (T)	10.15	9.00	9.00	9.00	10.00
FSM P&M	0.12	0.12	0.12	0.12	0.12
FSM (K)	8.35	9.03	9.00	9.00	9.45
FTM	5.44	5.98	6.57	6.97	7.96
LCM	7.90	8.00	8.00	9.00	10.00
FCM (H)	1.92	4.00	4.00	4.82	5.32
FCM (N)	-	-	3.00	4.82	5.32
FC	0.17	0.17	0.17	0.17	0.17
MSM	6.80	7.48	7.90	8.00	8.50
FG	0.77	2.00	2.60	3.50	4.10
	<u>41.62</u>	<u>45.78</u>	<u>50.36</u>	<u>55.40</u>	<u>60.94</u>

MISCELLANEOUS RECEIPTS

(Rs in Lac)

	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
Private Patients - FFMC and Hospitals	3.64	4.00	4.00	4.00	4.00
Amount Recoverable from Army	8.81	-	-	-	-
Recovery from MAG on account of Artificial Limb Centre	4.67	3.00	3.00	3.00	3.00
Others	0.07	1.00	1.00	1.00	1.00
	<u>17.19</u>	<u>8.00</u>	<u>8.00</u>	<u>8.00</u>	<u>8.00</u>

SUMMARYREVENUE EXPENDITURE

(As in lac)

	<u>Page</u> <u>No</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
Welfare Expenditure	8	91.58	116.32	145.71	179.64	218.96
Establishment		41.62	45.78	50.36	55.40	60.94
Interest	9	12.61	11.41	11.25	11.25	-
Miscellaneous		0.10	0.10	0.10	0.10	0.10
		<u>145.91</u>	<u>173.61</u>	<u>207.42</u>	<u>245.39</u>	<u>280.00</u>

WELFARE EXPENDITURE

(Rs in lac)

	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
<u>MEDICAL</u>					
FFMC and Mobile Dispensaries	42.55	46.80	51.48	56.63	62.29
New Hospitals and Mobile Dispensaries	7.71	24.00	44.00	67.68	95.80
Day Treatment Centres	0.52	1.00	1.50	2.00	2.50
<u>EDUCATION</u>					
Stipends	35.97	39.57	43.53	47.88	52.67
Retraining, Cottage Industries etc	2.13	2.25	2.50	2.75	3.00
<u>OTHERS</u>					
Special Grant	2.70	2.70	2.70	2.70	2.70
	<u>91.58</u>	<u>116.32</u>	<u>145.71</u>	<u>179.64</u>	<u>218.96</u>

INTEREST CHARGES

(Rs in lac)

	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
IDBP Loan II	0.24	0.16	-	-	-
W & R Dts, GHQ Loan	12.37	11.25	11.25	11.25	-
	<u>12.61</u>	<u>11.41</u>	<u>11.25</u>	<u>11.25</u>	<u>-</u>

CAPITAL RECEIPTS

(Rs in Lacs)

	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
<u>RECOVERY OF LOANS</u>					
FCM	190.00	10.00	-	-	-
MSM	50.00	-	-	-	-
Temporary Advances	0.25	0.25	0.25	0.25	0.25
House Building Loan	0.11	0.15	0.15	0.15	0.15
Sales Proceed of Old Vehicles	0.15	-	-	-	-
Repayment of Govt Securities	0.29	-	-	-	-
Others	1.31	1.00	1.00	1.00	1.00
	<u>242.11</u>	<u>11.40</u>	<u>1.40</u>	<u>1.40</u>	<u>1.40</u>

SUMMARYCAPITAL EXPENDITURE

(Rs in lac)

	<u>Page No</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
Loan Repayments	12	19.75	-	-	125.00	-
New Industrial Projects	13	329.04	1237.00	-	-	-
Welfare Projects	14	82.71	93.50	102.50	115.50	61.50
Others	15	8.00	8.00	8.00	8.00	8.00
		<u>439.50</u>	<u>1338.50</u>	<u>110.50</u>	<u>248.50</u>	<u>69.50</u>

LOAN REPAYMENTS

(Rs in lac)

	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
IDBP Loan II	4.75	-	-	-	-
M&R Dts, GHQ Loan	15.00	-	-	125.00	-
	<u>19.75</u>	<u>-</u>	<u>-</u>	<u>125.00</u>	<u>-</u>

CAPITAL EXPENDITURENEW PROJECTS

(Rs in lao)

	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
FCM (H)					
Loan	81.04	-	-	-	-
FCM (M)					
Capital	143.00	7.00	-	-	-
FG					
Capital	35.00	30.00	-	-	-
FTM					
Loan	20.00	50.00	-	-	-
Fuji Agrico Chemicals Limited	50.00	1150.00	-	-	-
	<u>329.04</u>	<u>1237.00</u>	-	-	-
	<u>329.04</u>	<u>1237.00</u>	-	-	-

CAPITAL EXPENDITURE - WELFARE

(Rs in '000)

	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
FFWC including Mobile Dispensaries	1.44	2.00	3.00	4.00	-
New Hospitals including Mobile Dispensaries	75.43	86.00	94.00	106.00	56.00
Day Treatment Centres	5.54	5.00	5.00	5.00	5.00
Cottage Industries	0.30	0.50	0.50	0.50	0.50
	<u>82.71</u>	<u>93.50</u>	<u>102.50</u>	<u>115.50</u>	<u>61.50</u>

OTHER CAPITAL EXPENDITURE

(Rs in Lacs)

	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
Head Office including RR Karachi & Lahore	8.00	8.00	8.00	8.00	8.00
	—	—	—	—	—
	8.00	8.00	8.00	8.00	8.00
	—	—	—	—	—

FAUJI PROJECTS

FSM(T)	•	Fauji Sugar Mill (Tondo)
FSM (Farm)	•	Fauji Sugar Mill (Farm)
FTM	•	Fauji Textile Mill
FC	•	Fauji Cereals
FSM(K)	•	Fauji Sugar Mill (Khoski)
LCM	•	Lyallpur Cotton Mill
FC	•	Fauji Gas
MSM	•	Modern Sugar Mill
FCM(H)	•	Fauji Cotton Mills (Hassanabad)
FCM(M)	•	Fauji Cotton Mill (Mianwali)
NIT	•	National Investment Trust
KTC	•	Khyber Tobacco Company
PTC	•	Pakistan Tobacco Company

THE WILLIAMS COMPANIES

Five-Year Profit Center Earnings

	<u>1974</u>	<u>1973</u>	<u>1972</u>	<u>1971</u>	<u>1970</u>
<u>Revenues</u>					
<u>Fertilizer</u>					
Agrico Chemical Company	\$461.8	\$312.0	\$205.4	\$ 50.5	\$ -
<u>Energy</u>					
Williams Pipe Line Company	68.6	64.1	61.3	57.3	57.6
Williams International Group	53.5	57.7	82.1	72.7	40.5
Williams Energy Company	<u>128.6</u>	<u>78.9</u>	<u>46.9</u>	<u>41.4</u>	<u>-</u>
Total Energy	<u>250.7</u>	<u>200.7</u>	<u>190.3</u>	<u>171.4</u>	<u>98.1</u>
<u>Other Operations</u>					
Edgcomb Steel Company	169.2	133.7	100.7	86.4	78.1
Merchandising	<u>111.7</u>	<u>97.7</u>	<u>81.5</u>	<u>61.7</u>	<u>-</u>
Total Other Operations	<u>280.9</u>	<u>231.4</u>	<u>182.2</u>	<u>148.1</u>	<u>78.1</u>
The Resource Sciences Corp. (Sold in 1971)	-	-	-	42.4	59.0
TOTAL REVENUES	<u>\$993.4</u>	<u>\$744.1</u>	<u>\$577.9</u>	<u>\$412.4</u>	<u>\$235.2</u>
<u>Operating Earnings</u>					
<u>Fertilizer</u>					
Agrico Chemical Company	\$139.9	\$ 37.5	\$ 17.7	\$ 3.7	\$ -
<u>Energy</u>					
Williams Pipe Line Company	31.8	30.1	29.0	27.1	27.4
Williams International Group	4.8	4.0	12.0	10.7	8.9
Williams Energy Company	<u>10.9</u>	<u>9.2</u>	<u>6.7</u>	<u>6.4</u>	<u>-</u>
Total Energy	<u>47.5</u>	<u>43.3</u>	<u>47.7</u>	<u>44.2</u>	<u>36.3</u>
<u>Other Operations</u>					
Edgcomb Steel Company	22.1	12.5	7.8	6.8	7.3
Merchandising	9.6	7.7	6.5	4.2	-
Investing	<u>(1.1)</u>	<u>14.4</u>	<u>10.9</u>	<u>9.3</u>	<u>11.6</u>
Total Other Operations	<u>30.6</u>	<u>34.6</u>	<u>25.2</u>	<u>20.3</u>	<u>18.9</u>
The Resource Sciences Corp. (Sold in 1971)	-	-	-	1.5	(.7)
TOTAL OPERATING EARNINGS	218.0	115.4	90.6	69.7	54.5
Interest Expense	(27.0)	(33.5)	(33.0)	(24.7)	(15.5)
Other Income and (Expense)-Net	<u>(4.5)</u>	<u>.9</u>	<u>(1.9)</u>	<u>(1.5)</u>	<u>(1.8)</u>
Income from Continuing Operations before Income Taxes and Extraordinary Items	186.5	82.8	55.7	43.5	37.2
Provisions for Income Taxes	<u>86.5</u>	<u>33.7</u>	<u>19.3</u>	<u>14.9</u>	<u>11.8</u>
INCOME FROM CONTINUING OPERATIONS BEFORE EXTRAORDINARY ITEMS	100.0	49.1	36.4	28.6	25.4
Income (Loss) from Discontinued Operation	<u>(4.4)</u>	<u>(.7)</u>	<u>1.6</u>	<u>1.2</u>	<u>.5</u>
Income before Extraordinary Items	95.6	48.4	38.0	29.8	25.9
Extraordinary Items	-	-	-	1.0	1.2
NET INCOME	<u>\$ 95.6</u>	<u>\$ 48.4</u>	<u>\$ 38.0</u>	<u>\$ 30.8</u>	<u>\$ 27.1</u>

FAUJI FOUNDATION WEST PAKISTAN  
CONSOLIDATED BALANCE SHEET AS AT 30 SEPTEMBER 1974

ANNEX 15  
AID-DLC/P-2114  
UNCLASSIFIED

ASSETS	Notes	1974	1973
<b>CURRENT ASSETS</b>			
Cash and bank balances		4,431,550	5,972,455
Accounts receivable less allowance for doubtful accounts Rs.775,390 (1973: Rs.904,260)		30,032,075	16,873,127
Inventories	2	114,803,761	76,254,438
Advances, deposits and prepayments less allowance for doubtful advances Rs.200,000 (1973: Nil)		33,927,532	31,090,550
		<u>183,195,018</u>	<u>130,190,570</u>
<b>TIME DEPOSITS</b>	3	117,892,204	82,482,223
<b>LONG-TERM INVESTMENTS at cost</b>	4	5,728,788	5,728,788
<b>PROPERTY PLANT AND EQUIPMENT</b>			
Operating fixed assets at cost less allowance for depreciation	5	229,797,873	231,388,472
Capital work in progress at cost		41,252,661	3,785,301
		<u>271,050,534</u>	<u>235,173,773</u>
<b>EXPENDITURE ON PROPOSED PROJECTS</b>		1,007,972	957,947
	Rupees	<u>578,874,516</u>	<u>454,533,301</u>
<b>LIABILITIES AND FOUNDATION'S INVESTMENT</b>			
<b>LIABILITIES</b>			
<b>CURRENT LIABILITIES</b>			
Short-term debt	6	104,914,927	23,074,065
Customers' security deposits		4,081,228	-
Long-term loans payable within one year	7	16,212,183	18,030,559
Accounts payable and accrued liabilities		40,596,957	47,661,083
		<u>165,805,295</u>	<u>88,965,718</u>
<b>LONG-TERM LIABILITIES</b>			
Loans	7	102,692,102	105,791,947
Deferred purchase consideration		28,013,718	30,539,718
Employees' funds		10,925,243	8,987,751
Provision for retirement gratuity	1	7,150,944	5,054,510
		<u>148,782,007</u>	<u>150,372,925</u>
<b>FOUNDATION'S INVESTMENT</b>	8	264,257,214	215,194,657
	Rupees	<u>578,874,516</u>	<u>454,533,301</u>

These accounts should be read in conjunction with the annexed notes.

Lt Col (Retd)

Mohammad Saifur Beg  
Director

Mohammad Yusuf Pasha  
Director

Maj Gen (Retd)

Mohammad Nawaz Malik  
Director

## FAUJI FOUNDATION WEST PAKISTAN

### NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 SEPTEMBER 1974

#### 1. Accounting policies

Summarised below are the significant accounting policies.

##### Basis of consolidation

The consolidated financial statements include the accounts of the Foundation and its projects.

##### Inventories

Inventories are stated at the lower of cost and net realisable value. Cost of stores and raw materials has been determined principally by average cost method and that of finished goods and work in process principally by 'first-in, first-out' method.

##### Property, plant and equipment and depreciation

Fixed assets, including significant renewals and additions, are carried at cost. Expenses incurred prior to commercial production are capitalised. When retired or otherwise disposed of, the cost and related depreciation are cleared from the respective accounts and the net difference, less any amounts realised on disposal, is reflected in earnings.

Depreciation, with minor exceptions, is calculated by the straight-line method at rates based on estimated useful lives of the assets. No depreciation is provided on land.

Maintenance and repairs, including minor alterations and improvements, are charged to income as incurred.

##### Expenditure on proposed projects

Expenditure on proposed projects is carried forward and included in the cost of fixed assets if the project is set up but if the proposed project is abandoned, such expenditure is written off in the year in which the decision to abandon is taken.

##### Staff gratuities

Employees who retire from service are entitled to lumpsum gratuity determined by reference to the current basic rate of pay, length of service and the conditions under which the retirement occurs. Up to last year a partial provision for gratuity had been made but by and large it was being expensed in the year of payment. The accounts under review include upto date provision for gratuity applicable to each project. This provision has generally been made in accordance with the Foundation Retirement Gratuity Scheme Rules.

FAUJI FOUNDATION WEST PAKISTAN

CONSOLIDATED STATEMENT OF INCOME FOR THE YEAR ENDED 30 SEPTEMBER 1974

	Notes	1974	1973
Sales	9	479,412,541	310,558,431
Less: Cost of sales		399,661,355	246,758,331
Gross profit	10	79,751,186	63,800,100
Other income	11	10,283,873	9,998,820
		90,035,059	73,798,920
Administration and selling expenses		18,193,297	11,423,374
Financial and other expenses		18,812,098	11,363,689
Workers profit participation fund		2,660,075	2,378,777
		39,665,470	25,165,840
		50,369,589	48,633,080
Less: Welfare expenses		7,720,559	5,701,514
Reserve for welfare expenses		15,000,000	15,000,000
Expenditure written off		-	2,493,512
		22,720,559	23,195,026
		27,649,030	25,438,054
Surplus on 30 September 1973		45,601,603	15,616,439
Prior years' adjustments (net)		3,064,114	4,547,110
	Rupees	76,314,747	45,501,603

These accounts should be read in conjunction with the annexed notes.

Lt Col (Retd)  
Mohammad Safdar Beg  
Director

Mohammad Yusuf Pasha  
Director

Maj. Gen. (Retd)  
Mohammad Nawaz Hallik  
Director

## Translation of foreign currencies

The foreign currencies are converted into rupees at the rates of exchange ruling on the balance sheet date and the net conversion differences have generally been transferred to the exchange equalisation reserve.

### 2. Inventories (Note 1)

	1974	1973
Inventories are composed of the following:		
Stores and spares	31,569,122	19,868,756
Raw materials	18,023,833	8,042,875
Work in process and finished goods	65,210,806	48,342,807
Rupees	<u>114,803,761</u>	<u>76,254,438</u>

### 3. Time deposits

Deposits totalling Rs.2,000,000 (1973: Rs.9,500,000) are pledged with the banks to secure credit facilities made available by them.

### 4. Long-term investments - at cost

Long-term investments consist of the following:

Quoted (market value Rs.6,550,648 1973: Rs.7,003,850)	4,659,328	4,659,328
Unquoted	1,069,460	1,069,460
Rupees	<u>5,728,788</u>	<u>5,728,788</u>

### 5. Operating fixed assets (Note 1)

Operating fixed assets comprise the following:

Land including development expenses	10,740,052	10,695,980
Buildings	69,038,995	66,370,858
Plant, machinery and tools	228,475,215	212,153,735
Motor vehicles, furniture and fixtures	10,640,191	8,413,707
	<u>318,894,453</u>	<u>297,634,280</u>
Less: Accumulated depreciation	89,096,580	66,245,808
Rupees	<u>229,797,873</u>	<u>231,388,472</u>

	1974	1973
6. Short-term debt		
Short-term debt consists of the following:		
Bank overdrafts secured by pledge of time deposits and hypothecation of stocks, stores and spares	97,455,774	16,877,236
Short-term loans	<u>7,459,153</u>	<u>6,196,830</u>
Rupees	<u>104,914,927</u>	<u>23,074,066</u>

#### 7. Long-term loans

Long-term loans are comprised of:

Secured loans	100,848,078	101,158,520
Unsecured debentures	3,581,281	4,999,071
Unsecured loans	<u>14,474,926</u>	<u>17,664,925</u>
	118,904,285	123,822,516
Less: Amounts payable within one year	<u>16,212,183</u>	<u>18,030,569</u>
Rupees	<u>102,692,102</u>	<u>105,791,947</u>

#### Secured loans

These consist of loans from Pakistan Industrial Credit and Investment Corporation Ltd. and banks in foreign currencies equivalent to Rs.90,848,078 (1973: Rs.101,087,284) and from National Development Finance Corporation in local currency Rs.10,000,000 which are secured principally by a mortgage or first charge on fixed assets and a floating charge on other assets of the respective projects for which the loans have been utilised. Loans in foreign currencies are repayable in terms of foreign currencies converted into rupees at the rates of exchange ruling on the due dates of repayment. Interest is payable half-yearly at annual rates ranging from 7 to 9 per cent on foreign currency loans and  $\frac{3}{4}$  per cent above bank rate on local currency loan. The loans are payable in half-yearly instalments over varying periods up to 1988.

#### Unsecured debentures

The debentures, which carry interest at a rate 1 per cent per annum above the bank rate, have been issued in favour of Collector of Customs, Government of Pakistan, to cover the deferred element of customs duty and sales tax on imported plant and machinery. Redemption of debentures covering each consignment is being made in six equal half-yearly instalments beginning from the end of the thirtieth month of the respective dates of import.

## Unsecured loans

These loans are from Army Welfare and Rehabilitation Directorate and a bank and bear interest at annual rates ranging from 6 to 9 per cent. Repayments amounting to Rs.474,926 are due in 1975, Rs.12,500,000 in 1977 and Rs.1,500,000 in 1978.

## 8. Foundation's investment

This comprises of:

	1974	1973
Funds at the commencement of Trust	18,232,075	18,232,075
Reserves and surplus		
Capital reserve	1,835,069	1,835,069
Exchange equalisation reserve	13,840,083	10,460,670
Reserve for welfare expenses	15,000,000	15,000,000
General reserve	139,065,240	124,065,240
Surplus	76,314,747	45,601,603
	<u>246,055,139</u>	<u>196,962,582</u>
Rupees	<u>264,287,214</u>	<u>215,194,657</u>

Reserve of Rs.15,000,000 for welfare expenses on 30 September 1973 has been transferred to the general reserve during the year.

## 9. Sales

Industry-wise break down of sales is as follows:

Sugar	321,038,204	129,282,717
Textile	153,254,194	178,073,281
Others	5,120,143	3,202,433
	<u>479,412,541</u>	<u>310,558,431</u>
Rupees	<u>479,412,541</u>	<u>310,558,431</u>

The Textile sales figure is net of export selling expenses of Rs.5,596,211 (1973:Rs.6,262,033).

## 10. Gross profit

Industry-wise break down of gross profit is as follows:

Sugar	62,688,927	27,145,849
Textile	15,272,131	35,287,607
Others	1,790,128	1,366,644
	<u>79,751,186</u>	<u>63,800,100</u>
Rupees	<u>79,751,186</u>	<u>63,800,100</u>

11. Other income

Other income includes the following:

		1974	1973
Income from investments	Rupees	219,107	466,680
Interest on bank deposits		4,742,575	4,535,100

12. Capital commitment

Commitment for capital expenditure as on 30 September 1974 amounted to approximately Rs.45,000,000.

13. Contingent liability

Arising in respect of claims and guarantees given amount to approximately Rs.14,000,000.

14. Comparative figures

Previous year's figures, where necessary, have been rearranged for purposes of comparison.

Lt Col (Retd)  
Mohammad Safdar Beg  
Director

Mohammad Yusuf Pasha  
Director

Maj Gen (Retd).  
Mohammad Nawas Mallik  
Director

PARTICIPATION AGREEMENT

THIS AGREEMENT is made at Rawalpindi, Pakistan, this \_\_\_\_\_ day of \_\_\_\_\_, One Thousand Nine Hundred Seventy-five between THE FAUJI FOUNDATION, a charitable foundation duly formed under the laws of Pakistan and having its corporate offices at Harley Street, Rawalpindi, Pakistan, (hereinafter referred to as "Fauji"); and AGRICO CHEMICAL COMPANY, a company duly incorporated under the laws of the State of Delaware, United States of America, and having its principal office at National Bank of Tulsa Building, Tulsa, Oklahoma 74103, United States of America (hereinafter referred to as "Agrico").

WHEREAS, the Government of Pakistan (hereinafter referred to as the "Government"), as a part of its national agricultural and industrial development policy, desires to encourage the establishment and operation of a fertilizer plant in Pakistan; and

WHEREAS, Fauji and Agrico have received a sanction letter dated April 9, 1975, as supplemented by letters dated May 6, 1975 and May 14, 1975, all as set forth in Exhibit "G", hereinafter collectively referred to as "the sanction letters") from the Ministry of Industries of the Government which authorizes Fauji and Agrico to establish and operate an ammonia and

urea fertilizer plant and to conduct all marketing activities related to the products manufactured and certain other fertilizer products in Pakistan ("Project"); and

WHEREAS, Fauji and Agrico (hereinafter referred to collectively as "the parties") are desirous of establishing and operating the Project as principal developers and shareholders of a public limited liability company ("Company") based upon certain assurances and undertakings of the Government, as set forth in the sanction letters (copies of which are attached hereto as Exhibit "G").

NOW, THEREFORE, THIS AGREEMENT WITNESSES, and it is hereby agreed and declared by and between the parties hereto as follows:

ARTICLE I : OBJECTIVE

1.01 The primary objective of the parties is to establish facilities and operations in Pakistan which will manufacture and market chemical fertilizers through the utilization of Pakistani natural gas and maximum employment of Pakistani personnel. The parties specifically agree that their goal shall be to achieve substantially complete Pakistani staffing for the management and operation of the Project at the earliest possible date. It is anticipated that this will occur within two (2) years following the commencement of commercial operation as defined in Section 2.02 below.

ARTICLE II : THE PROJECT

2.01 Whenever the term "Project" is used hereinafter, it shall refer to the following undertakings:

- (a) The planning, financing, construction and operation of a fertilizer plant capable of producing 1,000 metric tons of ammonia and 1,725 metric tons of urea per stream day, using natural gas from the Mari fields in Pakistan as feedstock; and
- (b) The acquisition of all land, buildings, equipment, machinery (including spare parts), raw materials and supplies facilities and related off-sites incidental to the construction and operation of the manufacturing facilities referred to above, which shall be situated at the village of Goth Machhi, Tehsil Sadiqabad, District Rahimyar Khan in the Province of the Punjab in Pakistan ("Project Site"); and
- (c) The establishment and maintenance of the necessary housing, transportation (including natural gas and water pipelines), communication and management facilities to implement the Project; and
- (d) The establishment of all marketing facilities at the Project Site or elsewhere in Pakistan for the sale of the manufactured product and to implement other marketing objectives of the Company.

2.02 Whenever the term "commencement of commercial operations" is used in this Agreement, it shall refer to the period of time beginning on the second Monday following a seventy-two (72) hour period during which the ammonia and urea manufacturing units of the Project functioned at an average of 70% of their design capacity, after other mechanical components demonstrated the ability to pass mechanical acceptance tests.

ARTICLE III : FORMATION OF COMPANY

3.01 Subject to the conditions set forth in this Agreement, the parties shall take all action necessary to establish a public limited liability company organized pursuant to Pakistani law for the purpose of giving effect to their respective degree of participation and accomplishing their agreed objectives. The Company shall be named FAUJI-AGRICO FERTILIZER LIMITED ("Company") and its Memorandum of Association and Articles of Association shall, unless otherwise mutually agreed, be identical to Exhibits A and B hereto as the same may from time to time be hereafter amended in accordance with the provisions thereof. Exhibits A and B are specifically incorporated herein and made an integral part hereof. The Company shall have an initial authorized capital of Pakistan Rupees 10,000,000 (Rupees ten million).

ARTICLE IV : PROJECT COST; FINANCE PLAN

4.01 The cost estimate for the Project provides for a total expenditure equivalent to U.S. \$240,000,000, or Pakistan Rupees 2,376,000,000, at the current exchange rate of the U.S. dollar to the Pakistan Rupee (U.S. \$1 = 9.9 Pakistan Rupees). Of the above sum, the equivalent of U.S. \$155,000,000 is to be financed in foreign currencies, and the equivalent of U.S. \$85,000,000 is to be financed in Pakistan Rupees, all as set forth in Articles V and VI.

4.02 The amounts of equity investments and loan financing required for the Project, and the terms and conditions and timing of expenditures related thereto, as hereinafter set forth or as otherwise mutually agreed among the investors and lenders of the Project, shall hereafter be referred to as "the Financing Plan."

4.02 All investors and lenders shall agree upon the Financing Plan prior to the subscription of any shares of the Company, other than the subscriptions specified in Section 5.02(c) herein, and, subsequently, to any revisions of the sources and amounts of financing set forth in Sections 5.01 and 6.01 herein. The parties hereto shall at all times maintain parity in their respective equity shareholding interest and voting rights.

ARTICLE V : EQUITY PARTICIPATION

5.01 (a) Based on the estimated cost of the Project, the anticipated total equity participation in the share capital of the Company shall be as follows:

(Expressed in Millions of U.S. dollars)

<u>EQUITY</u>	<u>SOURCE</u>			
	<u>Local Currency</u>	<u>Foreign Currency</u>	<u>Total</u>	<u>Rs</u>
Fauji Foundation	22.00	-	22.00	30.6
Agrico	-	22.00	22.00	30.6
International Finance Corporation ("IFC")	-	8.00	8.00	11.0
Foreign participants to be arranged	-	5.00	5.00	7.0
Pakistan Public through government industrial development and financial institutions or corporations	<u>15.00</u>	<u>-</u>	<u>15.00</u>	<u>20.8</u>
<b>TOTAL:</b>	<u>37.00</u>	<u>35.00</u>	<u>72.00</u>	<u>100.00</u>

(b) The shares of the Company shall be denominated and issued in Pakistan Rupees equivalent to the respective U.S. dollar amounts at the time(s) of issue of shares. The amount thus received by the Company shall be sufficient to issue shares in multiples of Rs.10 (ten).

(c) The parties hereto shall mutually agree upon such REVISIONS hereinabove as may be necessary, maintaining parity

in the respective share subscriptions and voting rights of Fauji and Agrico at all times.

5.02 Fauji and Agrico agree that:

(a) Prior to the incorporation of the Company, but in no event later than six (6) months from the effective date of this Agreement, Fauji and Agrico may each incur expenditures up to U.S. \$300,000 of their funds to expedite the implementation of the Project based upon a mutually agreed preliminary budget. Said expenditures shall be reimbursed by the Company subsequent to its incorporation.

(b) They will advise the Government of the subscription obligations, including a timing schedule, for the Pakistan Rupee equivalent of U.S. \$15,000,000 in equity to be contributed by the Pakistani Public through government industrial development and financial institutions or corporations and obtain firm commitments in respect thereof acceptable to the parties hereto from said institutions. Said equity contributions shall be contributed proportionately with the other equity subscribers through the intervention of the Government pursuant to Exhibit C.

(c) Upon incorporation of the Company, and subsequent to the signature by the parties hereto of a Shareholders Agreement as set forth in Exhibit C, it is anticipated that each investor shall subscribe to and pay for shares equal in value to their proportionate interest in the Company as follows:

	(In U.S. Dollars)
Fauji	\$ 306,000
Agrico	306,000
IFC	110,000
Other foreign investors	70,000
Pakistan investors	<u>208,000</u>
TOTAL:	\$ 1,000,000

Notwithstanding the above, the obligation of Fauji and Agrico to subscribe their respective proportionate shares mentioned above shall not be contingent upon the subscription by the other investors of their respective proportions.

(d) If IFC agrees to contribute to the Company's equity, it shall sign the Shareholder's Agreement in the form of Exhibit C hereof as a co-signatory, prior to the investment of its share as aforesaid, provided that if IFC does not sign said Shareholders Agreement, the same shall remain in full force and effect between the parties hereto.

(e) After all of the above parties have subscribed to and paid for shares in a total sum equal to U.S. \$1,000,000, it is anticipated that each investor shall thereafter subscribe to and pay for its proportionate interest in the total authorized share capital on a pari passu basis with the disbursement of the debt financing described in Article VI of this Agreement, provided that:

- (1) The Board of Directors may require subscriptions and purchases of shares by each investor to the extent of its proportionate interest in amounts in addition to those required on a pari passu basis with the disbursement of the said debt financing; and,
- (2) In no event shall the total value of shares subscribed and purchased by all investors at the commencement of commercial operations exceed thirty percent (30%) of the total Project costs, (including working capital), unless the Board of Directors determines otherwise.

5.03 The transfer of shares of the Company shall be subject to terms of the Shareholders Agreement, Exhibit C.

ARTICLE VI : DEBT FINANCING

6.01 Based on the estimated Project costs, Fauji and Agrico, with the assistance of the Government as specified below and in Exhibit G, shall use their best efforts to arrange for the financing of the Project as follows:

(In millions of U.S. Dollars)

<u>DEBT</u>	<u>SOURCE</u>		
	<u>Local Currency</u>	<u>Foreign Currency</u>	<u>Total</u>
U.S. AID	-	50.00	50.00
World Bank	-	50.00	50.00
German Aid (KFW)	-	20.00	20.00
Pakistan Financing Institutions	<u>48.00</u>	<u>-</u>	<u>48.00</u>
TOTAL:	<u>48.00</u>	<u>120.00</u>	<u>168.00</u>

6.02 The borrower of U.S. AID and KFW foreign currency shall be the Government, with appropriate relending arrangements between it and the Company. The terms under which these funds will be made available to the Company shall reflect the need to finance the Project at the lowest possible cost, and the parties shall endeavour to have a fifteen (15) year repayment term beginning two (2) years following the commencement of commercial operations.

6.03 The borrower of the World Bank loan shall be the Government with appropriate relending arrangements between it and the Company. In the event that such borrowing by the Government is not feasible, the Company shall endeavour directly to borrow the foreign currency funds from the World Bank under the sponsorship and with the assistance of the Government at the best available terms for the Project. The Government shall guarantee the foreign currency debt of the Company as may be required by the World Bank.

6.04 The Company shall directly borrow the local currency funds specified in Section 6.01 above from the Pakistani financing institutions and the parties shall obtain firm commitments in respect thereof, acceptable to them, from said institutions through intervention of the Government in accordance with Exhibit G.

6.05 The necessary loan agreements and terms thereof, shall be mutually agreeable to the parties hereto.

ARTICLE VII : MANAGEMENT

7.01 The Company shall be managed in accordance with the terms of this Agreement and all the Exhibits hereto. The parties agree and recognize each other's respective abilities and the contributions each party can make to the successful implementation and operation of the Project. The parties will accordingly make available the managerial and technical skills required for Project implementation prior to and subsequent to Company's formation.

7.02 Company and Agrico shall enter into a Technical Assistance Agreement whereby Agrico shall furnish Company with the manpower, training facilities, and other services on a cost basis as set forth in a Technical Assistance Agreement attached hereto as Exhibit D.

7.03(a) As provided in a Shareholders Agreement in the form of Exhibit C, the individuals nominated by Pauji or Agrico, as the case may be, and approved by the other party, shall be appointed to the following positions:

**Pauji:**        Managing Director  
                  Director Finance  
                  Director Administration  
                  Deputy Director Marketing  
                  Deputy Director Operations

**Agrico:**        Deputy Managing Director  
                  Director Operations  
                  Deputy Director Finance  
                  Deputy Director Administration  
                  Director Marketing

(b) Subject to the control of the Board of Directors the management of the affairs of the Company shall be in an Executive Committee of the Board of Directors, consisting of the Managing Director, who shall be the Chief Executive and the Deputy Managing Director, who shall be the Deputy Chief Executive. The powers and functions of the Executive Committee shall be determined by the Board of Directors, and all decisions of the Executive Committee shall be unanimous to be effective.

(c) The Chairman of the Board of Directors of the Company shall be a Director elected on the nomination of Fauji, but shall not be an executive of the Company nor have any managerial powers or functions.

ARTICLE VIII : PROJECT IMPLEMENTATION

8.01 The parties shall mutually agree on the evaluation, process and contractor selection, and other matters pertinent to Project implementation. The anticipated schedule for implementation is attached hereto as Exhibit E(1).

8.02 The parties agree to the following principles regarding the selection of contractors, subcontractors, processes, mechanical assemblies, and parts required for the design, construction, and implementation of the Project. These principles are established in the interest of minimizing Project costs and maximizing reliability:

- (a) The contractors, subcontractors and suppliers of processes, mechanical assemblies, parts and other equipment for the Project shall be pre-qualified by mutual agreement between the parties.
- (b) Selection of equipment and services from such pre-qualified entities shall be by competitive bidding having regard to the most economical price, a proven record of accomplishment, delivery dead-lines and reliability of service in similar applications.
- (c) In the event financing sources require open world tendering of any item of equipment or service, the parties agree to seek waivers from such requirements, and proceed as contemplated in (a) and (b) above.

8.03 Fauji shall obtain on behalf of the Company all the required permissions for the Project implementation.

8.04 At the request of the Company, Fauji shall assist the Company in obtaining all necessary Government and Provincial Government's approvals as shall be required after incorporation thereof.

8.05 At the request of Company, Fauji and Agrico shall assist the Company in negotiations with Banks and financial institutions.

8.06 The Company shall maintain and operate foreign currency accounts with a foreign branch of a Pakistani Scheduled Bank and into such accounts shall be paid the foreign currency equity and loans raised by Company to meet the foreign exchange costs of the Project. The maintenance and operation of the said foreign currency accounts shall be in accordance with the relevant Rules and Regulations of the State Bank of Pakistan.

ARTICLE IX : SHAREHOLDERS AGREEMENT

9.01 Prior to the subscription of any shares of the Company, the parties hereto shall enter into a Shareholders Agreement in the form set forth in Exhibit C for the purpose of establishing an agreed policy of management representation, profit participation and, in general, shareholder rights and relationships. In addition to the parties hereto, IFC shall be a signatory to the said Shareholders Agreement, prior to the investment of its shares in accordance with Section 5.02(d) hereof.

ARTICLE X : SETTLEMENT OF DISPUTES

10.01 In the event of any dispute between the parties hereto in any way arising or growing out of this agreement the same shall be referred to three arbitrators, one to be appointed by Fauji, one to be appointed by Agrico, and a third to be mutually agreed upon by the two arbitrators so appointed, for arbitration in accordance with the Rules of the American Arbitration Association. The decision of a majority of the three arbitrators, including the apportionment of the expenses of the arbitration, shall be final and binding upon the parties hereto, and judgment upon the award rendered by the arbitrators may be entered in any Court having jurisdiction thereof. The meetings of such arbitrators shall be held in the City of Paris, France, unless it shall be mutually agreed to hold such meetings elsewhere.

ARTICLE XI : RAW MATERIAL SUPPLY

11.01 As soon as possible from the date of signing of this Agreement but prior to the subscription of any shares after the initial subscription set forth in Section 5.02(c), the Company shall have entered into a gas supply contract, satisfactory to the parties hereto, to provide the natural gas for the Project from the Mari Gas Field.

ARTICLE XII : KNOW HOW

12.01 Agrico shall sign a Know How Agreement with the Company in the form of Exhibit F whereby Agrico will agree to make available to the Company outside Pakistan until ten contract years following the commencement of commercial operation, all Agrico's present proprietary and technical information or that which it may subsequently acquire, unless prohibited by law or contract, and which relates to the engineering, design, equipment procurement and operation of plants similar to the Project, including advice outside Pakistan relating to the technical, financial, administrative, and marketing knowledge during all stages of implementation of the Project up to commencement of commercial operations; and subsequent to the commencement of commercial operations, Agrico shall continue to make such know how available to the Company as it pertains to operations, improvements and technical knowledge related to production, debottlenecking and expansion. The royalty due free of taxes for such knowledge shall be U.S. \$ 1.5 million plus U.S. \$ 1 (one) per ton of urea sold ex-factory during such ten year period, payable in accordance with the terms of Exhibit F hereof.

ARTICLE XIII : REPRESENTATIONS AND WARRANTIES

13.01 Fauji represents and warrants to Agrico hereto that it is a limited liability public company duly formed and in good standing under the laws of Pakistan; that its undertakings and commitments hereunder are not contrary to or prohibited by its Memorandum or Articles of Association, other agreements or laws to which it may be subject; that its undertakings and commitments hereunder have been fully approved and authorized by its Board of Directors and all other requisite company action has been taken; and that the representative signing this Agreement on Fauji's behalf has been fully authorized and empowered to execute this Agreement and that his signature hereto shall be fully binding upon Fauji.

13.02 Agrico represents and warrants to the other parties hereto that it is a corporation duly formed and in good standing under the laws of the State of Delaware; that its undertakings and commitments hereunder are not contrary to or prohibited by its Articles of Incorporation, By-Laws, other agreements or laws to which it may be subject; that its undertakings and commitments hereunder have been fully approved and authorized by its Board of Directors and all other requisite corporate action has been taken; and that the representative signing this Agreement on Agrico's behalf has been fully authorized and empowered to execute this Agreement and that his signature hereto shall be fully binding upon Agrico.

13.03 Each of the parties to this Agreement hereby acknowledges to each other that such party has, prior to the execution hereof, received satisfactory documentation with respect to the authority of the parties to enter into this Agreement and to undertake the obligations herein specified. Such documentation shall, as appropriate, include but not be limited to resolutions of Boards of Directors, resolutions and authorizations of the Government, special powers of attorney authorizations of the Government, special powers of attorney to authorize execution, certificates of corporate good standing, and opinions of counsel.

ARTICLE XIV : GENERAL

14.01 Books and Records: Each party hereto shall, at any time during the business hours of the Company, have the right to inspect and audit at its own expense, either by itself or through its duly authorized agent, the account books of the Company which the Company shall keep in accordance with generally accepted sound accounting principles consistently applied, and certified by an independent firm of auditors in Pakistan of international standing and repute.

14.02 Secrecy: Each party hereto shall keep in strict confidence all information obtained from the other party hereto which relates in any way to the establishment or operation of the Company. Neither party shall disclose such information to any person other than its duly authorized employees or as required by legal process, and disclosure of such information to employees shall be only to the extent necessary to achieve the purpose of this Agreement.

14.03 Notices: Any notice, request or other communication, required or permitted to be given hereunder by the parties hereto, or necessary or convenient in connection herewith, shall be in writing and shall be deemed to have been duly given if delivered personally or mailed first class, postage prepaid,

return receipt requested, registered or certified mail, or seven (7) days after being sent by telegram, telex, cable or radiogram. All such notices, requests or other communications shall be directed to the addresses set forth below:

TO FAUJI: Fauji Foundation  
Harley Street  
Rawalpindi, Pakistan

Telex: RW 821

TO AGRICO: Agrico Chemical Company  
718 National Bank of Tulsa Building  
Tulsa, Oklahoma 74103 U.S.A.

Telex: 49-7523

or to such other address as either party shall designate in writing to the other party.

14.04 Complete Understanding: This Agreement and all other Agreements related hereto contains and constitutes the entire and only understandings and agreements between the parties hereto respecting the subject matter hereof and supersedes and cancels all previous negotiations, agreements, commitments and writings in connection therewith.

14.05 Waiver: No waiver by any party of breach of any one or more of the provisions of this Agreement to be performed by any of the other parties hereto shall be construed as a waiver of a subsequent breach, whether of the same or different provisions.

14.06 Amendments: Any supplement to or amendment of the provisions contained herein shall not take effect unless it has been executed in writing by the parties hereto.

14.07 Company Acceptance: The parties hereto shall cause the Company to accept this Agreement in writing immediately after its incorporation.

14.08 Limit to Operations: It is the intent of the parties to limit joint operations to those operations specified herein. This Agreement has no relation to any operations conducted by any of the parties individually or as a joint party with others. If either party desires to promote or participate in any other fertilizer project in Pakistan, it shall only do so with the concurrence of the other party herein, which shall not be unreasonably withheld.

14.09 Language: All agreements, books, records, and reports pertaining to the project shall be in the English language.

14.10 Governing Law: The governing law for all matters (except that for procedure governing the conduct of arbitrations) and agreements pertaining to the project, its shareholders, creditors, contractors or other persons shall be the law of Republic of Pakistan.

14.11 Binding Effect. This agreement shall be fully binding upon the parties hereto and their respective representatives, successors, assigns and trustee.

14.12 Exhibits: The following exhibits form an integral part of this Agreement:

Exhibit A	Memorandum of Association
Exhibit B	Articles of Association
Exhibit C	Shareholders' Agreement
Exhibit D	Technical Assistance Agreement
Exhibit E	Marketing Agreement
Exhibit E(1)	Implementation Schedule
Exhibit F	Know How Agreement
Exhibit G	Pakistan Government Sanctions

All Exhibits and this Agreement shall be executed by affixing the initials of two duly authorized officers for each party on all pages of the Agreement and Exhibits and their signatures on the last page.

14.13 Conditions Precedent

(a) Effectiveness and Company Formation. Prior to the effectiveness of this Agreement, and the formation of the Company, the following actions shall have occurred:

(1) The Government shall have approved this Agreement and all exhibits thereto, and a duly authorized representative of the Government shall issue a sanction letter to Fauji and Agrico to that effect, and

(2) The Board of Directors of Agrico shall have approved all exhibits hereto and shall have:

(i) Authorized a representative of Agrico to execute the following documents on behalf of Agrico:

(aa) Shareholders Agreement (Exhibit C);

(bb) Technical Assistance Agreement (Exhibit (D));

(cc) Know How Agreement (Exhibit F); and

(dd) Acceptance of the Government sanction letters which are set forth in Exhibit G and issued pursuant to subparagraph (1), above; and

(ii) Passed a resolution which shall cause subsequent to the Company's formation, the Directors nominated by it to the Company's Board to vote to approve the Marketing Agreement (Exhibit E), and to authorize a representative of the Company to execute said Agreement on behalf of the Company.

(3) The Board of Directors of Fauji shall have approved all exhibits hereto and shall have:

(i) Authorized a representative of Fauji to execute the Shareholders Agreement (Exhibit C); and

(ii) Passed a resolution which shall cause, subsequent to the Company's formation, the Directors nominated by it to the Company's Board to vote to approve

the Technical Assistance Agreement (Exhibit D), the Marketing Agreement (Exhibit E), and the Know How Agreement (Exhibit F), and to authorize a representative of the Company to execute said Agreement on behalf of the Company; and

(iii) Authorized a representative of Fauji to accept the Government sanction letters as set forth in Exhibit G and issued pursuant to subparagraph (1), above.

(b) Subscription and Purchase of Shares. Prior to the subscription and purchase of shares of the Company after the initial subscription and purchase of shares for each party as set forth in Section 5.02(c) herein, the following actions shall have occurred:

(1) All equity investors and lenders of funds for the Project shall have agreed upon a Financing Plan; and

(2) A long-term contract for the supply of gas for the Project from the Mari fields shall have been executed by the Company with primary suppliers.

14.14 Termination: In the event that all of the actions set forth in Section 14.14<sup>3</sup> have not occurred within six months of the signing of this Participation Agreement or such further period as may be mutually agreed upon between the parties, the Agreement shall terminate and neither party shall have further obligations towards the other, or any other party, or any claim whatsoever on the other.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives on the date first above written above.

THE FAUJI FOUNDATION

By \_\_\_\_\_

AGRICO CHEMICAL COMPANY

By \_\_\_\_\_

GOVERNMENT OF PAKISTAN  
 MINISTRY OF FINANCE, PLANNING  
 AND DEVELOPMENT  
 (Economic Affairs Division)

May 21, 1975

Dear Mr. Wolffer,

As you are aware, the Fauji Foundation has been preparing plans for the establishment of an ammonia/urea manufacturing plant at Goth Machhi; near Sadiqabad in Sind. The Foundation proposes to build the plant in collaboration with Agrico Chemical Company of Tulsa, Oklahoma, the International Finance Corporation of Washington, D.C. and other foreign and Pakistani investors. It is estimated that the plant, which will produce 1,000 Metric Tons of ammonia and 1,725 Metric Tons of urea per day, will cost \$240 million, for which approximately \$155 million will be required in foreign exchange and \$85 million in rupees. It is planned that the equity and loan funds will be provided as shown below:-

(Expressed in Million US\$)

Equity	Local Currency	Foreign Currency	Total
Fauji Foundation	22.00	--	22.00
Agrico	--	22.00	22.00
International Finance Corporation (IFC).	--	8.00	8.00
Foreign participants to be arranged.	--	5.00	5.00
Pakistan Public through Govt. industrial development and financial institutions or corporations.	15.00	--	15.00
Sub Total:	<u>37.00</u>	<u>35.00</u>	<u>72.00</u>

<u>DEBT</u>	<u>Local Currency</u>	<u>Foreign Currency</u>	<u>Total</u>
USAID	--	40.00	40.00
World Bank	--	50.00	50.00
German Aid (KFW).	--	30.00	30.00
Pakistan Financing Institutions.	48.00	--	48.00
	<u>48.00</u>	<u>120.00</u>	<u>168.00</u>
Sub Total:	<u>48.00</u>	<u>120.00</u>	<u>168.00</u>
Grand Total:	<u>85.00</u>	<u>155.00</u>	<u>240.00</u>

2. On behalf of the Government of Pakistan, therefore, I hereby request for an AID development loan in the amount of \$40 million. We request that the terms provide for dollar repayment of the loan within 40 years, including a 10 year grace period on the repayment of principal, and interest to be payable at 2% for the first ten years and 3% thereafter.

3. We are also requesting loans in the amounts indicated above from the International Bank for Reconstruction and Development and the Kreditanstalt für Wiederaufbau of Germany. We are requesting these loans on concessional terms. It is the Government's intention to relend the international loan funds to the project on terms and conditions which are acceptable to AID and the other international lenders.

4. It is planned that the Pakistan rupee requirements for the establishment of the plant over and above the Fauji Foundation investment will be met by loans and investments by the Pakistani financial institutions and the public. The GOP understands the importance of having a firm financial plan and that all of the sources of funds will have to be identified and contracted for prior to any AID loan funds being disbursed. In the event that any or all of the required foreign exchange or Pakistan rupees are not provided on a timely basis to meet the foreign exchange or rupees costs of the project, the Government will promptly provide the required amounts from its own resources.

5. Your early and favorable consideration of the loan is requested.

Yours sincerely,

(AFTAB AHMAD KHAN)

Dr. William A. Wolffer,  
 Acting Director,  
 USAID Mission in Pakistan.  
ISLAMABAD.

UNITED STATES GOVERNMENT - MEMORANDUM

Date: May 21, 1975.

To: Distribution

Thru: Edmund L. Aucnter, Chief - DEAF *EA*

From: *DMF* Danial M. Farooq - DEA  
USAID, Islamabad.

Subject: Fauji Fertilizer Project: Sources and Costs of  
Money for Local Currency Equity and Debt.

Mr. W. F. McDonald, (Loan Officer, AID/W, NESA/CD ) and I visited Karachi May 14-15th. We discussed the costs involved in obtaining rupee funds for the proposed Fauji fertilizer project with the Managing Directors of the major financial institutions and Presidents of the commercial banks.

An overall summary of our discussions is presented here.

1. Funds Needed:

For discussion purposes we used a planning figure of \$240 million as the total cost of the project, \$155 million will be in foreign exchange and \$85 million equivalent in local currency. The Fauji Foundation will provide \$22 million equivalent in local currency as equity and the remainder will be raised as equity (\$15 million equivalent) and debt (\$48 million equivalent) from the financial institutions and commercial banks.

We pointed out that these funds will be expected to flow into the project during the next 3 to 3-1/2 years.

We indicated a debt/equity ratio of 70:30 will be considered in overall financing of the project. This is contrary to the existing market practice here in Pakistan where a debt/equity ratio of 60:40 is in use.

2. Sources of Local Currency

During our discussions, the Managing Directors (or Presidents) of the major financial institutions:

State Life Insurance Corporation (SLIC),  
Investment Corporation of Pakistan (ICP),  
Pakistan Industrial Credit and Investment Corp. (PICIC),  
National Development Finance Corporation (NDFC),  
Habib Bank Limited, and  
United Bank Limited,

All recognized that the rupee financing requirement of the project is enormous and unprecedented. But most of them were optimistic that the equity and debt funds of this magnitude can be raised from the institutions and commercial banks.

Within the existing limits set forth by the charters of the financial institutions and banks (20% of the lenders total paid up capital) or set by their maximum lending practice in the past, the funds that can be made available by the existing financial institutions and banks will be inadequate. It is clear that the Government will need to create special arrangements for providing equity and debt capital of a total of Rs 630 million. Under the existing mechanism of funding projects, the rupee financing of large projects is arranged through a consortium. Current practice is that 60% of the total debt and equity capital is raised from the commercial banks and the balance from the other financial institutions. Noteworthy, is the fact that the banks are also willing to consider equity financing.

As per the limits set by the charters; the SLIC cannot participate in equity. The NDFC will need special permission from the Federal Government to participate in this project, which is a private sector enterprise. The PICIC's Managing Director told us that the PICIC would not participate in the project in the short run, (i. e. the first year) because their funds are already committed.

Comment : The lending for the Fauji project will compete with several other major projects under negotiation, and planning in the private and public sectors.

### 3. Consortium of Banks and Financial Institutions.

A description of how the consortium works is given below:

The Investment Corporation of Pakistan (ICP) usually heads the consortium. The other leader of consortium could be the National Development Finance Corporation (NDFC).

The consortium leader will call a meeting of all the financial institutions and commercial banks on a receipt of request for equity and loan funds. (Memorandum of Application).

The consortium leader will ask the project authorities to complete formal application for debentures and underwriting equity. There is a long list of standard conditions that must be completed prior to any disbursement. (The listing is available in USAID/DEA).

The consortium leader will call a meeting of all the financial institutions and commercial banks and ask about their interest in the project.

The members of the consortium will satisfy themselves by asking questions and clarifications from representative of the project to be called at the meeting.

The consortium leader will prepare the project analysis, which will be shared and discussed by the members of the consortium.

The consortium charges 1/2% of the loan amount as project examination fee. The consortium members after mutual consultation will execute an agreement with the project sponsors. (Fauji).

These are standard procedures adopted by the consortium.

#### 4. Cost of Borrowing Local Currency.

We estimate that the current cost of borrowing money is between 15.9% to 16.3%, (13 1/2% interest plus 8 1/2% one time charges) with amortization in 7 to 10 years including 2 to 4 years grace (See enclosed table).

During the construction period of the project, and until 6 months after the production starts, the project will have to borrow

funds from the financial institutions consortium on a "Bridge" Loan basis. These "Bridge Loan" funds will be subordinated to the permanent debt financing and replaced by equity financing. The cost of the "Brdige " Loan will be 13% per year, which is a standard charge.

5. Exceptions

We were told by the financial institutions that there can be no exception, so far as the procedures and costs of lending funds are concerned, for the Fauji project. However, the Habib Bank President, Mr. Mustafa Ismail, did indicate a lower interest rate of 12% on debt for the Fauji project, as the Habib Bank is the principal bank to the Fauji Foundation. The bank's business practice allows 1% lower interest charges to its regular customers with countervailing deposits. However, Mr. Ismail also noted that the Habib Bank cannot overrule the charges that will be fixed by the consortium. He also pointed out that preference equity and convertible debentures subordinated to the normal debt will result in lower interest charges by 1/2% .

We also gathered from Mr. Aminullah, Chairman, NDFC, that the funds which will be needed by the project and will not be forthcoming from the commercial banks, financial institutions and the public can be channelled into the project by either:

- i) a Federal Government loan to the financial institutions; or
- ii) the State Bank can discount the paper offered by Fauji ; or
- iii) the State Bank and Ministry of Finance can raise the existing loan limit of 20% of the total paid up capital for the banks and financial institutions. (The UBL President Mr. Yusufi informed us that this has been done in the past.)

A related action which will reduce costs is that the mortgage charges of 3% of the total cost of the project can be avoided by creating an equitable mortgage. But this will be direct loss of revenue to the Provincial Government which will have to be negotiated.

Comment: The State Bank will examine these exceptions for the project in the context of overall consideration of Monetary policy. The current required bank liquidity ratio is 35%. According to one banker's estimate, a 5% reduction in the bank liquidity ratio would bring an expansion in the money supply of Rs 100 to 200 million in the economy. There is also a case for raising the existing limit on loans to 20% of the total paid up capital of the lending entity. Because the current loan limit against banks' paid up capital was established about 10 to 20 years ago in 1950's and 1960's prices, there are only a few exceptions to this. The intervening inflation during this period, besides several other financial and cost considerations do provide arguments for raising the limits set for making funds available for a project by the banks and financial institutions. (Readers will recall that a similar limitation in the United States has been a prime cause for bank mergers.)

#### 6. Time Frame

We expect that with the importance being accorded to the Fauji fertilizer project by the Government (evidenced by the follow up so far) the procedural bottlenecks will be cleared quickly. It will not take more than another 6 months to arrange rupee financing. But Fauji Foundation will have to follow it up very closely with the Federal Government.

#### 7. Overview

In addition, to the comments made in sections 2 and 5 of this memo, it is suggested that we should not ignore two factors:

- i) The existing capability of the financial institutions and commercial banks is inadequate to generate an incremental Rs 630 million in 3-1/2 years. If 20% of the total rupee costs will be needed during the first year, that perhaps can be mobilized. But in the

following years: 40%, 30% and 10% of the total rupee requirements (estimated at current prices) cannot be expected to come from the existing sources. The Federal Government will be expected to provide loans to the financial institutions or make some other equivalent financial arrangement.

- ii) The money is expensive. It will cost about 16% a year. The project will have to use a "Bridge" Loan during the period the equity funds cannot be made available.

If the Fauji Foundation really expects to get the Local Currency funds at a lower 10% a year interest charges, they must start serious negotiations with the Government as soon as possible, -- before the Federal Government finalizes its 1975/76 Budget. This may not be possible, and certainly does not seem likely.

**Distribution:**

D,	AID/Washington:
DD,	Pakistan Desk (3)
AD/DP	NESA/DP (4)
AD/CD (3)	NESA/CD (3)
RLA	NESA/GC
AD/C (2)	SER/FM
AD/AP	Treasury:OASIA
Emb/Econ (2)	State: NESA/PAB (2)
ConGen Lahore, Karachi (2)	
IBRD Pakistan (3)	USADB (Manila)

*DM Farooq*  
**DMFarooq:mr:DEA**  
**5/21/1975.**

Financial Costs of Borrowing of Local Currency  
from Pakistani Financial Institutions and Banks.

Current Bank Discount Rate*	9%
Standard Lending Rate Over Discount Rate (+)	4%
Sub-Total <u>1/</u>	<u>13%</u>

**Charges:**

Commitment Fee <u>2/</u>	1/4% to 1/2%
Project Examination Fee <u>3/</u>	1/2%
Underwriting Fee (Financial Institutions portion)	2-1/2%
Underwriting Fee <u>4/</u>	2-1/2%
Mortgage Charges (Stamp Tax) <u>5/</u>	3%

Bridge Loan Rate 6/ (13%)

- 
- \* Fixed by the State Bank. Can fluctuate later during the life of the Loan.
  - 1/ Maturity negotiable between 7 to 10 years including a grace period of 2 to 4 years.
  - 2/ Charged from the date of approval to the date of disbursement (Annual fee).
  - 3/ Charged at the time of making application for the Loan; charged on both debt and equity. (One time charge).
  - 4/ Charged on the portion of equity offered, but not picked up by the general public in Public Floatation. (One time charge)
  - 5/ An equitable mortgage may be possible.
  - 6/ The equity funds can be made available by the Financial Institutions, but offered to the public for subscription only six months after commencement of production by the project. The Bridge Loan will be needed during the interim period for civil work etc. The Bridge Loan will be subordinated to the permanent debt financing.

FAUJI-AGRICO FERTILIZER LIMITED  
Financial Rate of Return 8.3%

<u>Operating Year</u>	<u>Capital Cost</u>	<u>Cost of Production</u> <sup>1/</sup>	<u>Revenues (Sales)</u>
-3	61.5		
-2	98.4		
-1	73.8		
1	12.3	37.6	60.7
2		57.8	92.4
3		57.1	91.7
4		55.5	90.1
5		53.5	88.1
6		51.5	86.1
7		49.3	83.9
8		47.6	82.2
9		45.7	80.3
10		43.7	78.3
11		41.8	76.4
12		40.3	114.9 <sup>2/</sup>

1/ Excluding Depreciation

2/ Includes Assumed Salvage Value of Plant

FAUJI AGRICO FERTILIZER LTD.  
Balance Sheet At Start of First Operating Year  
(\$ Million)

		<u>Operating Year 1 (8 months)</u>	
		<u>Starting Amount</u>	<u>Ending Amount.</u>
		<u>May 1, 1979</u>	<u>Dec. 31, 1979</u>
<b>I. ASSETS</b>			
A. Net Current Assets		4.0	22.2
B. Gross Fixed Assets (a)	242.7	242.7	
less: accumulated Depreciation	-0-	13.2	
Net Fixed Assets		<u>242.7</u>	229.5
Total Assets		<u>246.7</u>	<u>251.7</u>
<b>II. LIABILITIES</b>			
A. Long-term debt		172.3	172.3
B. Share capital		74.4	74.4
C. Retained Earnings		<u>-0-</u>	<u>5.0</u>
Total Liabilities		<u>246.7</u>	<u>251.7</u>

(a) Depreciable Assets of \$242.6 million, land of \$.1 million

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**FAUJI-AGRICO FERTILIZER LIMITED**

**Balance Sheet as of the End of the Year (December 31)**

(\$ Million)

	<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>
<b>Assets</b>															
Current Assets	22.2	26.1	30.2	34.1	38.1	42.1	46.1	50.0	54.0	58.0	61.4	69.4	69.4	69.4	69.4
Gross Fixed Assets	242.7	242.7	242.7	242.7	242.7	242.7	242.7	242.7	242.7	242.7	242.7	242.7	242.7	242.7	242.7
Accumulated Depreciation	<u>13.2</u>	<u>33.0</u>	<u>52.8</u>	<u>72.6</u>	<u>92.3</u>	<u>112.1</u>	<u>131.9</u>	<u>151.7</u>	<u>171.5</u>	<u>191.3</u>	<u>211.1</u>	<u>219.1</u>	<u>219.1</u>	<u>219.1</u>	<u>219.1</u>
Net Fixed Assets	229.5	209.7	189.9	170.1	150.4	130.6	110.8	91.0	71.2	51.4	31.6	23.6	23.6	23.6	23.6
<b>Total Assets</b>	<u>251.7</u>	<u>235.8</u>	<u>220.1</u>	<u>204.2</u>	<u>188.5</u>	<u>172.7</u>	<u>156.9</u>	<u>141.0</u>	<u>125.2</u>	<u>109.4</u>	<u>93.0</u>	<u>93.0</u>	<u>93.0</u>	<u>93.0</u>	<u>93.0</u>
<b>Liabilities</b>															
Long-Term Debt	172.3	155.0	137.9	120.6	103.5	86.3	69.1	51.8	34.6	17.4	-0-	-0-	-0-	-0-	-0-
Equity:															
Share Capital	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4
Retained Earnings	<u>5.0</u>	<u>6.4</u>	<u>7.8</u>	<u>9.2</u>	<u>10.6</u>	<u>12.0</u>	<u>13.4</u>	<u>14.8</u>	<u>16.2</u>	<u>17.6</u>	<u>18.6</u>	<u>18.6</u>	<u>18.6</u>	<u>18.6</u>	<u>18.6</u>
Total Equity	79.4	80.8	82.2	83.6	85.0	86.4	87.8	89.2	90.6	92.0	93.0	93.0	93.0	93.0	93.0
<b>Total Liabilities</b>	<u>251.7</u>	<u>235.8</u>	<u>220.1</u>	<u>204.2</u>	<u>188.5</u>	<u>172.7</u>	<u>156.9</u>	<u>141.0</u>	<u>125.2</u>	<u>109.4</u>	<u>93.0</u>	<u>93.0</u>	<u>93.0</u>	<u>93.0</u>	<u>93.0</u>
Debt/Debt & Equity	68.5	65.7	62.7	59.1	54.9	50.0	44.0	36.7	27.6	15.9	-0-	-0-	-0-	-0-	-0-
Debt/Equity	2.17	1.92	1.67	1.44	1.21	1.00	0.79	0.58	0.38	0.19	-	-	-	-	-

FERTILISER LTD.  
PROJECTED PROFIT AND LOSS FIGURES  
(£ In Millions)

Utilization & Production	1977 65	1980 76	1981 88	1982 90	1983 90	1984 90	1985 90	1986 90	1987 90	1988 90	1989 90	1990 90	1991 90
Production	236,640	425,600	480,000	489,000	489,000	489,000	489,000	489,000	489,000	489,000	489,000	489,000	489,000
Price £	256	217	191	184	180	176	171	168	164	160	156	153	112
<b>Revenue</b>	<b>60.7</b>	<b>92.4</b>	<b>91.7</b>	<b>90.1</b>	<b>88.1</b>	<b>86.1</b>	<b>83.9</b>	<b>82.2</b>	<b>80.3</b>	<b>78.3</b>	<b>76.4</b>	<b>74.9</b>	<b>55.1</b>
<b>Production Costs</b>													
Raw Materials	3.1	5.6	6.3	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.1	6.4
Power	.6	1.1	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Water													
Labour	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
Energy Fuel	.1	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
Transport	.4	.7	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8
Depreciation & Chemicals	.1	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
Research & Development	<u>1.6</u>	<u>3.0</u>	<u>3.4</u>										
<b>Production Costs</b>	<b>6.0</b>	<b>11.1</b>	<b>12.4</b>	<b>12.7</b>									
<b>Operating Costs</b>													
Manufacturing Labour	.4	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
Overhead	2.6	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Depreciation	.8	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Insurance	.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<b>Operating Costs</b>	<b>4.5</b>	<b>6.6</b>											
<b>Operating Profit</b>	<b>15.2</b>	<b>17.7</b>	<b>19.0</b>	<b>19.3</b>									
<b>Finance Costs</b>	<b>50.2</b>	<b>74.7</b>	<b>72.7</b>	<b>70.8</b>	<b>68.8</b>	<b>66.8</b>	<b>64.6</b>	<b>62.9</b>	<b>61.0</b>	<b>59.0</b>	<b>57.1</b>	<b>55.6</b>	<b>35.8</b>
<b>Operating Profit before Finance Costs</b>	<b>35.0</b>	<b>43.0</b>	<b>46.3</b>	<b>48.5</b>	<b>50.5</b>	<b>52.5</b>	<b>54.7</b>	<b>56.4</b>	<b>58.3</b>	<b>60.3</b>	<b>62.2</b>	<b>64.0</b>	<b>83.5</b>
<b>Finance Costs</b>	<b>3.3</b>	<b>5.0</b>	<b>5.5</b>										
<b>Operating Profit after Finance Costs</b>	<b>31.7</b>	<b>38.0</b>	<b>40.8</b>	<b>43.0</b>	<b>45.0</b>	<b>47.0</b>	<b>49.2</b>	<b>50.9</b>	<b>52.8</b>	<b>54.8</b>	<b>56.7</b>	<b>58.5</b>	<b>78.0</b>
<b>Operating Profit before Tax</b>	<b>21.6</b>	<b>25.3</b>	<b>25.3</b>	<b>25.3</b>	<b>25.2</b>	<b>25.3</b>							
<b>Operating Profit after Tax</b>	<b>12.0</b>	<b>15.1</b>											
<b>Operating Profit before Depreciation</b>	<b>9.9</b>	<b>14.2</b>	<b>14.5</b>	<b>14.5</b>	<b>14.3</b>	<b>14.8</b>							
<b>Operating Profit after Depreciation</b>	<b>2.0</b>	<b>5.0</b>	<b>6.4</b>	<b>7.9</b>	<b>9.2</b>	<b>10.6</b>	<b>12.0</b>	<b>13.4</b>	<b>14.8</b>	<b>16.2</b>	<b>17.6</b>	<b>19.0</b>	<b>20.6</b>
<b>Operating Profit before Depreciation and Finance Costs</b>	<b>10.2</b>	<b>10.0</b>	<b>10.1</b>	<b>10.4</b>	<b>10.6</b>	<b>17.2</b>	<b>17.6</b>	<b>15.0</b>	<b>18.4</b>	<b>18.9</b>	<b>19.4</b>	<b>19.7</b>	<b>26.9</b>

ANNEX 21  
Page 1 of 1

BEST AVAILABLE DOCUMENT

FAUJI AGRICO CO. LTD.  
Funds Flow for the Year Ended December 31  
(\$Million)

<u>Source of Funds:</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>
Net Profit	9.1	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.9	14.9	14.9
Interest on L.T. Debt	13.1	19.2	17.1	15.2	13.2	11.2	9.3	7.3	5.4	3.4	1.5	-0-	-0-	-0-	-0-
Depreciation	<u>13.2</u>	<u>19.8</u>	<u>8.0</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>									
Cash Inflow	36.2	53.8	51.7	49.8	47.8	45.8	43.9	41.9	40.0	38.0	36.1	22.8	14.9	14.9	14.9
<u>Uses of Funds:</u>															
Interest on L.T. Debt	13.1	19.2	17.1	15.2	13.2	11.2	9.3	7.3	5.4	3.4	1.5	-0-	-0-	-0-	-0-
Retirement of L.T. Debt	-0-	17.3	17.1	17.3	17.2	17.2	17.2	17.3	17.2	17.2	17.2	-0-	-0-	-0-	-0-
Dividends	<u>4.9</u>	<u>13.4</u>	<u>13.8</u>	<u>14.8</u>	<u>14.9</u>	<u>14.9</u>	<u>14.9</u>								
Cash Outflow	18.0	49.9	47.6	45.9	43.8	41.8	39.9	38.0	36.0	34.0	32.1	14.8	14.9	14.9	14.9
Increase (decrease) in cash	18.2	3.9	4.1	3.9	4.0	4.0	4.0	3.9	4.0	4.0	4.0	8.0	-0-	-0-	-0-
Debt Service Coverage	2.76	2.80	3.02	3.28	3.62	4.09	4.72	5.74	7.41	11.18	24.07	NA	NA	NA	NA

FAUJI AGRICO CO. LTD.  
Funds Flow for the Year Ended December 31  
(\$Million)

<u>Source of Funds:</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>
Net Profit	9.1	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.9	14.9	14.9
Interest on L.T. Debt	13.1	19.2	17.1	15.2	13.2	11.2	9.3	7.3	5.4	3.4	1.5	-0-	-0-	-0-	-0-
Depreciation	<u>13.2</u>	<u>19.8</u>	<u>8.0</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>									
Cash Inflow	36.2	53.8	51.7	49.8	47.8	45.8	43.9	41.9	40.0	38.0	36.1	22.8	14.9	14.9	14.9
<u>Uses of Funds:</u>															
Interest on L.T. Debt	13.1	19.2	17.1	15.2	13.2	11.2	9.3	7.3	5.4	3.4	1.5	-0-	-0-	-0-	-0-
Retirement of L.T. Debt	-0-	17.3	17.1	17.3	17.2	17.2	17.2	17.3	17.2	17.2	17.2	-0-	-0-	-0-	-0-
Dividends	<u>4.9</u>	<u>13.4</u>	<u>13.8</u>	<u>14.8</u>	<u>14.9</u>	<u>14.9</u>	<u>14.9</u>								
Cash Outflow	18.0	49.9	47.6	45.9	43.8	41.8	39.9	38.0	36.0	34.0	32.1	14.8	14.9	14.9	14.9
Increase (decrease) in cash	18.2	3.9	4.1	3.9	4.0	4.0	4.0	3.9	4.0	4.0	4.0	8.0	-0-	-0-	-0-
Debt Service Coverage	2.76	2.80	3.02	3.28	3.62	4.09	4.72	5.74	7.41	11.18	24.07	NA	NA	NA	NA

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**FAUJI-AGRICO FERTILIZER LIMITED**  
**Base Case (27.6 Economic Rate of Return)**  
**Economic Cost and Benefit Streams**

<u>Calendar Year</u>	<u>Operating Years</u>	<u>Cost Streams</u>				<u>Benefit Streams</u>	
		<u>Capital Costs</u>	<u>Natural Gas Cost<sup>1/</sup></u>	<u>Other Variable Costs</u>	<u>Fixed Costs</u>	<u>Economic Value of Production</u>	<u>Recovery of Capital</u>
1976	-3	48.6				-	
1977	-2	77.8				-	
1978	-1	58.4				-	
1979	1 (8 mos.)	9.7	1.5	2.9	4.5	47.3	
1980	2		1.8	5.5	6.6	85.1	
1981	3		3.1	6.1	6.6	96.0	
1982	4		3.2	6.3	6.6	97.8	
1983	5		3.2	6.3	6.6	97.8	
1984	6		3.2	6.3	6.6	97.8	
1985	7		3.2	6.3	6.6	97.8	
1986	8		3.2	6.3	6.6	97.8	
1987	9		3.2	6.3	6.6	97.8	
1988	10		3.2	6.3	6.6	97.8	
1989	11		3.2	6.3	6.6	97.8	
1990	12		3.2	6.3	6.6	97.8	40.0

<sup>1/</sup> Assumption: One-half the cost of gas will be tax.

**FAUJI-AGRICO FERTILIZER LIMITED**  
**Economic Rate of Return**  
**Base Case \$200 MT**

YR	NET CASH FLOW	DISCOUNT RATE 0.25	DISCOUNTED CASH FLOW	DISCOUNT RATE 0.30	DISCOUNTED CASH FLOW
1.	-486.00	0.8000	-388.80	0.7692	-373.85
2.	-778.00	0.6400	-497.92	0.5917	-460.36
3.	-584.00	0.5120	-299.01	0.4552	-265.82
4.	287.00	0.4096	117.56	0.3501	100.49
5.	712.00	0.3277	233.31	0.2693	191.76
6.	802.00	0.2621	210.24	0.2072	166.16
7.	817.00	0.2097	171.34	0.1594	130.20
8.	817.00	0.1678	137.07	0.1226	100.16
9.	817.00	0.1342	109.66	0.0943	77.04
10.	817.00	0.1074	87.73	0.0725	59.26
11.	817.00	0.0859	70.18	0.0558	45.59
12.	817.00	0.0687	56.14	0.0429	35.07
13.	817.00	0.0550	44.92	0.0330	26.98
14.	817.00	0.0440	35.93	0.0254	20.75
15.	1217.00	0.0352	42.82	0.0195	23.78
			PH1= 131.16		
				PH2= -122.79	

THE RATE OF RETURN IS 27.58%  
 READY

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PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

Life of Project: \_\_\_\_\_ to FY. \_\_\_\_\_  
From FY. \_\_\_\_\_ to FY. \_\_\_\_\_  
Total US Funding: \_\_\_\_\_  
Date Prepared: \_\_\_\_\_

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><b>Program or Sector Goal:</b> The broader objective to which this project contributes:</p> <p>Availability of fertilizer on reliable basis and at reasonably dependable cost to farmers.</p>	<p><b>Measures of Goal Achievement:</b></p> <ol style="list-style-type: none"> <li>Annual agriculture production increases of 20% for wheat, 9-10% for rice, 5-10% for sugarcane and coarse grains.</li> <li>Fertilizer consumption increases of 10% per year after start-up of production.</li> </ol>	<ol style="list-style-type: none"> <li>Center Province Crop Reports</li> <li>Annual Pakistan Economic Survey Reports.</li> <li>Monthly reports of FDAS, provincial agriculture departments, and private sector firms.</li> </ol>	<p>Assumptions for achieving goal targets:</p> <ol style="list-style-type: none"> <li>Farmers will respond to increased agricultural inputs made available and to price incentives by using more fertilizer.</li> <li>Normal irrigation water supplies will be available.</li> <li>Fertilizer will be approximately normal.</li> </ol>
<p><b>Project Purpose:</b></p> <p>To ensure a steady production of fertilizer.</p>	<p><b>Conditions that will indicate purpose has been achieved: End of project status:</b></p> <ol style="list-style-type: none"> <li>Plant is constructed and produces at 65% during first year, 85% during second at 90% thereafter.</li> <li>Area imports drop to zero by 1981.</li> </ol>	<ol style="list-style-type: none"> <li>GOP reports.</li> <li>Private sector firm reports.</li> <li>FDAS/Provincial agriculture department records.</li> </ol>	<p>Assumptions for achieving purpose:</p> <ol style="list-style-type: none"> <li>The GOP will make only small increases in fertilizer prices.</li> <li>The GOP will establish policies to increase crop prices more rapidly than fertilizer prices.</li> <li>Agricultural credit funds will be further increased, with credit directed increasingly to small farmers.</li> <li>GOP will encourage private sector participation in distribution.</li> <li>Multan and FFCI go forward as planned.</li> </ol>
<p><b>Outputs:</b></p> <p>1. Plant with rated capacity of 1,000,000 lbs. will produce at 65% in 1975.</p>	<p><b>Magnitude of Outputs:</b></p> <ol style="list-style-type: none"> <li>214,000 nutrient tons of fertilizer worth \$456 million imported and distributed in FYs 75-77, of which AID will provide about \$60 million worth of \$120 million EOP requirements.</li> <li>\$12 million worth of pesticides imported for two years for serial and ground operations, of which AID will provide \$3 million.</li> </ol>	<ol style="list-style-type: none"> <li>company records.</li> <li>GOP records.</li> <li>Continuous AID monitoring.</li> </ol>	<p>Assumptions for achieving outputs:</p> <ol style="list-style-type: none"> <li>Agrico and Fuji will be successful in training local labor.</li> <li>Agrico will provide required technical know-how.</li> </ol>
<p><b>Inputs:</b></p> <p>1. AID will provide a dollar loan.</p> <p>2. The FYI has adequate to finance the plant.</p> <p>3. A 170 million EOP loan from KEM.</p> <p>4. A 100 equity contribution by Fortis Chemical Co.</p>	<p><b>Implementation Target (Type and Quantity)</b></p> <p><b>US\$M</b></p> <ol style="list-style-type: none"> <li>A \$40 million loan in FY75.</li> <li>A \$50 million loan from IFOP.</li> <li>A 170 million EOP loan from KEM.</li> <li>A 100 equity contribution by Fortis Chemical Co.</li> </ol>	<p>AID and GOP records.</p>	<p>Assumptions for providing inputs:</p> <ol style="list-style-type: none"> <li>Necessary resources will be made available by AID.</li> <li>GOP will provide L/C financing itself.</li> </ol>

BEST AVAILABLE DOCUMENT

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