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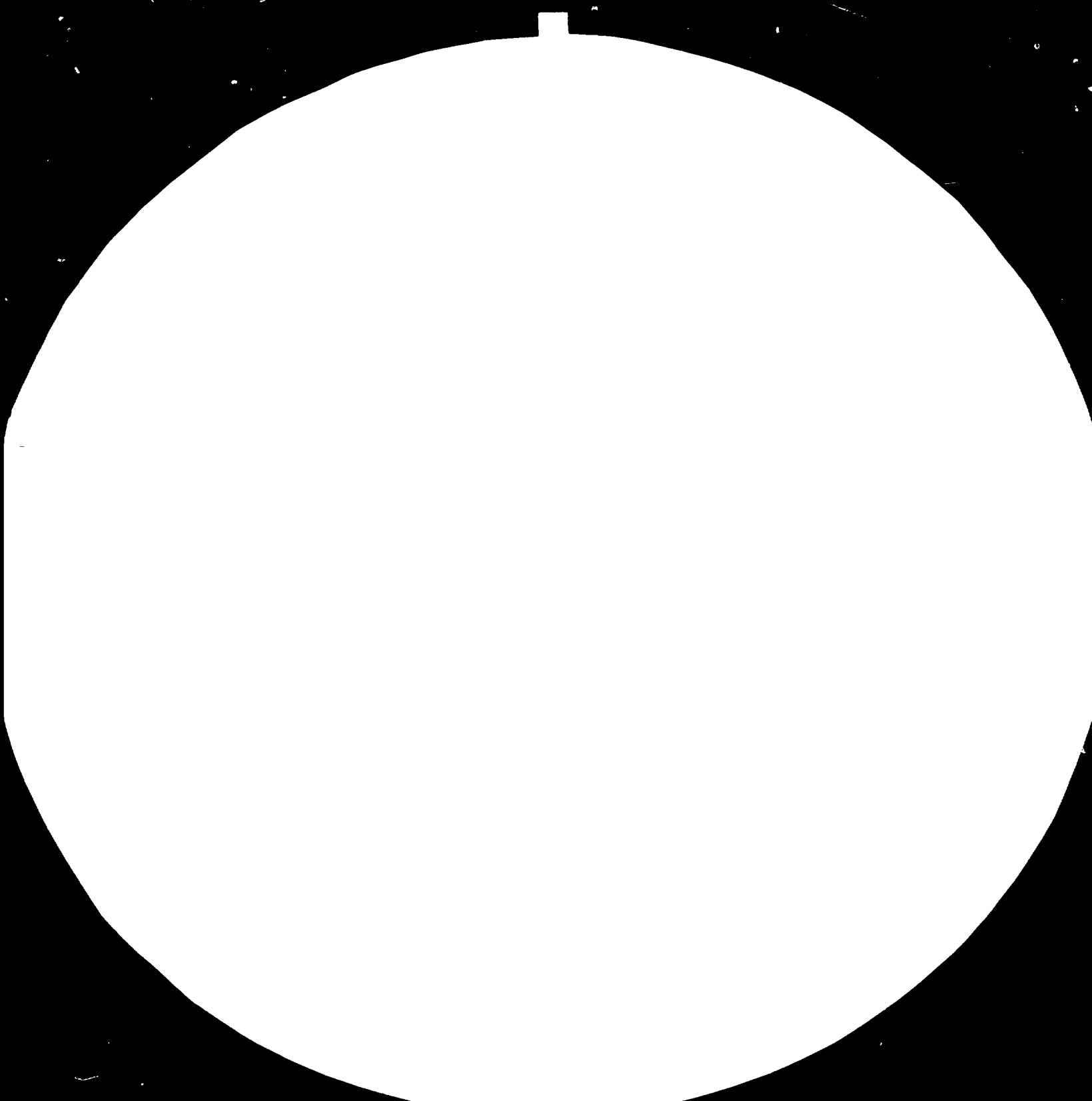

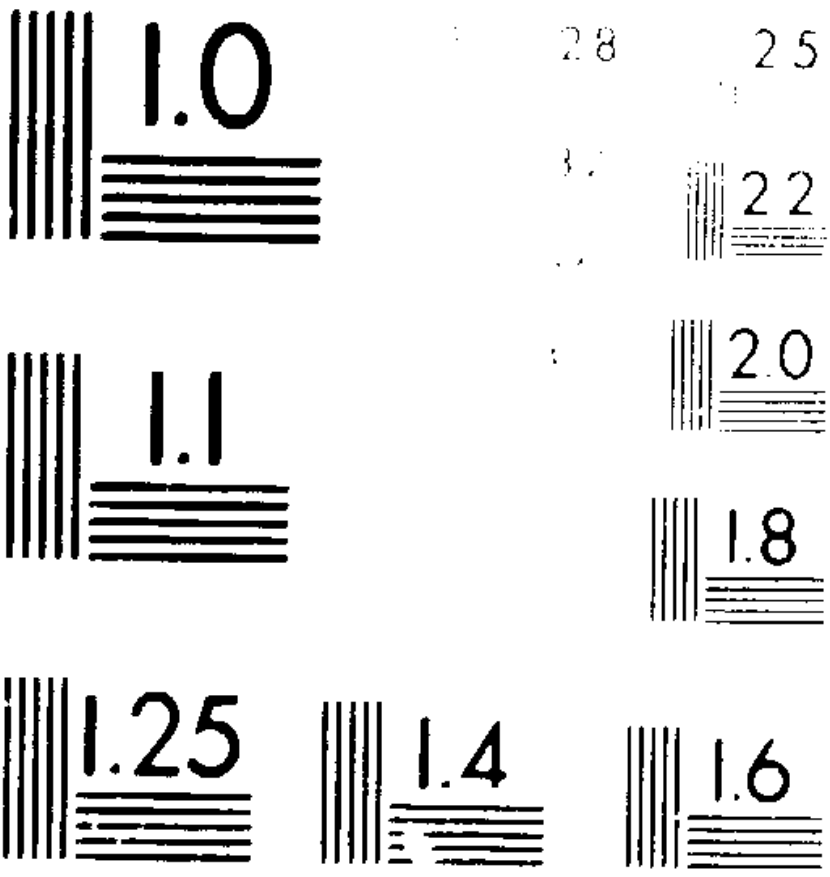

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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

Vienna, Austria

13964

SURVEY OF JOINT VENTURES IN THE ASEAN PETROCHEMICAL INDUSTRY

June 1984

1984

Prepared by

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P R E F A C E

This report presents the results of the Survey of Joint Ventures in the ASEAN Petrochemical Industry undertaken for the United Nations Industrial Development Organization. The survey was conducted in May to June 1984 and covered five ASEAN countries: Indonesia, Malaysia, Philippines, Singapore and Thailand.

The survey was accomplished with the assistance of the member firms of The SGV Group located in the ASEAN countries covered.

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June 1984, Manila

ACKNOWLEDGMENTS

The following principals and staff in the member firms of the SGV Group assisted in conducting the survey:

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A. INTRODUCTION

Many of the direct foreign investments in petrochemical industries in the ASEAN countries have taken the form of joint ventures involving shared ownership between local and foreign partners. The joint venture route in establishing petrochemical firms may be attributed, on one hand, to the fact that technology is a critical input which is available from the more developed countries outside of ASEAN. On the other hand, local participation in petrochemical joint venture is often necessary to obtain government approval for the investment as well as to gain easy access to local markets. Study of joint venture in the petrochemical industry, therefore, allows an examination in microcosm of the dynamics of joint venture.

The survey of petrochemical firms is particularly interesting in the ASEAN countries as these industries traditionally start from fabrication and finished-product processing and are now evolving towards manufacture of intermediate and basic raw materials. This process of backward integration is expected to require more technology input and, hence, more participation by foreign investors in local ventures. An assessment of joint venture practices is thus timely in light of these industry developments.

The basic objective of this survey of joint venture petrochemical firms in five ASEAN countries (Indonesia, Malaysia, Philippines, Singapore, and Thailand) is to develop an information base on selected petrochemical joint ventures in the region comprising internal structure, government

framework, general legal frame, implementation methods, operations schemes, and respondent's appraisal of its joint venture. The study also covers a brief review of the ASEAN countries as well as the ASEAN petrochemical industry.

To form the basis for the survey, about 19 companies from the five ASEAN countries were selected for interview. To qualify as a respondent, the firm must be one which is involved in the manufacture of petrochemical product and is an equity joint venture between local and foreign partners. The local partner may be government or a government agency of the host developing country or local private companies or individuals. The foreign partner may either be a developed country corporation or individual.

The distribution of the respondent firms by country was largely determined by the availability of respondents. Some companies initially identified did not respond for interview. The final breakdown of the respondent firms by country is as follows:

Country	No. of Respondent Firms
Indonesia	3
Malaysia	3
Philippines	9
Singapore	2
Thailand	2
Total	19

As will be discussed in more detail susbsequently, most of the surveyed firms are downstream companies which manufacture final petrochemical products such as plastics, synthetic fibers, and fertilizers.

Only one firm from Singapore is involved in the operation of an upstream olefins plant to produce basic raw materials for the petrochemical industry. It is also noteworthy to mention that another respondent is an ASEAN Industrial Project where there is participation by the governments of five ASEAN countries.

The interviews with the various respondent firms were initially arranged through The SGV Group offices located in the countries surveyed. An interview guide was developed based on the terms of reference for the survey. In each of the respondent firms, the person interviewed is generally the chief operating officer or a designated senior management officer. After the interviews, all the data gathered were collated, analyzed, and evaluated. The report that follows summarizes the findings of the survey including all relevant information gathered during the course of the study.

B. BACKGROUND ON ASEAN COUNTRIES

The Association of South East Asian Nations (ASEAN) was formally organized in Bangkok in 1967. It is an alliance among the Republic of Indonesia, Federal Republic of Malaysia, the Republic of the Philippines, the Republic of Singapore, The Kingdom of Thailand, and since January 7, 1984, Negara Brunei Darussalam.

The six countries together comprise one of the fastest growth regions in the world. The region is richly endowed with natural resources and skilled manpower.

The Association undertakes activities in various fields to accelerate the economic and sociocultural development of the region. It has become a united front for promoting peace and stability within Southeast Asia.

Except for Singapore, all ASEAN countries publish Five Year Development Plans within the context of longer-term policy objectives. In the fifties and sixties, these plans were generally more oriented towards manufacturing, with less emphasis on the agricultural sector. In the 1970s, a more balanced approach to the development of both sectors was pursued.

In the eighties, ASEAN will continue to strive for industrialization and agricultural development, focusing on export-oriented, labor-intensive, and energy-related industries as well as industries that utilize indigenous resources.

A brief discussion of the economic and political developments in each of the five ASEAN countries surveyed as it relates to industrial development follows.

1. Indonesia

Indonesia is an archipelago 5,110 kilometers wide and 1,888 kilometers long. Its land area of over 1.9 million square kilometers

makes Indonesia the 15th largest nation in the world. The country is divided into five major islands: Java, Sumatra, Kalimantan, Sulawesi, and Irian Jaya.

Indonesia is the fifth most populous nation in the world, with a total population of over 155 million in 1983. Population grew at the rate of 2.3% between 1971 and 1980. Of the total population, 18.6% live in urban areas. The population is primarily of Malay descent and consists of more than 300 ethnic groups speaking 350 dialects. The national and official language is Bahasa Indonesia.

Indonesia is a unitary republic with the Constitution vesting the highest authority in the People's Consultative Assembly. The Constitution provides the establishment of four independent branches of government: the President, the House of People's Representatives, the Supreme Audit Board, and the Supreme Court. The Constitution also provides for the establishment of the Supreme Advisory Council to function as an Adviser to the President.

On March 10, 1983, the People's Consultative Assembly elected incumbent President Suharto for his fourth successive term. The assembly also elected retired General Umar Wirahadikusumah as Vice President. The President is responsible for the administration of the state, a task which includes the supervision of the armed forces.

In 1983, Indonesia's GDP growth was approximately 2.9%, an improvement over the 2.2% rate registered in 1982. Although external demand improved for a number of Indonesia's major non-oil exports, domestic demand remained weak due to stringent monetary and fiscal policies and to the terms of trade losses suffered in 1982.

The trade surplus shrank 14.8% from US$5.4 billion in 1982 to US$ 4.6 billion in 1983, due mainly to the depressed market for oil. A large volume of foodgrain imports were also needed to counter production shortfalls. The country's overall external resource position remained unfavorable in 1983 with an officially projected current account deficit of US$5.9 billion, close to the US$5.5 billion deficit incurred in 1982.

In 1983, the Government took a series of measures intended to improve the external resource position and to sustain development. A subsidy on domestic oil products was reduced and a 28% currency devaluation strengthened the international competitiveness of the country's export products. In the same year, the Government announced the re-phasing of several large industrial projects and a reduction in public investment by approximately US$10.0 billion.

Since 1969, Indonesia has moved towards economic development through a series of five-year plans, or Repelitas. The first two plans covering the periods 1969 - 1974 and 1974 - 1979 gave emphasis on food production and primary export goods. Repelita III shifted the emphasis from the development of natural resources

to the establishment of light and basic industries, giving priority to import-substituting and agro-based industries.

Repelita IV took effect in April 1984, essentially continuing the basic policies set forth in Repelita III. Emphasis is placed on agriculture in an effort to achieve self-sufficiency in food production. Industrial development measures are aimed at expanding employment; promoting exports; saving foreign exchange; supporting regional growth; and utilizing human and natural resources.

2. Malaysia

The Federal Republic of Malaysia is composed of 13 states, 11 of which form Peninsular Malaysia. The other two states are Sabah and Sarawak on the Island of Borneo. Total land area amounts to 330,434 square kilometers, most of which is mountainous.

Population in 1983 is estimated at 14.5 million, consisting mainly of Malays (54%), Chinese (35%), Indians (10%) and others. Slightly over a million people live in Kuala Lumpur, the capital city. Current population growth rate is approximately 2.8% per annum.

The Malaysian form of government is a constitutional elective monarchy and was formed as an independent political unit in 1963. Its government institutions are patterned along British lines with legislative powers vested in two houses of Parliament: the Dewan Rakyat (House of Representatives) and the Dewan Negara (Senate). National executive power is vested in

the Prime Minister and the Cabinet. The titular head of State is the Yang Di-Pertuan Agung (King) who is elected from among the nine ruling sultans in peninsular Malaysia.

Malaysia's GDP registered a growth of 5.6% in 1983, a slight increase over the previous year's 5.2%. Growth accelerated in most sectors, except agriculture, where growth declined to 2.1%, and construction, where growth declined to 8.4%. Large expansions in crude oil and natural gas production led to an improvement of the mining sector by 20.2% over the 1982 level.

A 15% increase in exports coupled with a 7% increase in imports resulted in a positive trade account of US$470 million compared with a US$368 million deficit in 1982. The current account deficit, however, amounted to US$2.8 billion and was financed mainly by large capital inflows. The currency remained steady in 1983, strengthening against most currencies but depreciating slightly against the U.S. dollar.

In 1983, adjusting government expenditure to the difficult resource situation was the major issue. The focus of the adjustment was placed on development spending. The reduction of dependence on oil, gas, and coal as foreign exchange earners continued to be emphasized and the relative roles of the public and private sectors came under review, particulary with regard to the development of the industrial sector.

Prior to 1969, the government restricted itself to providing the basic infrastructure and the incentives necessary for economic development. However, events in that year led to the adoption of the "New Economic Policy", the objectives of which were the eradication of poverty and the correction of the economic imbalance which exists between the rural and urban areas.

Implementation of the New Economic Policy has required a greater involvement of the Government in economic development. This is done through the State Economic Development Corporation and government-sponsored corporations such as the National Corporation (PERNAS) and the Development Bank of Malaysia. The Government is also prepared to become involved in economic development projects, either by itself or in joint venture with the private sector.

A shift in emphasis has taken place from import substitution to export promotion. However, a major problem of the export trade of Malaysia has been the instability of its export earnings. To counter this, the Government has embarked on a program of industrialization and economic diversification. High priority is being accorded to labor-intensive, resource-based, and export-oriented industrial projects. The Government has also taken steps to encourage the dispersal of industry to less developed areas. Investments which conform to this policy are granted attractive incentives.

3. Philippines

The Philippine archipelago consists of over 7,000 islands, 11 of which are major land masses. The islands are grouped into three geographic regions, Luzon, Visayas, and Mindanao, with an aggregate land area of 300,439 square kilometers.

As of mid-1982, the population was estimated at 50.7 million, exhibiting a 2.4% increase over the 1981 figure of 49.5 million.

The Philippines is predominantly Catholic (90%) and Filipinos are primarily of Malay stock. The country was under Spanish colonization for almost 400 years and under American control for another 50 years; many aspects of the culture reflect the combined colonial heritage. Pilipino is the national language and there are a number of other dialects but English is widely spoken.

In 1973, a new constitution was ratified changing the form of government from a presidential bi-cameral system to a parliamentary form with legislative power vested in the National Assembly, and judicial powers in the Supreme Court and lower courts. A plebiscite in 1981 provided for the amendments to the constitution, transforming the parliamentary government into a French-style system where the President appoints the Prime Minister and the members of the Cabinet.

The Philippines' GDP growth rate declined in 1983 to approximately 1% from 3% in 1982. Due to severe external resource constraints and exchange rate and other uncertainties, the performance

of the industrial and services sector was weak. In the same period, agricultural output declined as a drought affected the production of rice and corn. External demand and increases in the price of copper, gold, and silver led to some production gains in the mining sector.

Events following the death of opposition leader Benigno Aquino in August 1983 led to massive capital flight in the last half of the year and a need to restructure around US$ 10 billion of the country's US$25.2 billion in foreign debt. Negotiations are currently underway with the IMF for a US$650 million standby credit facility the approval of which is expected to pave the way for an additional US$3.3 billion funding from the country's commercial creditors.

While merchandise exports decreased, the decline in imports was slightly larger, resulting in a narrowing of the 1983 trade deficit to US$3.1 billion from US$3.3 billion in 1982. The 1983 current account deficit was US$3.3 billion compared to US$3.4 billion in the previous year.

Foreign exchange scarcity and fiscal constraints led to the deferral of five of eleven major industrial projects originally planned. The alcogas program, the pulp and paper mill, aluminum smelter, the high-powered diesel engine project, and the petrochemical plant have been indefinitely postponed. The Central Bank expanded its administrative controls by requiring one month advance approval of imports of equipment and spare parts exceeding certain limits. Two exchange rate adjustments

effectively devalued the currency by 34.5% in 1983. In June of 1984, another devaluation was implemented, raising the exchange rate from P14.00 to P18.00 per US$1.00.

In the 70's, the Government enacted measures intended to encourage economic development. Export-oriented industries were encouraged, price control policies were adapted, and a floating exchange rate system for the peso was implemented. The revitalizing effects of these measures, however, were countered by higher fuel costs, low commodity prices, and the prolonge worldwide recession in the late seventies and early eighties.

The Five-Year Development Plan covering the period 1983 to 1987 was designed to help the country overcome its structural imbalances. The plan aimed at sustaining economic growth through greater reliance on domestic resources rather than through foreign borrowings.

With the recent economic difficulties, economic priorities have been refocused on projects with high socio-economic impact and short gestation periods. Development efforts will likewise be directed toward a balanced agro-industrial policy to increase the country's ability to reduce food imports.

A Structural Adjustment Program initiated in 1981 will be continued in an effort to remedy the country's fundamental difficulties in resource utilization and mobilization.

Development programs are currently underway in selected industries such as cement, textiles, electronics, food processing, garments, leather and footwear, and furniture.

Policy reforms in the energy sector continue to emphasize more efficient utilization and conservation, as well as the development of indigenous energy sources.

4. Singapore

The Republic of Singapore is located at the southern tip of Malaysia and consists of the main island of Singapore and some 54 islets with a total land area of 618 square kilometers. It is connected to Peninsular Malaysia by a road and rail causeway and shares a common sea frontier with Indonesia.

Singapore has a population of approximately 2.4 million people. Population growth in 1982 is 1.2% . The population consists of Chinese (77%), Malays (15%), Indians and Pakistanis (6%) and Eurasians and Europeans (2%). There are four official languages: Malay, Mandarin Chinese, Tamil, and English. Malay is the national language and English is the language of administration and business.

Singapore is a democratic republic with a parliamentary system of government based on compulsary adult suffrage. Seventy-five members of Parliament are elected and serve five-year terms unless Parliament is dissolved earlier. The head of State is the President who is elected by Parliament to serve a four-year term. Executive power, however, rests with the Prime Minister and his 14-member Cabinet.

In 1983, Singapore's GDP grew 7.9% compared with a 6.3% growth rate in 1982. Growth was spurred by a turnaround in the manufacturing sector and the improved performance of the financial and business sector.

Taking advantage of economic recovery in the United States, Singapore increased its exports by 5.1%. Imports, however, remained unchanged. As a result of this, the trade deficit decreased from US$7.4 billion in 1982 to US$6.3 billion in 1983.

Singapore's development in the 1980's will be aided by the restructuring of its economy to emphasize high-technology, skill-intensive, and capital-intensive industries. This economic restructuring is being supported through programs to upgrade technical, organizational, and commercial skills through fiscal incentives aimed at encouraging extensive mechanization and automation. Industries that have been identified as priority sectors for the 1980's include petrochemicals, precision and metal engineering, aircraft engineering, oil rig equipment, and industrial/commercial electrical and electronic manufacturing particularly computers, telecommunication equipment, and industrial robots.

5. Thailand

The Kingdom of Thailand occupies much of the western part of the Indochinese peninsula. It has a total land area of 514,000 square kilometers. Thailand had an estimated population of 48.9 million in 1982, growing annually at a rate of 2.6%

from 1970 to 1980. The population is composed of more than 30 ethnic groups, the largest of which are the Thais followed by the Chinese and the Malays.

Thailand's government is a constitutional monarchy. The executive powers of the King are exercised by the Prime Minister and his council of Ministers, his legislative powers by the National Assembly, and his judicial powers by a judiciary.

Preliminary estimates for 1983 place Thailand's GDP at 5.8%, composed of a 3% increase in agriculture and an 8% increase in industry. During the year, economic activity recovered from the recession of the previous year. Lower domestic interest rates, stable oil prices, and inventory re-stocking led to an expansion of production. The recovery was strong in sectors such as construction materials, consumer durable industries, and to a lesser extent, food and beverages.

Exports declined by 10%, while imports increased by 13.4%, resulting in a trade deficit of US$3.4 billion compared with US$1.6 billion in 1982.

The promotion of economic recovery and the reduction of the overall budget deficit was emphasized in 1983. Monetary policy was expansionary and interest rates were reduced.

Thailand's Fifth National Economic and Social Development Plan (1982-1986) outlines policy and structural adjustments that are expected to provide the economy with a stronger foundation for economic and social development. The economic and production structures that link the agricultural and the non-agricultural

sectors are expected to be strengthened. Agriculture will continue to play an important role while the industrial sector will be more oriented towards exports and employment generation.

Government policy on industry is concentrated mainly in promotional activities, leaving direct investment to the private sector. The Government however has listed 14 major industrial projects designed to increase economic development. The 14 projects which involve the exploitation of natural gas reserves, transportation, mining, irrigation, and manufacturing, are in various stages of planning and implementation.

Import substitution is intensifying, entering a stage where more intermediate and economic goods are being produced. The Government has now shifted its emphasis, concentrating more on the encouragement of industries that are export-oriented, labor-intensive, or natural-resource based. Industries which are expected to achieve high growth rates are agro-industries, nonferrous construction materials, chemicals, oil refining, and mineral processing.

C. OVERVIEW OF THE ASEAN PETROCHEMICAL INDUSTRY

The ASEAN petrochemical industry is beginning to take off from its early stages of development. The production facilities that have been set up throughout the ASEAN countries until recently have been characterized by the manufacture of final petrochemical products such as plastics and synthetic fibers based on imported raw materials. However, a petrochemical complex in Singapore has started operations early this year and another one in in Thailand is expected to commence construction by the end of 1985. Moreover, the other ASEAN countries also have aspirations of implementing projects to produce basic petrochemical blocks, although no definite plans have been decided by the governments concerned.

A survey of the present petrochemical enterprises in the ASEAN region will indicate that their manufacturing facilities have been justified largely on the basis of import substitution and are oriented to satisfy domestic requirements. These plants are thus relatively small in terms of capacities, and in some instances are based on technologies which may be obsolete in the developed countries.

The ASEAN market for petrochemical products, however, is becoming more important. This can be gleaned from the statistics of petrochemical products imported by the various ASEAN countries. Plastics such as polyethylene and polypropylene, and synthetic fibers are finding increasing usage in the large and growing population of the ASEAN countries. The rising income and standard of living of the population in the region is spurring the increasing applications of these products.

The attractive markets in ASEAN is the basic motivation for plans to locate petrochemical complexes in the area. This is apart from the desire of hydrocarbon resource-rich countries such as Malaysia and Indonesia to integrate exploration of their oil and gas resources with downstream industries. However, at foreseeable levels of consumption, any of the ASEAN countries will not be able to support a world-scale olefins plant on the basis of its own domestic requirements, and will depend to some extent on exports particularly to neighboring countries. Exports in this case will need to face competition on an international level with traditional exporting nations such as the United States, in Europe, and Japan as well as with Middle East countries.

A quick review of developments in the petrochemical industry in each of the five ASEAN countries surveyed is discussed below.

1. Indonesia

The manufacture of ammonia-based fertilizer constitutes one of the major activities in the petrochemical industry in Indonesia. Recently, the ASEAN Industrial Project for the manufacture of urea fertilizer in Aceh in the northwestern tip of Sumatra started commercial production with a rated capacity of 426,000 MT of urea per year.

There are a number of downstream petrochemical plants such as the 36,000 MT/year polyvinyl chloride plant in Jakarta and a 20,000 MT/year polypropylene plant in Plaju. Other petrochemical-based products of the country include adhesives, detergents, various pesticides formulation and raw materials for the paint industry.

The synthetic fiber plants have also established operations in the production of staple fibers and filament yarns to service the textile industry.

The objective of the Indonesian government as far as the petrochemical industry is concerned is to utilize its natural resources such as natural gas, crude oil, and coal to ultimately produce basic petrochemicals. A government project is the establishment of a petrochemical complex in Aceh, but implementation of this project has been delayed.

2. Malaysia

Similar to Indonesia, Malaysia is looking towards its oil and gas resources to provide the means to develop a basic petrochemical industry.

Malaysia is presently utilizing its natural gas to produce LNG and methanol. An ASEAN Industrial Project to manufacture urea fertilizer is also expected to be operational, and will be an addition to the existing ammonium nitrate fertilizer plant.

The other sectors of the petrochemical industry however, are relatively undeveloped. Currently, there is a 12,000 MT/year polyvinyl chloride plant in Penang and a 9,000 MT/year polystyrene plant in Johore, but these are based entirely on imported monomers.

While no definite plans have been agreed on, Petronas, the national petroleum corporation, and the Malaysian

Industrial Development Authority (MIDA) have been studying various petrochemical projects to be set up in the country. Among the projects is a petrochemical complex which will include an olefins plant, based either on naphtha or natural gas feedstock, and a number of downstream plants for the key plastic products.

With the relatively small domestic market at present, the petrochemical complex may have to export a substantial portion of its output until such time that the domestic market has sufficiently developed. It is anticipated that a proposed petrochemical complex in Malaysia may not be viable until the 1990s.

3. Philippines

The domestic market for petrochemical products in the Philippines is perhaps the largest among the ASEAN countries owing to the country's sizable population and relatively high usage level for petrochemicals. Market growth, however, may have slowed recently in view of general economic difficulties.

Among the plastics producers, two polyvinyl chloride plants have a combined capacity of 48,000 MT/year and two polystyrene plants, 32,000 MT/year. There are synthetic fiber firms producing polyester fiber and yarns as well as nylon filament yarns. Raw materials for detergents, namely alkylbenzene and tripolyphosphates, are manufactured locally, as are carbon black, adhesives, explosives, and fertilizers.

Industry sources indicate that there are at least 500 small to large firms engaged in processing and fabrication of plastics.

Substantial quantities of polymers such as low and high density polyethylene and polypropylene are imported yearly for conversion to finished products such as bags, containers, ropes, etc.

There were recent plans to construct a petrochemical complex in Bataan near the existing refinery of the Philippine National Oil Company (PNOC) using naphtha from the refineries as a feedstock. The complex would comprise an olefins plant and the following downstream plants: low density polyethylene, high density polyethylene, chlor-alkali, vinyl chloride monomer, polyvinyl chloride, and polypropylene. However, the implementation of this project has been postponed in light of revised priorities currently adopted for the government's industrialization program.

4. Singapore

Of all the plans for establishment of petrochemical complexes in the region, it is Singapore which has gone ahead. With the start of initial commercial production in February 1984, the Singapore complex in Pulau Ayer Merbau will ultimately consist of an upstream naphtha cracker and at least four downstream plants. To be owned by the Singapore government and Japanese companies led by Sumitomo Chemical Co. Ltd., the naphtha cracker will utilize naphtha, LPG, and other feedstock from the country's petroleum refineries. The capacities of the various upstream and downstream units in the complex are as follows:

Upstream

Olefins Plant:	Ethylene	350,000 MT/year
	Propylene	160,000

Downstream

Low density polyethylene	120,000 MT/year
High density polyethylene	80,000
Ethylene glycol	87,500
Polypropylene	100,000

The olefins plant will also produce butadiene, benzene, toluene and xylene. A 6,900 MT/year acetylene black plant was originally planned to be part of the downstream units, but this was reportedly cancelled during the first quarter of 1984.

The companies involved in the individual units of the Singapore complex including ownership and other relevant data are shown in Table 1.

An 18,000 MT/year polyvinyl chloride plant has been operating in Singapore since 1971. Furthermore, there is a well-developed plastics fabrication sector involved in the production of pipes, cables, shoes and containers including mould-making facilities and printing machines.

Due to the relatively small domestic market, the Singapore petrochemical industry is necessarily oriented towards exports and is anticipated to be confronted with an increasingly competitive world market for petrochemicals.

5. Thailand

The current consumption of petrochemical products in Thailand is quite substantial, estimated at about 140,000 MT/year for all polyolefins and about 45,000 MT/year for vinyl chloride monomer. There is an existing plant with a 65,000 MT/

Table 1

Profile of Companies in the Singapore

Company	Products	Date Incorporated
Upstream (olefins plant)		
1. Petrochemical Corporation of Singapore (Pte) Ltd.	Ethylene Propylene	August 1977
Downstream		
2. The Polyolefin Company (Singapore) Pte. Ltd.	Low density polyethylene Polypropylene	May 1980
3. Phillips Petroleum Singapore Singapore Chemicals (Pte.) Ltd.	High density polyethylene	April 1980
4. Ethylene Glycols (Singapore) Private Limited	Ethylene Glycol	April 1982

• Development Bank of Singapore Ltd.

Petrochemical Complex

Capital	Shareholders
Authorized: S$750 Million Paid-up: S$686.70 Million	Japan-Singapore Petrochemical Co. (50%) Singapore Government/DBS (50%)
Authorized: S$120 Million Paid-up: S$109.18 Million	Nihon Singapore Polyolefin Co., Ltd. (70%) Singapore Government/DBS (30%)
Authorized: S$168 Million Paid-up: S$111 Million	Phillips Petroleum Int'l. Corp. (60%) Singapore Government/DBS (30%) Sumitomo Chemical Co., Ltd. (10%)
Authorized: S$190 Million Paid-up: S$152.5 Million	Japan-Singapore EOG Co. Ltd. (30%) Singapore Government (50%) Shell Eastern Petroleum (Pte.) Ltd. (20%)

year capacity for production of l w density polyethylene and 25,000 MT/year for high density polyethylene. A 50,000 MT/year polyvinyl chloride plant and a small polystyrene plant have also been in operation based on imported monomers. Thailand has about 1,000 plastic fabrication factories, most of which are small-scale establishments.

The Thailand petrochemical complex being planned in Mab Ta Pud Industrial Estate, Rayong Province, is now close to implementation with expected construction in late 1985. The Thailand complex will be based on natural gas from the Gulf of Thailand. The Petroleum Authority of Thailand has begun construction of a gas separation plant, scheduled for completion in 1985, and this will supply the ethane and propane for the petrochemical complex. The planned capacities of the various units in the complex are as follows:

Upstream	
Ethane cracker: ethylene	300,000 MT/year
Propane dehydrogenator; propylene	73,000
Downstream	
Low density polyethylene	100,000*
High density polyethylene	110,000
Vinyl chloride monomer	80,000
Polypropylene	70,000

* Includes an existing plant with about 65,000 MT/year capacity.

A 50,000 MT/year ethylene glycol plant was earlier planned but subsequently dropped.

The National Petrochemical Corporation (NPC), established in 1984, will build the olefins plant and central unit facilities which will be operational by 1987. The government will own approximately 51% of the upstream units, with the balance to be taken up by the private downstream companies and International Finance Corporation. On the other hand, the downstream units will be solely implemented by private companies. The participants in the various units of the Thailand petrochemical complex are shown in Table 2.

Table 2

Profile of Companies in the Thailand Petrochemical Complex

Company	Products	Ownership	
Upstream (olefins plant and central utility facilities)			
1. National Petrochemical Company	Ethylene Propylene	Petroleum Authority of Thailand Bureau of Crown Property International Finance Corporation Thai Petrochemical Industry Co., Ltd. Siam Polyethylene Co., Ltd. Thai Plastic and Chemicals Co., Ltd. Metro Group	(49.0%) (2.0%) (9.0%) (12.6%) (13.6%) (4.7%) (8.9%)
Downstream			
2. Thai Petrochemical Industry Co., Ltd.	Low Density Polyethylene	Thai, British and Malaysian investors	
3. Siam Polyethylene Co., Ltd.	High Density Polyethylene	Thai investors Union Carbide (U.S.)	
4. Thai Plastic and Chemicals Co., Ltd.	Vinyl Chloride Monomer	Private corporation	
5. Metro Group	Polypropylene	Thai investors Hercules (U.S.)	

D. DESCRIPTION OF THE JOINT VENTURE RESPONDENT FIRMS

The profile of the 19 respondent firms covered in the survey on the basis of product, country of foreign investor, sales, capacity utilization, personnel, and major objectives is discussed below. More detailed information on the firms surveyed is listed in Appendix A.

1. Profile by Product

The respondent firms in the survey are involved in the manufacture of primary petrochemical products as well as in a variety of intermediate/finished petrochemical products (See Table 3).

Table 3

List of Products Manufactured by Respondent Firms

Product	Country Location
Primary Petrochemical Products	
Ethylene and propylene	Singapore
Intermediate/Finished Petrochemical Products	
Alkyd resins and synthetic resin emulsions	Malaysia
Alkylbenzene	Philippines
Carbon black	Philippines
Epoxy adhesives and polystyrene expandable products	Philippines
Fiberglass insulation material	Philippines
High density polyethylene and low density polyethylene	Thailand

Product	Country Location
Nylon filament yarn	Philippines
Polystyrene	Malaysia, Philippines*, Thailand
Polyvinyl chloride resins and compounds	Indonesia, Malaysia, Philippines, Singapore
Synthetic fibers	Indonesia, Philippines
Urea	Indonesia

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* Two respondent firms in the Philippines both manufacture polystyrene.

2. Profile by Country of Foreign Investor

As gathered from the survey, the foreign investors of the respondent firms come from 11 countries, including four ASEAN states. The matrix below presents a cross tabulation of the host countries of the respondents, with the countries of their foreign partners.

Table 4

Profile of Respondent Firms by Country of Foreign Partner

Country of Foreign Investor	Host Country					
	Indonesia	Malaysia	Philippines	Singapore	Thailand	Total
Japan	2	2	5	2	-	11
United States	-	-	3	-	-	3
Malaysia	1	-	-	-	1	2
Taiwan	-	-	1	-	1	2
Australia	-	-	1	-	-	1
Britain	-	-	-	-	1	1
Panama	-	-	1	-	-	1

Country of Foreign Investor	Host Country					
	Indonesia	Malaysia	Philippines	Singapore	Thailand	Total
Philippines	1	-	-	-	-	1
Singapore	1	-	-	-	-	1
Thailand	1	-	-	-	-	1
United Kingdom	-	1	-	-	-	1

In the survey, Japanese firms show investments in 11 of the 19 joint venture respondent firms, which are located in all the ASEAN countries covered except Thailand. The Japanese joint ventures are for the manufacture of synthetic fiber in Indonesia; polystyrene and polyvinyl chloride in Malaysia; alkylbenzene, nylon filament yarn, polystyrene, and synthetic fiber in the Philippines; and ethylene, propylene, polyvinyl chloride resin and compound in Singapore.

Of the five ASEAN countries, it is only in the Philippines where the United States has equity participation in the firms surveyed, and these are in three companies that manufacture carbon black, polyvinyl chloride, adhesives, plastic resin glue, and expandable polystyrene products.

One of the joint venture firms surveyed is an ASEAN Industrial Project for the manufacture of urea located in Aceh, Indonesia which is the result of the industrial cooperation program initiated by the ASEAN heads of government in Bali, Indonesia in February 1976. Apart from Indonesia, all the other four ASEAN countries surveyed hold equity participation in this project.

It is also noted that Malaysia has joint venture arrangements for the manufacture of urea in Indonesia, and for the manufacture of high and low density polyethylene in Thailand. Taiwan has joint venture arrangements with respondents in the Philippines and Thailand for the manufacture of polystyrene.

3. Profile by Sales

Sales of the majority of the respondent firms in 1983 ranged from US$6.0 to US$20.0 million. The frequency of firms classified by sales value is presented in Table 5.

Table 5

Profile of Respondent Firms by Sales Value in 1983

Sales	No. of Responses
US$5.0 Million or less	2
US$6.0 - 10.0 Million	6
US$11.0 - 20.0 Million	6
Over US$20.0 Million	2
Not available	3
Total	19

The highest sales were reported by two joint venture firms which manufacture synthetic fibers.

Among the nine respondent firms who engaged in export activities in 1983, a majority exported less than 5% of their total sales volume for the year. Only one firm, located in Singapore, exported more than 50% of its sales. The distribution of firms classified by the percentage of export volume to total sales is shown below.

Table 6

Export Volume of Respondent Firms as Percent of Sales

Export to Total Sales (%)	No. of Responses
No export sales	10
Less than 5%	5

Export to Total Sales (%)	No. of Responses
5 - 25%	2
26 - 50%	1
51 - 75%	1
Total	19

Country markets of the respondent firms include: Hong Kong, Indonesia, Japan, Malaysia, Pakistan, People's Republic of China, Singapore, Sri Lanka, South Korea, Taiwan, Thailand, and the United States of America.

4. Profile by Capacity Utilization

Most firms surveyed operate at over 60% of their rated capacities. The distribution of firms classified by capacity utilization rates is presented below.

Table 7

Profile of Respondent Firms by Capacity Utilization

Capacity Utilization Rate	No. of Responses
Less than 60%	2
61 - 70%	5
71 - 80%	2
81 - 90%	3
Over 90%	1
Not available	6
Total	19

5. Profile by Personnel Complement

Most respondent firms have a personnel complement of not more than 200 local staff and expatriates. The firms with the largest

manpower complement are in the synthetic fiber industries. The distribution of the firms broken down by number of personnel is shown in Table 8.

Table 8

Profile of Respondent Firms by Total Number of Personnel

No. of Personnel	No. of Responses
Less than 101	4
101 - 200	6
201 - 500	5
501 - 1,000	2
1,001 - 1,500	2
Total	19

Generally, there are only one to three expatriates in the firm who hold the top positions in general management, corporate planning, finance, and production. Expatriates also serve as foreign trainors who provide on-the-job training to local personnel.

The table below presents the distribution of the respondent firms classified by number of expatriates. The firm with the most number of expatriate personnel is located in Singapore.

Table 9

Profile of Respondent Firms by Number of Expatriates

No. of Expatriates	No. of Responses
No expatriate	5
Less than 5	10
6 - 20	1

No. of Expatriates	No. of Responses
21 - 50	1
51 - 75	1
Not available	1
Total	19

6. Future Plans

Most of the respondent firms' plans concentrate on the expansion of current capacity. The table below presents the nature of the plans of the respondent firms.

Table 10

Future Plans of the Respondent Firms

	No. of Responses
With future plans	10
Expansion of existing capacity	6
Diversification	4
Manufacture of new products	2
No future plan	9
Total	19

7. Objective of the Joint Venture Firm

The main objective of the joint venture respondent firms is generally to manufacture and sell its products in the host country and in other nearby country markets. These firms were usually established to serve as a base in the region to facilitate market penetration.

Some respondents cited their desire to provide employment opportunities in areas other than the metropolitan centers in the effort to contribute to economic and regional development.

The ASEAN Industrial Project on urea fertilizer is guided by its aim to foster industrial cooperation among the five ASEAN nations in establishing large-scale industrial plants that will make use of available materials in the member countries.

The respondent firm in the upstream plant of the Singapore petrochemical complex was formed to supply the primary petrochemical raw materials such as ethylene and propylene for the various downstream units of the complex.

E. INTERNAL STRUCTURE

This section covers certain aspects of the internal structure of the joint venture companies surveyed such as ownership structure, financial structure, financing sources and terms. The major contributions of the foreign and local participants in the joint ventures surveyed are also summarized.

1. Ownership and Financial Structure

In most of the respondent firms, the local partners maintain a greater share of the equity. The distribution of the respondent firms in terms of ownership majority is as follows:

Table 11

Local and Foreign Ownership Structure of Respondent Firms

Ownership*	No. of Responses
Majority local ownership	12
Majority foreign ownership	5
50% local/ 50% foreign ownership	2
Total	19

* Aggregated foreign shareholdings as against aggregated local participation.

As may be expected, three respondents in the Philippines with majority foreign ownership indicated that the firms operate like subsidiaries of their foreign partners. However, one respondent in another ASEAN country whose ownership structure is 50% local and 50% foreign, similarly claimed that it is "operated like a subsidiary."

There are only three firms wherein the government has significant shareholdings. These are in the following enterprises:

a) P. T. ASEAN Aceh Fertilizer, wherein the shareholders are the governments of all ASEAN nations, except Brunei. The equity sharing is Indonesia (60%), Malaysia (13%), Philippines (13%), Singapore (1%) and Thailand (13%).

b) Petrochemical Corporation of Singapore (Pte.) Ltd., wherein the Government of Singapore and the Development Bank of Singapore have a total of 50% equity participation.

c) Singapore Polymer Corporation (Pte.) Ltd., wherein the Development Bank of Singapore has 39% share in the equity next to the Sumitomo Group which accounts for 43% of total equity.

Basically, the joint venture firms rely on three sources to finance operating and non-operating requirements. These are through capital infusion (equity), local and foreign borrowings (liabilities), and funds from operations.

A majority of the firms surveyed have total liabilities and shareholders' equity not exceeding US$10.0 million. The number of firms classified by total liabilities and shareholders' equity is presented in Table 12 .

Table 12

Distribution of Respondent Firms by Value of Total Liabilities and Equity

Total Liabilities and Shareholders' Equity	No. of Responses
US$10.0 Million or less	8
US$11.0 - 40.0 Million	5
US$41.0 - 100.0 Million	1
US$101.1 - 250.0 Million	3
Over US$250.0 Million	1
Not available	1
Total	19

Debt to equity ratio (DER) of majority of the respondent firms ranges from 1 to 4. Presented below is the frequency distribution of the respondent firms classified by debt to equity ratio.

Table 13

Distribution of Respondent Firms by Their Debt to Equity Ratios

Debt to Equity Ratio	No. of Responses
Less than or equal to 1.0:1	4
1.1 - 2.0:1	4
2.1 - 3.0:1	3
3.1 - 4.0:1	3
Over 4.0:1	3
Not available	2
Total	19

The three firms with the highest leverage have DERs of 6, 7, and 9.

One respondent in the Philippines indicated a negative equity due to unprofitable operations.

2. Financing Sources and Terms

The respondent firms avail of both local and foreign short- and long-term loans from commercial banks, investment houses, other financial institutions, foreign partners, and parent companies.

The various foreign loans obtained by the respondents are denominated in different currencies which include the dollar, yen, French franc, and deutschmark.

Below is a summary of the usual terms and conditions of loans obtained by the respondent firms:

Table 14

Terms and Conditions of Loans Obtained by Respondent Firms

	Short-Term Loan	Long-Term Loan
Interest Rates	14 to 20%	2-1/2 to 21%
	3/4 to 1% over the Singapore Interbank Offered Rate	3% over lender's borrowing rate
		7/8 to 2% over London Interbank Offered Rate
Payment Period/ Mode of Payment	One year	Three to ten years/ Monthly, quarterly, semi-annually
Security	Trade receivables, inventory, letter of awareness, properties and assets	Land, properties, building, equipment, guarantees

	Short-Term Loan	Long-Term Loan
Others	-	Grant of a grace period; assignment of voting shares to creditor

Interviews indicated that collaterals were normally required. However, one firm in Malaysia disclosed that its short-term loan was unsecured while a Philippine respondent firm availed of a clean long-term loan bearing a 21% rate of interest.

In the Philippines, respondents disclosed that some loan agreements stipulated restrictions and requirements with respect to, among other things, incurrence of medium- or long-term indebtedness, payment of dividends, acquisition by the firm of its own capital stock, and maintenance of certain financial ratios.

3. Major Contributions of the Partners

Generally, major contributions of the foreign partners are in the areas of finance, raw materials, production and technology, training, industrial property rights, and general management.

The marketing area is the major contribution of the local partners since they are more familiar with local conditions, business practices, and customs.

In the case of a foreign majority-owned respondent firm in the Philippines, the foreign partner makes major marketing decisions such as formulating marketing approaches and approving prices for the products. The local partner's participation is limited to the making of recommendations.

Based on the results of the survey, the major contributions of the partners are summarized below.

Table 15

List of Contributions of Local and Foreign Partners of Respondent Firms

Area/Contribution	No. of Responses	
	Local Partner	Foreign Partner
Finance		
Equity participation	8	6
Extension of loans	2	5
Assistance in securing loans	1	2
Issuance of guarantee for loans	-	2
Raw Material		
Assistance in procurement of raw materials	-	5
Supply of raw materials	2	5
Assistance in providing specifications of raw materials	-	1
Assistance in the delivery and transport of raw materials	-	1
Technical		
Transfer of technology and knowhow	-	12
Assignment of technical staff to supervise operations	1	4
Development of quality control system	-	1
Development of research and development facilities	-	1

Area/Contribution	No. of Responses	
	Local Partner	Foreign Partner
Finding suitable technology	1	-
Modifications in the process to suit local needs	1	-
Marketing		
Formulation of marketing strategies on product pricing, distribution, advertising, after sales service, etc.	9	1
Distribution of products	4	-
Assistance in penetrating overseas markets	-	2
Determination of product price	-	1
Training		
Training of local personnel in plant of foreign investor	-	6
Assignment of foreign trainors to plants in host country	-	6
On-the-job training	1	-
Overseas training	1	-
Industrial Property Rights		
Provision of land for the use of the firm	4	-
Grant of a license to use process, design, equipment, etc.	-	10
Grant to use tradename	-	2
Provision of manufacturing license	1	-
Provision of tradename	1	-

Area/Contribution	No. of Responses	
	Local Partner	Foreign Partner
Others		
General business management and policy	2	2
Development of accounting and reporting systems	-	1

F. GOVERNMENT FRAMEWORK

The governments of the ASEAN countries surveyed have generally well-defined programs of industrial and economic development priorities. These are mainly oriented to activities which include the following:

1. Save foreign exchange through the establishment of import substitution industries;
2. Introduce new technology or process which may facilitate backward or forward integration;
3. Promote the utilization of indigenous raw materials and intermediate products, and local labor; and,
4. Generate foreign exchange through the promotion of export-oriented industries.

Foreign investments are encouraged for priority areas such as those enumerated above. Incentives are given in terms of basic guarantees, e.g., guarantee against expropriation, and tax incentives including exemptions of tariffs on imported capital goods. These are discussed in detail in this section, as they apply to the respondent firms covered in the survey.

1. Investment Incentives Legislations

The survey of 19 joint venture respondent firms in the ASEAN region indicated that at least 13 have been able to avail of their respective countries' investment incentives, as shown in Table 16. In general, incentives are availed if the business operations of a firm fall under the preferred areas of investments in that country, and if the firm is registered with the country's investment incentives implementing body.

Table 16

Respondents' Registration with Their Respective Investment Incentives Implementing Agencies

Country	No. of Registered Firms	No. of Non-Registered Firms	No Response	Total
Indonesia	2	-	1	3
Malaysia	1	-	2	3
Philippines	8	1	-	9
Singapore	2	-	-	2
Thailand	-	-	2	2
Total	13	1	5	19

The major applicable investment incentives legislations cited by respondents, and their implementing units are presented in Table 17.

The registered respondent firms claim that they have been able to avail of incentives because they have introduced new technology or processes and have been producing import substitution commodities which are used as inputs for the further processing of finished goods.

The registered respondents enjoy certain rights and guarantees and various tax incentives such as reduced income tax and exemption from tariff duties, particularly in the importation of machinery and equipment.

Table 17
Applicable Investment Incentives Legislations
and Implementing Agencies Cited by Respondents

Country	Applicable Investment Incentives Legislations	Implementing Agencies	Pref Are
Indonesia	Foreign Investment Law (Act No. 1, 1967; amended by Act No. 11, 1970)	Investment Coordinating Board or BKPM (Badan Koordinasi Penanaman Modal)	Projects whi exports, sub goods, proc materials an new technol expertise to introduce ne products.
Malaysia	Investment Incentives Act 1968 (revised in 1978; amended 1980)	Malaysian Industrial Development Authority (MIDA) and Foreign Investment Committee	Manufacturi Malaysia la know-how, and export :
Philippines	Republic Act (RA) 5186 unified under Omnibus Investment Code, Presidential Decree (PD) 1789 in 1981 and amended by Batas Pambansa (BP or Parliament Law) 391 of 1983.	Board of Investments (BOI)	Preferred pi to economic the producti raw materia in a comme country, or design, forn producing/t materials in Preferred no mainly for d existing loc inadequate national der
Singapore	The Economic Expansion Inventives (Relief from Income Tax Act; amended 1970, 1975,1979, 1980, 1982)	Economic Development Board (EDB)	Evaluation c generally th oriented ind skills and m upgrade and and integrat Thrust is on and high va technology :
Thailand	Investment Promotion Act B.E. 2520, 1977	Board of Investments (BOI)	Projects tha export-orier intensive, a

...entives Legislations
...es Cited by Respondents

...menting Agencies	Preferred/Encouraged Areas of Investments
...ent Coordinating Board (Badan Koordinasi ...n Modal)	Projects which increase non-oil exports, substitute for imported goods, process indigenous raw materials and products, transfer new technological skills and expertise to Indonesians, and introduce new/scarce types of products.
... Industrial Develop-thority (MIDA) and Investment Committee	Manufacturing activities where Malaysia lacks the technical know-how, management expertise, and export market outlets.
... Investments (BOI)	Preferred pioneer area - important to economic development; involves the production of commodities or raw materials not being produced in a commercial scale in the country, or one which uses a new design, formula, or process for producing/transforming raw materials into finished products. Preferred nonpioneer area - products mainly for domestic market where existing local capacity is still inadequate for estimated total national demand.
...c Development Board	Evaluation on a case-to-case basis; generally those that help export-oriented industries, introduce new skills and manufacturing technology, upgrade and diversify existing operations, and integrate manufacturing processes. Thrust is on increased automation and high value-added and high technology industries.
Investments (BOI)	Projects that are labor intensive, export-oriented, raw material intensive, and import substituting.

Basic Rights and Guarantees

The basic rights and guarantees given to registered firms by the ASEAN host countries are presented in the following table.

Table 18

Basic Rights, Guarantees, and Protections
Provided to Respondent Firms Availing Incentives

Basic Rights and Guarantees	Indonesia	Malaysia	Philippines	Singapore	Thailand
Guarantee against expropriation	x	x	x	x	x
Guarantee against losses due to:					
a. Nationalization	x	x	-	x	x
b. Damage caused by war	-	x	-	-	-
c. Inconvertibility of currency	x	-	-	-	x
Permission to convert into foreign exchange and remit earnings and payments	x	x	x	x	x
Permission to repatriate capital in its original currency	x	x	x	x	x
Employment of aliens in specific positions	x	x	x	x	x
Preference in granting of loans by government institutions	-	x	x	x	x
Protection from unjust competition from:					
a. Imports through trade and tariff barriers	x	x	x	-	x
b. Government entry into industry	-	-	x	-	x
c. Excess addition to domestic capacity	x	-	x	-	x
Real estate ownership by alien investors	-	x	-	x	x

Tax Incentives

The tax incentives enjoyed by respondent firms registered with their investments regulatory agencies include exemptions from taxes and duties, tax credits and deductions from taxable corporate income as presented in Table 19.

Table 19

Tax Incentives Provided to Registered Respondent Firms

Tax Incentives	Indonesia	Malaysia	Philippines	Singapore	Thailand
Exemptions/deductions from following taxes and duties:					
On imported capital goods	x	x	x	x	x
On imported raw materials	x	x	x	x	x
Taxes on royalties	-	x	-	x	x
Withholding tax on interest payment of foreign loans	-	x	x	x	x
Corporate income tax	x	x	-	x	x
Capital gains tax	x	x	x	-	-
Deductions from taxable corporate income					
Accelerated depreciation allowance	x	x	-	x	x
Carry forward of loss	x	x	x	x	x
Reinvested profits	-	-	x	-	-
Investment allowance	x	x	-	x	-
Tax credits (direct reduction from corporate income taxes)					
Investment tax credits	-	x	-	-	-
Computed taxes and duties on domestic capital equipment if imported	-	-	x	-	-
Percentage of net value earned (sales less allowed costs)	-	-	x	-	-
Percentage of net local content	-	-	x	-	-

In general, the administration of incentives in the ASEAN countries have been done through reduced tax rates and exemptions on payments of taxes and duties. In the Philippines, with the enactment of the Omnibus Investment Code in 1981, tax credits (direct reduction from corporate income taxes) have been implemented based on purchases of domestic capital equipment, net value earned (sales less costs of raw materials, components, supplies, utilities and depreciation of capital equipment), and net local content.

2. Joint Venture Legislation and Foreign Investment Stipulations

The results of the survey indicated that there is generally no specific legislation pertaining to joint ventures in the countries covered. Respondents stated that legal stipulations on joint ventures are incorporated in various laws of the country including corporate/commercial codes, civil laws, and foreign investments legislation.

Laws on foreign investments are generally covered under the investment incentives program in each country. Their main features include concessions on maximum foreign equity ownership, employment of aliens and remittance of profits (see also Table 18).

The important stipulations on foreign equity ownership are presented in Table 20 .

Table 20

Foreign Equity Stipulations for Preferred Industries in ASEAN Countries Surveyed

Country	Foreign Equity Stipulations
Indonesia	Initial minimum Indonesian participation is 20%. Opportunity shall be provided for Indonesian equity share to increase to 51% within 10 years.
Malaysia	Projects to be evaluated on their own merits. A joint venture should have significant amount of local equity participation, although percentage not specified. Government plans to achieve 70% Malaysian ownership, with 30% Bumiputra participation, by 1990.
Philippines	In most economic activities, maximum 30% foreign ownership allowed. For preferred pioneer enterprise (see Table 17), 100% foreign equity is allowed; Philippine equity, however, should be 70% within 30 years. For preferred nonpioneer enterprise (see Table 17), at least 60% of equity should be Filipino.
Singapore	No specific restrictions on foreign equity participation.
Thailand	Business enterprises engaged in specified activities will be licensed to operate if more than 50% of capital is owned by Thais, and more than 50% of shareholders are Thai citizens. For certain industries, foreign control may be allowed.

Employment of aliens are generally allowed for managerial and technical positions that cannot be filled by local nationals. Training programs are also stipulated so that the host citizens can eventually take over the positions occupied by foreigners. Although definite time periods for the expatriates' stay are specified, these can be extended.

Remittance of profit is discussed in the sub-section on Foreign Exchange Control, Transfer and Repatriation.

3. Foreign Exchange Control, Transfer and Repatriation

The results of the survey indicate that the respondents in Indonesia, Malaysia, Singapore and Thailand do not have any problems in converting earnings and payments into foreign currencies, and remitting them to recipient countries.

In Indonesia and Singapore, local currencies are freely convertible to other currencies, and can be easily remitted through the banking system. Indonesia, however, does not permit repatriation while exemption from taxes and levies are in effect.

Respondents in Malaysia and Thailand claim that foreign exchange requirements can easily be secured with proper documentations and fulfillment of government formalities.

In the Philippines, remittance and repatriation are generally allowed subject to emergency restrictions on exchange operations and availability of foreign exchange resources. Lately, due to balance of payments problems, there are difficulties in securing foreign exchange for importations, payments and remittance of earnings.

4. Protection of Patents and Trademarks

Interviews indicated that all the ASEAN countries, except for Indonesia, provide protection from infringement of registered patents and trademarks. A respondent in Indonesia claims that they also register trademarks with the Ministry of Industry, although legislative safeguards are not specified.

Respondents say that companies whose trademarks are registered in the United Kingdom are also honored in Malaysia and given priorities in Singapore.

Patents and trademarks in Malaysia are governed by the provisions of the Trademarks Ordinance and the United Kingdom Ordinance.

Singapore has no provision for the original grant of patents while trademarks are given protection under the Trademarks Act.

In the Philippines, two respondents cite that all foreign patents and trademarks have to be registered with the Philippine Patent Office and the Technology Transfer Board. Registration with TTB is a prerequisite for Central Bank approval for application for foreign exchange for remittance and payments.

Thailand respondents report a proliferation of product imitations. Infringement penalties under Trademark Act BE 2474 and BE 2504, are minimal.

The following table presents the number of years that patents and trademarks are protected in specific host countries surveyed.

Table 21

Number of Years Stipulated in Protection of Patents and Trademarks in ASEAN Countries Surveyed

Country	Patent	Trademark	Renewal
Indonesia	•	•	•
Malaysia	n.a.	n.a.	n.a.
Philippines	17	17	20
Singapore	••	7	14
Thailand	n.a.	10	Unlimited

• No applicable law
•• No provision
n.a. Not available

5. Double Taxation Agreements

All the five ASEAN countries have double taxation agreements with various other countries, applied to dividends, royalties and interests. Several respondents mentioned that expatriate's income or fees and other obligations remitted to foreign principals are ordinarily subjected to taxes in the country where it is earned, and in the national's country. With the tax treaty, respondent companies are generally exempt from tax in either one of the contracting countries by reducing the normal tax rate applicable to certain categories of income or by granting credits for foreign taxes paid. Table 22 shows the countries with which the ASEAN countries surveyed have tax treaties.

Table 22

Countries with Double Taxation Agreements
with ASEAN Countries Surveyed

Country	Indonesia	Malaysia	Philippines	Singapore	Thailand
Australia		x	x	x	
Austria			x		
Bangladesh				x	
Belgium	x	x	x	x	x
Canada	x	x	x	x	
Denmark		x	x	x	
Finland			x		
France	x	x	x	x	x
Germany	x	x		x	x
India		x		x	
Indonesia			x		x
Israel				x	
Italy				x	x
Japan	x	x	x	x	x
Korea		x		x	x
Malaysia				x	
Netherlands	x			x	
New Zealand		x	x	x	
Norway		x		x	x
Pakistan		x	x		x
Philippines	x	x		x	

Country	Indonesia	Malaysia	Philippines	Singapore	Thailand
Poland		x			
Singapore		x	x		x
Sri Lanka		x		x	
Sweden		x	x	x	
Switzerland		x		x	
Taiwan				x	
Thailand	x	x	x	x	
United Kingdom	x	x	x	x	
United States			x		

G. GENERAL LEGAL FRAME OF JOINT VENTURE

The survey of joint venture respondent firms indicated that they are all incorporated under the laws of their respective host countries. Only four of the respondents explicitly claim that they have written Joint Venture Agreements, as shown in Table 23 below. The other governing documents invariably entered into among the parties of several respondent firms are Technical Assistance Agreements and License Agreements.

Table 23

Governing Documents Entered into among Parties of Respondent Firms

Country	Basic Documents of Incorporation	Joint Venture Agreement	Technical Assistance Agreement	Licensing Agreement
Indonesia	3	2	-	-
Malaysia	3	-	2	-
Philippines	9	1	2	4
Singapore	2	1	-	-
Thailand	2	-	-	-
Total	19	4	4	4

1. Basic Documents of Incorporation

The joint venture respondent firms in the different ASEAN countries surveyed are essentially limited-liability companies with specified nature of business, capitalization and shareholders. The basic documents of incorporation and the language required by the host countries for incorporation of respondent firms are shown below.

Table 24

Type of Firm, Basic Documents of Incorporation and Governing Languages Required by Host Countries of Respondents

Country	Type of Firm	Basic Documents	Language
Indonesia	Perseroan Terbatas (PT) (Limited liability company)	Draft Deed of Incorporation (Memorandum of association) and Articles of Incorporation (by laws)	Bahasa Indonesia
Malaysia	Private or public companies	Memorandum and Articles of Association	English
Philippines	Corporation	Articles of Incorporation and By laws	English
Singapore	Company	Memorandum and Articles of Association	English
Thailand	Limited Company	Memorandum of Association	Thai

The typical contents of the basic documents of incorporation are more or less similar in the different ASEAN countries surveyed, as gathered from interviews. The following table outlines the major contents of an Articles of Incorporation and By Laws.

Table 25

Typical Major Contents of an Articles of Incorporation and By Laws

Articles of Incorporation

1. Name of corporation
2. Purposes
3. Domicile
4. Life of corporation
5. Names, nationalities and residences of incorporators
6. Number, names and residences of directors
7. Capital stock, common and preferred
   - dividends
   - dissolution
   - redemption
   - conversion
   - voting rights
   - consent to corporate acts
8. Subscribed capital stock
9. Paid-up capital
10. Designation of Treasurer
11. Transfer of stock

By Laws

1. Office
2. Board of Directors
3. Officers
4. Certificates of Stock

5. Transfer of shares of stock

6. Fiscal year, dividends and accounts

7. Stockholders meeting

8. Corporation seal

9. Amendments

2. Joint Venture Agreements

Based on the survey results, only four of the 19 respondent firms explicitly claim that they have Joint Venture Agreements (JVA) among the equity partners of the corporations. Although all the respondent firms are governed by their respective incorporation documents, particularly stipulations on ownership, management and transfer of stocks, there are specific provisions in the JVA that may later prove important to the long-term viability of relationships among the joint venture partners. These provisions include enumeration of the major roles of the parties, technical assistance, force majeure, arbitration, duration and termination, governing law and original text. The outline of a typical JVA is shown below.

Table 26

Outline of a Typical Joint Venture Agreement

1. Preamble

2. Formation of the Company

3. Primary Objectives of the Company

4. Initial Capital and Shares

5. Increase of Subscription and Issuance of Shares

6. Subsequent Share Assignment

7. Management

8. Board of Directors

9. Meetings of Shareholders

10. Major Roles of Parties Hereto

11. Technical Assistance

12. Procurement of Financing

13. Accounting and Financial Matters

14. Organizational Expenses

15. Burden of Taxes

16. Force Majeure

17. Maintenance of Secrecy

18. Assignment; Adhesion

19. Arbitration

20. Duration and Termination

21. Effective Date

22. Governing Law

23. Notice

24. Entire Agreement

25. Original Text

Articles on management generally define voting rights and control over the company; they also provide stipulations on management of the production facilities by the technically knowledgeable partner, usually the foreign partner, for a specific initial period of time. A typical text on the latter, which refers to the Technical Assistance Agreement, is as follows:

While (foreign partner) recognizes the basic principle set forth in Section _____, (foreign partner), however, deems it essential for the success of the Project that, during the Company's first three (3) years of commercial operations, (foreign partner) shall be entrusted with the authority and the responsibility for plant management through a Plant Manager to be designated by (foreign partner) with the assistance of other (mother co. of foreign partner) technicians as provided in the Technical Assistance Agreement referred to in Article____,

The roles and liabilities of the partners are usually defined in a JVA. Typical wordings of this article is shown below.

Major Roles of Parties Hereto

1. During the continuance of this Joint Venture Agreement, the parties hereto shall carry out their respective roles as prescribed hereunder.

2. Role of Local Partners

   (a) To exercise best efforts in assisting the Company to obtain the necessary permits and licenses from the authorities concerned in the (host country) for the establishment and operation of the Company;

   (b) To provide the Company with capable management personnel;

   (c) To assist the Company in the selection and acquisition of Plant sites suitable for Plant buildings, living quarters, and other necessary facilities;

   (d) To otherwise assist the Company and to cooperate with (foreign partner) and the other parties for the success of the Project and the Company.

3. Role of Foreign Partner

   (a) To obtain for the Company from (third co. which is mother co. of foreign partner) an exclusive license for the use of (third co.'s) technology in the production of (product)

under the most favorable terms and conditions possible upon the exercise of its best efforts, in relation to existing licenses as of the execution of this Agreement; and to unqualifiedly obtain such license under most favored licensee arrangements with respect to all concurrent or future licenses or amendments of prior licenses;

(b) To provide assistance on technical matters and guarantee the process, plant capacity, unit consumption of raw materials, the quality of end products, and the period required for guarantee test runs to produce the guaranteed quantity and quality of the products envisioned by the Project, in accordance with the Technical Assistance Agreement (the "TA Agreement") to be entered into between the Company and (foreign partner) as provided in Article __;

(c) To dispatch to the Company technical personnel who shall be responsible for the supervision of the Plant Construction of the Company, in accordance with the Plant Construction Contract to be entered into between the Company and (foreign partners);

(d) To provide, for a period of at least three (3) years after plant start-up, technical advisory staff to assist the Company in the operations and maintenance of the Plant in accordance with the TA Agreement;

(e) To make available to the Company advice on technical service for marketing of (product) and training for the Company's personnel for such technical service in accordance with the TA Agreement;

(f) To undertake the training of local personnel of the Company on Plant design and construction, operations and maintenance in accordance with the TA Agreement;

(g) To cooperate with the Local Partners to make the Company successful in its operation;

(h) (Foreign partner) will exert its best efforts to undertake the marketing of the Company's products for export. (Foreign partner) will submit a marketing program as may be required by (investment incentives regulating agency) to assist the Company in the development of its export market.

Although the respondents which have JVAs generally also have Technical Assistance Agreements, the general features of technical assistance are also usually contained in the JVA. A typical text follows.

Technical Assistance

1. For the success of the operation of the Plant using (foreign partner's) approved standards and quality controls, (foreign partner) agrees to render all the necessary technical assistance for the establishment and operation of the Plant of the Company under the terms, conditions and guarantees set forth in the TA Agreement to be executed between (foreign partner) and the Company.

2. (Foreign partner) shall also make available to the Company any and all information which (foreign partner) and/or the Company shall consider as necessary for the management of the Project in accordance with the said TA Agreement.

3. Within twelve (12) months from the date of this Agreement, the Company shall execute the TA Agreement with (foreign partner) under terms and conditions mutually agreed upon between the Company and (foreign partner); provided that the effectivity of such TA Agreement shall be subject, among others, to (i) the performance by (foreign partner) of its obligations under this Agreement, including the remittance of its investment in the Company, and the execution and performance by (third co.) of a License Agreement acceptable to the Company, and (ii) the Company's being able to procure the necessary financing for the necessary financing for the Project.

Articles on Force Majeure generally stipulate the conditions for force majeure, which may excuse involved party in non-performance of its obligations, as illustrated below.

Force Majeure

1. If implementation of this Agreement and/or performance of any of the obligations of any and/or all of the parties herein is prevented, suspended, delayed, restricted, and/or interferred with by reason of force majeure, such as but not limited to Acts of Gods, typhoons, storms, tidal waves, earthquakes, floods, fires, accidents, epidemics, stikes, riots, civil commotions, sabotage, insurrection, rebellion, hostilities between nations, war, embargoes, actions by either or both of the (host country) and (country of foreign partner) governments, their subdivisions, instrumentalities, entities, and/or agencies, (host country) and/or (country of foreign partner) laws, decrees, orders, rules and/or regulations, and such other similar contingencies beyond the reasonable control of the party or parties concerned, the party or parties so affected shall, upon prompt written notice to the other party or parties, be excused from the performance of its part or parts of this Agreement but only to the extent of such prevention, suspension, delay, restriction, and/or interference.

2. In all cases, the party so affected shall, however, exert its best efforts to avoid, remove, and/or forestall such cause or causes of non-performance and to remedy and complete performance with utmost dispatch.

Arbitrations are generally stipulated in a JVA, including language, place and rules governing the proceedings. Some respondents indicated that arbitrations are stipulated to be done in the host country; or in host country if foreign partner initiates arbitration proceedings, or in the country of foreign partner if local partner initiates these; or in a third country such as Switzerland. Most respondents say that arbitration proceedings are in accordance with the Rules of Conciliation and Arbitration of the International Chamber of Commerce. A typical article on Arbitration is shown on the next page.

Arbitration

1. Any dispute, controversy, or difficulty which may arise out of, in relation to or in connection with this Agreement shall be settled amicably through mutual consultation between and among the parties hereto, and for which the parties hereto will exert utmost efforts.

2. In the event that such dispute, controversy and/or difficulty cannot be settled through mutual consultations as provided hereinabove, the following rules shall be applied:

   a. All such disputes, controversies or difficulties shall be settled through arbitration;

   b. All arbitration proceedings shall be conducted in the English language at Geneva, Switzerland, in accordance with the Rules of Conciliation and Arbitration of the International Chamber of Commerce, by one or more arbitrators appointed in accordance with said Rules.

The duration of a JVA is generally as long as all parties or their successors hold any share of stock, and may be terminated on nonfulfillment of specific critical provisions such as non-approval of the project by government or nonavailability of proprietary process. In some agreements, there may be also provisions for fade-out of the foreign equity over a period of time with possible buy-out formulas by the local partners. Wordings of an article on Duration and Termination is shown below.

Duration and Termination

1. This Agreement shall continue in effect as long as all the parties hereto or their successors in interest hold any share of stock in the Company, unless sooner terminated as provided for hereunder.

2. Any party hereto shall have the right to terminate this Agreement by giving the other parties written notice to that effect upon the occurrence of any of the following events:.

(a) When the required (host country) government approvals mentioned in Article _____ shall not have been obtained within twelve (12) months from the date of this Agreement;

(b) When the TA Agreement is not signed within twelve (12) months from the date of this Agreement;

(c) When the License Agreement with (owner of process), upon terms and conditions acceptable to (local partner), is not signed within twelve (12) months from the date of this Agreement;

(d) When the business is terminated by decision of the required majority of the shareholders of the Company.

3. Upon default of any party in the performance of any obligations to be performed by such party, the other party may give notice in writing to the party in default, specifying the thing or matter in default. Unless such default be remedied within six (6) months following the giving of such notice, or if such remedy cannot be completed within such six (6) month period, or if such action for the remedy thereof cannot be undertaken promptly upon receipt of such notice and diligently prosecuted thereafter, the party giving such notice may give further written notice to such other defaulting party, notifying termination of this Agreement, in which event this Agreement shall terminate on the date specified in such further notice. Such right of termination shall be exercised in addition to, and not in substitution of, any other remedies that may be available to the party serving such notice. Any termination in the exercise of such right shall not relieve any of the parties hereto. From any obligation accrued to the date of such termination, or relieve the party in default from liability and damages to the other parties for breach of this Agreement. Waiver by any party of a prior single default or succession of defaults shall not deprive such party of the right to terminate this Agreement, or to have recourse to arbitration, or from filing suit, in the event of further default.

The governing law of the JVAs, according to the respondents with this type of agreement, is normally the laws of the host country, and the language is English.

The other important articles include those on transfer of stock or "Subsequent Share Assignment", and "Burden of Taxes". The transfer of stock usually specifies that existing shareholders are given the right of first refusal for a specific period of time, say 45 or 60 days. This provision is also usually contained in the Articles of Incorporation. A sample stipulation is shown below, although the specified period wherein to grant the right of first refusal may not be contained in other agreements.

Subsequent Share Assignment

1. For a period of seven years after the formation of the Company, or upon public listing of the Company, whichever occurs first, if any of the shareholders desires to sell, assign, or transfer any or all of its shares in the Company, such sale, assignment, or transfer shall be effected subject to the provisions of the Articles of Incorporation of the Company prescribing that the other shareholders shall be given the right of first refusal within 60 days from receipt of written notice to acquire such shares to the extent set forth in said Articles.

On the Burden of Taxes, the joint venture company shall bear all taxes, duties and levies imposed by host country government in connection with any activity and business of the company.

3. Technical Assistance Agreement

A typical outline of a Technical Assistance Agreement (TAA) is shown in the following table.

Table 27

Typical Outline of a Technical Assistance Agreement

1. Preamble
2. Definitions
3. Licenses
4. Supply of Information
5. Visitation and Technical Assistance
6. Expenses
7. Payments
8. Secrecy
9. Patent Immunity and Trademarks
10. Term and Termination
11. Most Favored Nation Clause
12. Arbitration
13. Use of Information
14. Force Majeure
15. Assignability
16. Notices
17. Effective Date

The main features of a TAA are generally the granting of licenses to the joint venture firm to use proprietary information and practice the process, and to furnish all technology and improvements to said process. The administration of these include visitation to the foreign operating plant, training of locals, and initial operation of the joint venture plant with guidance from the technical staff of the licensor.

Licenses are usually granted to the joint venture firms on a non-exclusive basis and with certain geographic limitations. Sometimes, there are also stipulations wherein the joint venture firm is acquired to assist in patening any proprietary information owned by the licensing com pany.

A sample wording of an article on Licenses is presented below.

Licenses

1. (Foreign co.) agrees to grant and does hereby grant to (joint venture firm) a nonexclusive, indivisible, nonassignable right and licese to use the Information and to practice the (proprietary name) processes in the plant in the (host country), but not elsewhere, with no restriction on the use or sale anywhere in the world of the products resulting from such use and practice. This right and license granted shall include the right to make, or have made any equipment or apparatus necessary for such use or practice; provided, however, that when any such equipment is made by a party other than (joint venture firm), shall first cause said party to agree in writing not to disclose any Information it might receive in connection therewith and agree not to use any such Information in the manufacture of equipment for parties other than the (joint venture firm).

2. (Foreign co.) agress to grant and does hereby grant to (joint venture firm) a nonexclusive, indivisible, nonassignable right and license under the Licensed Patents to the extent such Licensed Patents cover the use of the Information and/or the practice of the (proprietary name) processes.

In the event (joint venture firm) receives any information, on which (foreign co.) has not filed an application for patent in the (host country), and (joint venture firm) feels an application for patent should be filed, then (joint venture firm) shall so notify (foreign co.) writing of its desire. In order to assist (joint venture firm) in reaching a decision in this regard, (foreign co.) agrees, periodically, but at least twice a year, during the term applicable in Section ___ hereof, to advise (joint venture firm) of patent and patent application of (foreign co.) filed by (foreign co.) originally in the (country of foreign co.), or elsewhere, or title to which is acquired by (foreign co.) irrespective of where

originally filed, relating to or covering the Information and which could form the basis for the obtaining of patents under the patent laws of the (host country). (Foreign co.), if it agrees with (joint venture firm), shall then file said application for patent in the (host country) and said filing and the maintenance of the application and subsequent patent shall be at the expense of (foreign co.) and that any such application for patent shall be in the name of (foreign co.) all applications for patent, and patents issuing thereon, filed in accordance with this Section ____, shall be Licensed Patents for the purposes of this Agreement.

4. (Joint venture firm) shall furnish to (foreign co.) all technology and improvements it has made or makes or develops based on the Information or any other information or know-how received from (foreign co.) under the terms of this Agreement. Further, (joint venture firm) agrees to grant and does hereby grant to (foreign co.) the right and license to use said technology and improvement in its facilities in the (country of foreign co.) and the right in (foreign co.) to transfer said technology and improvements to affiliate and subsidiary licensee of (foreign co.); provided, however, that said licensee agree to a similar right in (foreign co.) to transfer their technology and improvements to (joint venture firm). In the event that (joint venture firm) obtains patents in the (country of foreign co.) and/or elsewhere, exclusive of the (host country), covering said technology and improvements then it shall so notify (foreign co.) thereof. At the request of (country of foreign co.), (joint venture firm) agrees to give (foreign co.) and/or its affiliate and subsidiary licensees which employ the (name) processes, the right of first refusal of a license in and to said patents, anywhere in the world, upon reasonable terms and conditions.

5. In the event (foreign co.) receives any technology or improvements, as defined in Section ____. hereof, from (joint venture firm) on which (joint venture firm) has not filed an application for patent in the (country of foreign co.), or in any country of an affiliate or subsidiary licensee of (foreign co.), and (foreign co.) feels that applications for patent should be filed, then (foreign co.) shall so notify (joint venture firm) in writing of its desire. In order to assist (foreign co.) in reaching a decision in this regard, (joint venture firm) agrees, periodically, but at least twice a year, during the term applicable in Section ___ hereof, to advise (foreign co.) of patents and patent applications of (joint venture co.) filed by (joint venture company)

originaliy in the (host country) or elsewhere, relating to or covering said technology or improvements and which could form the basis for the obtaining of patents under the patent laws of the (country of foreign co.) and/or under the patent laws of the countries in which affiliate and subsidiary licensees of (foreign co.) are domiciled. (Joint venture co.), if it agrees with (foreign co.), shall then file said application for patent in the (country of foreign co.), and elsewhere as requested by (foreign co.) but said filings and the maintenance of the applications and subsequent patents shall be at the expense of (joint venture co.). Upon the procurement of any said patent, as aforesaid, then (joint venture co.) shall so notify (foreign co.) in writing thereof and offer a license or licenses as set out in Section ___ hereof.

Aside from the granting of license, the process of supplying information is also an essential portion of a TAA. A sample article follows:

Supply of Information

1. (Foreign Co.) hereby grants (joint venture co.) the license and the right to continue using all the (name) Processes heretofore furnished or made available by (foreign co.) to (joint venture co.) and furnish all technology and improvements related to such processes including those contained in the process know-how manual containing the best information available to (foreign co.) previously furnished by (foreign co.) to (joint venture co.) such as the following items:

   (a) Detailed process descriptions, including:

      (i) considerations leading to special arrangement and/or design of equipment;

      (ii) information as to materials of construction; and

      (iii) safety and other precautions,

   (b) Normal method and control of operations,

   (c) General start-up procedure,

   (d) General shut-down procedure,

   (e) Physical and chemical data for chemical reactions involved.

(f) Chemical specifications and usage,

(g) Typical utilities consumption,

(h) Composition and conditions of all feed, product and effluent streams,

(i) Analytical procedures,

(j) General process flow diagrams including material and heat balances,

(k) Maintenance instructions, and

(l) Suggested plant layouts,

all in reasonably sufficient detail or is required as a basis for process design for units in the Plant and to enable skilled engineers to operate such units and practice the Processes in the Plant of the same is engineered and constructed in accordance with a process design made by (foreign co.) or approved by (foreign co.). The process know-how manual shall also contain the polymerization recipes for use in the Plant.

2. During the period of the delivery to (joint venture firm) of the process know-how manual, pursuant to Section ____ of the Technical Agreement of (date), and ending on (date), (foreign co.) shall, from time to time, deliver to (joint venture firm) the continuing information, which delivery shall be in the form of written reports and at meetings of (foreign co.) and (joint venture firm) personnel wherein Information is transmitted orally. In the case of meetings as aforesaid, there shall not be more than two (2) any such meetings in any one calendar year attended by no more than four (4) representatives from each party hereto. The site of such meetings shall be in the (country of foreign co.) unless the parties hereto agree otherwise. Each such meeting shall be of no more than one working week in duration and all expenses of personnel participating therein shall be borne by the employees of said personnel.

Some respondents indicate that they would require a most favored nation clause which ensures, to some extent, that their cost of acquiring the technology will not be more expensive than in the case of other licensees. A sample clause follows.

Most Favoured Nation Clause

(Owner of process) represents and warrants that on the date hereof, no third person has a license from (owner of process) to manufacture (product) by the (owner of proceess) Process or to use (owner's) technical information in connection therewith on non-running royalty bearing monetary terms, or equivalent, more favourable to the licensee than those provided for herein. In the event (owner of process) shall grant such a license to a third party for use in any party for use in any part of _____ on non-running royalty bearing monetary terms or equivalent which are more favorable to the licensee than those provided for herein, prior to the time that _____ has made all of the payments to (owner of process) provided for in Article ___ above, then such more favorable non-running royalty bearing monetary terms, or equivalent, shall be extended to _____ hereunder.

4. License Agreement

A License Agreement (LA) generally covers the granting of the use and application of intellectual proprietary rights such as secret formula process, patent, trademark, brand and copyright. Since the TAA on the other hand covers the extension of required assistance or services by the licensor to the licensee, TAA therefore is broader in scope than an LA. A typical outline of an LA is presented in the following table.

Table 28

Typical Outline of a License Agreement

1. Definitions
2. Delivery of Technical Information
3. Grant of Right and License
4. Consideration
5. Exchange of Technical Information
6. Secrecy

7. Filing of Patent Application and Maintenance

8. Patent Indemnity

9. Most Favored Nation Clause

10. Term

11. Waiver and Modifications

12. Force Majeure

13. Termination and Suspension

14. Assignability

15. Arbitration

16. Notice

17. Approval by the Host Country Authorities

18. Warranty

H. IMPLEMENTATION OF THE JOINT VENTURE

The implementation of the joint venture project among the firms surveyed was most often a joint effort by both local and foreign partners. Table 29 summarizes the participants that were generally responsible for precontracting and contracting actitivities of the respondent firms.

Table 29

Partner Responsible for Implementation of the Joint Venture Project

	Local Partner	Foreign Partner	Joint Effort	Total
Indonesia	-	2	1	3
Malaysia	-	2	-	2
Philippines	1	1	7	9
Singapore	-		1	2
Thailand	2	-	-	2
Total	3	6	9	18*

More detailed discussion into the precontracting and contracting phases of project implementation is presented below.

1. Precontracting Phase

According to the respondents surveyed, it was usually the joint venture company which was directly responsible for the precontracting activities when the production facility was established. However, the foreign partner in the joint venture often made significant contributions in the technical aspects of implementation particularly in the case of majority foreign-owned firms. In most cases, the foreign partner owned or had experience with the technology; thus

* No response from one Malaysian firm.

the selection of the foreign partner usually determined also the technology to be used by the joint venture. The contribution of the foreign investor was by way of assigning its technical personnel to assist in technical studies, plant design, and procurement of machineries and equipment. The local investor also contributed its knowledge of the market as it related to requirements in technology.

Both foreign and local partners were usually involved in the joint venture company when bids were issued, evaluated, and negotiated with the selected bidder. In the case of two majority Japanese-owned firms in Indonesia and Malaysia, the Japanese partners took the lead in the precontracting activities since they were the majority owners and were in the management of the joint ventures.

In the case of project financing, the joint venture company was again frequently the entity directly handling negotiations. However, in majority foreign-owned companies, the foreign partner played a significant role in sourcing funds particularly when equipment is sourced from the country of the foreign partner.

In the case of the ASEAN Industrial Project on urea, the joint venture firm initiated arrangements for the bidding of the project. Bid documents were issued, asking for quotation on the project which covered the following aspects: engineering, design, procurement, construction and supervision of erection, start-up of operations, and training of personnel. Negotiations for loans to finance the project were also undertaken at the same time.

2. Contracting Phase

The survey also indicates that the contracting phase of project implementation was again normally a joint effort of the local and foreign partners.

To supervise implementation, a project management team was often formed consisting of personnel assigned by both parties. The project management team may include personnel with production and technical background as well as those knowledgeable in financial aspects and control. The team was generally responsible for controlling all aspects of the project and for protecting the interest of the shareholders in the execution of the project. In particular, the project management team monitored different stages in the construction of the plant; coordinated and inspected the purchase, construction, assembly, and installation of the machinery and equipment; supervised the training of the employees regarding plant operation; evaluated the start-up of the plant to realize guaranteed capacity; and determined the acceptance of the plant from the contractor.

In majority local-owned firms in the Philippines and Thailand, the local partners exercised greater responsibility over the activities in the contracting phase although, in some firms, representatives of the foreign partner were available to provide assistance in the technical and training aspects.

Respondents in the Philippines indicate that services of local contractors were normally commissioned as long as they

were qualified to do the job. Otherwise, foreign firms were commissioned as in the fabrication of high pressure vessels in one respondent firm.

In one majority local respondent firm in the Philippines, its plant was almost implemented entirely by local personnel, except for certain machineries for which local firms could not fabricate. This was undertaken in order to minimize investment cost and foreign exchange outflow. However, several years after implementation, plant personnel complain of frequent breakdown in their machineries.

In the ASEAN Industrial Project, the firm entered into several arrangements with Japanese consulting firms for assistance in controlling and supervising the general contractor's works; performing project management and control; controlling activities for the effective implementation and successful completion of the plant; and with Indonesian firms for providing training for its employees.

In the case of majority foreign-owned respondent firms in Indonesia and Malaysia, foreign partners had full responsibility and control in all areas in the contracting phase. This is also true for the Indonesian firm whose ownership structure is 50% local and 50% foreign.

I. OPERATION OF THE JOINT VENTURE FIRM

This section discusses the current operation schemes of joint venture respondent firms and covers topics on direction and management, supply of raw materials, plant operations, and marketing arrangements.

1. Direction and Management

Board of Directors and Management

In all the firms surveyed, the prevailing general management structure is the presence of a group of directors who takes responsibility for the firm's overall management and policy making while a management team or set of executive officers manages the day-to-day affairs of the firm.

In most firms, the group which supervises the overall management is called the Board of Directors. In the case of the two Indonesian respondent firms, this group is referred to as the Supervisory Board in one firm and the Board of Commissioners in the other. In fact, the Board of Directors in these two entities has a different connotation and actually refers to executive officers which handle the day-to-day management of their companies. Except for Indonesia, the Board of Directors in the respondent firms is composed of members who are elected by the shareholders. The number of directors ranges from 6 to 23, but most firms have 6 to 9 members in the Board.

The Board may represent the foreign and local partners and, in some instances, financial institutions which have extended financing to the firm. The distribution of the firms

broken down by the number of members in the Board follows:

Table 30

Distribution of Respondent Firms
Classified by Number of Board Members

No. of Board Members	No. of Responses
6 - 9	8
11 - 13	4
23	1
Not available	6
Total	19

In general, the distribution of the members in the Board represents the relative equity interests of the local and foreign partners.

In two respondent firms in the Philippines, an Executive Committee composed of about six persons has been formed to whom the Board of Directors has delegated some of its powers. In one case, it has the authority to make decisions for the Board.

The management team is generally composed of senior officers such as the President, Vice President, etc. who are either elected or appointed by the Board of Directors.

In the ASEAN fertilizer project based in Indonesia, the operating officers are referred to as the Board of Managing Directors which is composed of the President Director, the Finance Director, the

Technical Director, the Commercial Director, and the General Affairs Director. These officers are all appointed from nominees from the five ASEAN countries involved in the project except Singapore.

In the majority foreign-owned respondent firms, top operating positions are normally occupied by expatriates. Among majority foreign-owned respondent firms, one expatriate General Manager in the Philippines who has the major responsibility in the day-to-day affairs of the business is assisted by several operating officers who are all Filipino nationals. In a respondent firm in Indonesia, the President is a foreigner and so are the majority of the operating officers. In the other majority foreign-owned firms, expatriates are employed as Plant/Production/Technical Manager.

A number of majority local-owned respondent firms do not employ any expatriate, although there are other similar firms which employ expatriates who serve as Vice President in Finance, Senior Vice President in Corporate Planning, Commercial Director and General Affairs Director.

Decision Making Procedures

Decision making responsibilities vary for Board of Directors and for top and middle level management groups.

Policy formulation, long-term investments, major capital expenditures, organizational restructuring, and hiring of senior management personnel constitute major decision areas normally vested in the Board of Directors.

On the other hand, responsibilities of top and middle management usually include: day-to-day operations, limited amounts of capital expenditures, normal and recurring expenses, and hiring of managers and other personnel below top management.

The General Manager, who is the only expatriate in the case of a majority foreign-owned respondent firm in the Philippines, handles the day-to-day operations and is solely responsible to the foreign investors for running the operations. Important decisions that cannot be made by the General Manager are taken up by him directly with the foreign participants and not through the local Board of Directors.

In a firm in Malaysia, the respondent reports that major decisions are normally reached after formal or informal consultations with the major local and foreign shareholders.

Hiring and Dismissal of Employees

Generally, local management takes responsibility for hiring and dismissing local employees while the foreign partner appoints the expatriates.

In the respondent firms in Indonesia, the long-term hiring policy has to be geared towards the localization of management; i.e. the hiring of Indonesian nationals to fill in management positions.

In the ASEAN Aceh Industrial Project in Indonesia, the expressed policy of the firm is to give preference in hiring people within the area whenever there are qualified personnel.

Training

Training has been and continues to be a major concern of the joint venture respondent firms. The different training programs available in the respondent firms are presented below:

Table 31

Available Training Programs in the Respondent Firms

Training Program	No. of Responses
In-house training	12
Training abroad	8
Local training	6
Others (provided by equipment supplier)	1

In the majority of respondents, the supervisors, foremen, operators, and workers are provided in-house training by local personnel (e.g., Plant and Assistant Plant Manager) and expatriates who come from the company of the foreign partners.

In a number of respondent firms, key technical and management officers are sent to the foreign partner's plant to train and to observe latest technical and management developments of the business.

Employees participate in local seminars outside the company on the management and technical aspects of the business.

Safety Standards

Following is a list of precautionary measures and safety standards claimed to be observed by respondent firms. Others may also observe these, but did not mention them during the interviews. Their objectives with

regard to safety are to enhance the health and safety of the workers and to prevent occurrence of all kinds of accidents.

Table 32

Safety Measures and Standards in the Respondent Firms

Safety Measures and Standards	No. of Responses
Enforcement of housekeeping and cleanliness rules	5
Use of protective equipment such as hard hats, shoes, glasses	4
Availability of fire fighting facilities and equipment	3
Availability of a working manual outlining proper way of doing things	3
Assignment of a safety officer/ engineer to oversee plant safety	2
Use of instrumentation to keep track of critical levels in the production area	2
Availability of water treatment facilities	2
Availability of chemical treatment facilities	2
Conduct of convocations on safety	2
Availability of waste and effluent disposal systems	1
Availability of first aid services	1

Performance Incentives

Merit increase is most often given by the respondent firms as a reward and incentive to deserving personnel. Presented below are the different performance incentives mentioned by the firms surveyed.

Table 33

Performance Incentives in the Respondent Firms

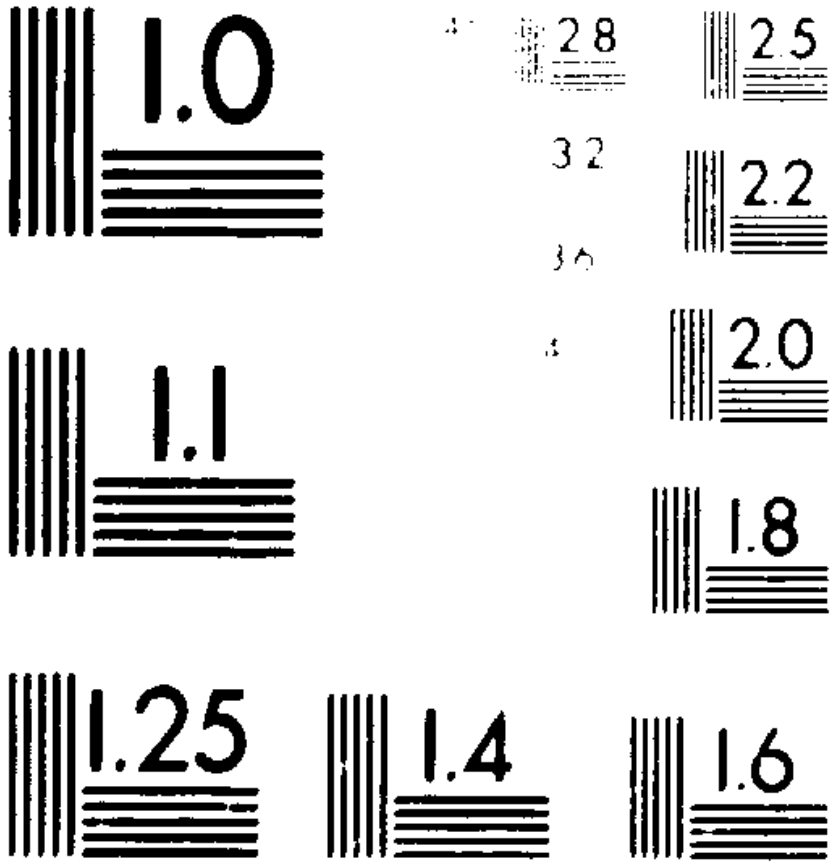
Incentive	No. of Responses
Merit increase	8
Bonus	6
Profit sharing	5
Sales commission	2
Promotions	2
Prize money and letter of recognition	1

2. Supply of Raw Materials

Feedstock and Catalyst

The majority of the respondent firms source their requirements from several suppliers depending on who offers the best possible conditions in terms of price and quality. A number of firms refer to the international market price of the product as a guide in determining at what price the firm is to procure its raw materials.

84-10-18



Some firms have entered into long-term arrangements with suppliers or with the foreign partner to be assured of regular supply. A respondent firm in Indonesia has maintained a "multi-channel supply system" and sources its feedstocks from various country suppliers. Some of the supply agreements generally contain provisions on quantity and quality of the raw materials, but not on prices as these are subject to negotiations periodically.

In the ASEAN Aceh Industrial Project, the natural gas is procured on a fixed price as per agreement among the five participating nations. Its catalysts are sourced wherever the costs are least.

In the case of a Philippine subsidiary respondent firm, feedstock requirements are ordered through the parent company.

Fuels

Fuel requirements of most of the surveyed firms are bought from local refineries on either cash or credit basis. Most firms, however, are still accorded credit facilities in their procurement of their fuel needs.

The ASEAN Aceh joint venture firm enjoys a price subsidy extended by the Indonesian Government in the purchase of its fuel requirements.

3. Plant Operations

Major On-Stream Factors

Temperature and pressure are the most mentioned major on-stream factors which are critical to the manufacturing processes of the respondents. The table below summarizes the results of the

survey regarding on-stream plant factors.

Table 34

Major On-Stream Factors in the Respondent Firms

On-Stream Factors	No. of Responses
Temperature	6
Pressure	6
Electricity/Voltage	1
Moisture	1
Polymerization building	1
Reaction time	1
Refrigeration	1
Residence time	1
VCM leakage	1
Viscosity	1

Major Operational Problems

The majority of responses of the 12 firms which elaborated on their major operational problems are power failure and machinery breakdown as discussed below.

a) Power failure. This results in higher production costs due to frequent start-up.

According to one respondent in the Philippines, even the scheduled "brown-outs" pose problems just like the unscheduled ones, since schedules announced by the utility companies are not strictly followed.

A respondent from Indonesia complains of frequent electric power interruption at 10 to 15 times per month.

b) Machinery breakdown. This disrupts the production process and schedule. In addition, the quality of the final product may be below standard such that the production lot either goes to waste or is scheduled for rework. All these result in additional cost to the firm.

Table 35 presents the operational problems in the respondent firms.

Table 35

Major Operational Problems in the Respondent Firms

Operational Problem	No. of Responses
Power failure	10
Mechanical trouble	7
Shortage of packaging materials	2
Shortage of other materials	2
Power fluctuation	1
Water impurity	1
Shutdown due to lack of skilled workers	1
Lack of infrastructure	1

Major Maintenance Problems

The major maintenance problems mentioned by nine respondent firms are presented in the following table.

Table 36

Major Maintenance Problems in the Respondent Firms

Maintenance Problem	No. of Responses
Inavailability of spare parts	6
Lack of skilled maintenance personnel/ local representative to handle repairs	3
Corrosion of machinery and equipment	2

A respondent in a Philippine joint venture firm explained that the lack of a skilled maintenance crew is due to heavy turnover of its workers who go to the Middle East for better paying jobs.

Corrosion of machinery and equipment is due to the plants being located near the sea.

4. Marketing Arrangements

Market Areas

All 19 respondent firms sell to the domestic market; nine of them also service the overseas markets. The export markets consist principally of neighboring countries in Asia and, to a lesser degree, the U. S. A.

Breakthrough in the domestic market is mainly the contribution of the local partners who is familiar with the host country's market environment. Interviews indicate that the respondent firms undertake the following steps to increase share in the domestic market:

a) Sales call on potential customers to present product and to orient prospective customer on relevant features of product.

b) Availability of product through appropriate channels of distribution.

c) Frequent advertisements on radio and newspapers.

d) Research to improve product.

e) Fielding of salesmen to cover adequately prospective areas.

f) Maintaining technical personnel to provide customers with after sales service.

g) Developing new product lines.

Generally, most of the respondent firms except those in the Philippines extend credit of 30 to 90 days.

In the Philippines, the surveyed firms generally demand cash for their products, although credit is still made available to their valued clients.

Other sales arrangements and policies maintained by the surveyed joint venture firms in the Philippines include:

a) Consignment basis

b) Grant of discounts if payment is made on time

c) Downpayment of a certain percentage, balance of which may be paid on installment

d) Cash before delivery of goods

In the case of the ASEAN joint venture project in Indonesia, its policy is to supply first the countries of the investing governments before other markets are considered.

Pricing

The world market price of the product and its production cost are the two main factors considered in arriving at the product's price.

The table below presents the factors used to determine the price of the product and the number of mentions elicited from the survey.

Table 37

Determinants of Product Price

Determinants of Product Price	No. of Responses
World market price	10
Production cost	7
Local demand	3
Oil prices	1
Economic conditions	1
Prices in developed countries	1

Distribution

Majority of the firms sell directly to the users by utilizing the firm's sales force . The table below shows the frequency of the respondent firms classified by channel of distribution used.

Table 38

Type of Distribution
Channel Used by Respondent Firms

Distribution Channel	No. of Responses
Direct to user	14
Through agents	7

Agents used by the respondent firms include their sole distributors, affiliated companies, and trading agents.

In one respondent firm in Indonesia, products are sold exclusively by a pribumi (indigenous Indonesians) distributor. There is a law which stipulates that distribution of finished products should be an exclusive domain of the pribumi. Another Indonesian firm sells its products directly as they are considered intermediate products for use by other industries.

Respondent firms in Malaysia all sell direct to the user. However, one firm utilizes a network of regional distributors which previously served as agents of the foreign partner prior to the establishment of the joint venture.

After Sales Service

Of the 19 respondent firms, 12 provide after sales service by sending technical personnel to customers who encounter difficulties in the use or quality of the product.

J. RESPONDENT'S APPRAISAL OF JOINT VENTURE

All the respondents in the survey assess their joint ventures to be successful, although it is noted that one firm is in serious financial difficulty. The appraisal of respondents regarding advantages and disadvantages of joint venture, internal and external problems, as well as their recommendations is discussed in this section.

1. Main Advantages and Disadvantages

Among the advantages of joint venture, the most often cited by the respondents involves the transfer of technology from the foreign partner with technology to the local company. As expected, this is the main motivation of local participants in seeking participation of foreign firms in this technologically-intensive industry.

Another advantage of joint venture indicated by a number of respondents is the access to raw materials provided by the foreign participant because of its worldwide procurement and information network. (See table below.)

Table 39

Advantages of the Joint Venture Project

Advantage	No. of Responses
Transfer of technology	11
More alternative sources of raw materials	4
Access to domestic market	2
Access to overseas market	1
Access to incentives	1
Infusion of more capital	1
Promotes understanding among ASEAN nations	1

It is noted that technology transfer takes place not only in the design of processes and equipment but also through training in operations. There is also transfer of knowledge in the management of petrochemical enterprises.

On the other hand, the respondents in the survey also voice certain disadvantages of their joint ventures. A notable disadvantage mentioned is the additional costs incurred as a result of the entry of the foreign participant ranging from royalty fees to salaries and living expenses of expatriates. Another disadvantage is the difference in point of view between the local and foreign partners in managing and operating a business. (See table below.)

The table below presents the disadvantages mentioned by the respondents.

Table 40

Disadvantages of the Joint Venture Project

Disadvantage	No. of Responses
Additional cost	3
Divergence of point of view of partners	3
Too many supervisors	1
Loss of export market of the country of the foreign partner	1

2. Main Internal and External Problem Areas

The main internal problems encountered by the respondent firms are presented in the table below.

Table 41

Internal Problems of the Joint Venture Project

Internal Problems	No. of Responses
Frequent misunderstandings among local and foreign officials and personnel	4
Below par work performance of local personnel	1
High turnover	1
Deficient management and technical skills	1

According to a few survey respondents, the differences in business policies as well as cultural background between the parties have led to misunderstandings. In one respondent firm, the frequent conflict has adversely affected the working relationship among the participants in the venture.

In a respondent firm in the Philippines, local employees feel they get lower salaries relative to the expatriates. This has somehow affected the level of performance and drive of local personnel. On the other hand, an Indonesian respondent citesthe difficulty in instilling proper work habits and attitudes among local workers.

A high turnover of personnel is experienced by one Philippine respondent firm. Its employees leave the firm for better paying jobs in the Middle East.

Local personnel lack the managerial and technical capability required to profitably run the business. This problem was expressed by a respondent in an Indonesian firm. The problem is magnified as there is the policy of Indonesianization of management which the firm has to comply with.

The government appears to be a major source of external problems of the respondent firms, despite interview results which indicate that the government has generally been supportive of the joint venture projects by providing investment incentives, allowing foreign technical personnel to stay in the host country, etc.

Some respondents in Indonesia claim that government laws change very often and are vague, making it difficult for the firms to ascertain the direction the government is taking with respect to the industry.

In Indonesia and Malaysia, there is also the problem of having to comply with the policy of localization of the firm. According to one respondent in Indonesia, the BKPM (Indonesia's Investment Coordinating Board) requires the local public to hold 20 to 38% of equity by 1988 as part of the fading-out of foreign equity in the firm. Meanwhile, in Malaysia, the New Economic Policy requires that by 1990, local owners should account for 70% of total equity, 30% of which is Bumiputra.

A respondent in the Philippines discloses that the government enters package deals for projects awarded to foreign contractors such that equipment and machineries are all secured from the country of the foreign contractor even when the materials are available locally.

Some respondent firms in the Philippines feel they do not get full support from the government regarding protection against imported goods. Despite high tariff rates, imported products still manage to enter the country.

Other external problems encountered by the respondent firms include currency instability, inflation, high financing costs, and

difficulty in making remittances of the earnings of the foreign partners.

3. Recommendations to Improve Petrochemical Joint Ventures

As recommendation to other petrochemical joint ventures in developing countries, three respondents mention that continuous access to technical developments and improvements as well as training of employees are necessary to further strengthen and improve joint venture arrangements. Another three respondents indicate that foreign partners who have the expertise in the technical and management aspects of the petrochemical business should be allowed a leading share in ownership. However, two respondents suggest that joint venture agreements should provide for fade-out in equity participation of foreigners to give way to eventual takeover of local participants.

The table below presents the list of recommendations elicited during the survey.

Table 42

Recommendations to Improve Joint Venture Arrangements in the Petrochemical Industry

Recommendation	No. of Responses
Joint venture should have continuous access to technical developments and improvements and training of employees.	3
Foreign partner should have leading share due to technical and management expertise.	3
Joint venture arrangements should have provision for fade-out equity participation of foreign partner.	2
Joint venture should have full cooperation of partners.	1

Recommendation	No. of Responses
Joint venture should continue to enjoy old incentives in addition to recently promulgated ones.	1
Joint venture should not be required to procure raw materials from foreign partners'network of suppliers. Instead, it should be given flexibility to look for the best terms and conditions in procuring their raw material requirements.	1
Joint venture should make sure they do not get second-hand or obsolete machinery and equipment.	1
The objectives of the partners in forming the joint venture firm must be acceptable to all other partners concerned. Participants should periodically review objectives in relation to the operations of the joint venture firm.	1
Local partner should have controlling shares since they are more familiar with the local environment.	1
Objectives of the joint venture firm should be geared towards the country's needs.	1
Local partner should search for a good partner, preferably one who is involved in the same product that the joint venture firm intends to manufacture.	1

Worth noting is the response from an established joint venture in Malaysia which intimates that the success in their venture can be attributed to the fact that the partners know each other very well, which was the result of a supplier-distributor relationship developed long before the joint venture production facility was set up.

K. SUMMARY ASSESSMENT OF JOINT VENTURES IN THE ASEAN PETROCHEMICAL INDUSTRY

An assessment of internal structures, implementation approaches, and operation schemes among joint ventures in the ASEAN petrochemical industry is summarized below:

1. Equity joint ventures of local and foreign partners in the ASEAN petrochemical industry appear to be working with control either by the local or foreign partners. Although more than 60% of the 19 joint venture firms surveyed have majority local ownership, the other joint ventures with foreign majority interest appear to be equally satisfied with their partner relationships based on indications given by the respondents.

   Of the surveyed firms, there is significant government participation in three joint ventures which have relatively high investment requirements. One of these is the firm owning the olefins plant in Singapore, and another is involved in the ASEAN Industrial Project on fertilizer in Indonesia.

2. The survey confirms that one basic motivation of local and foreign collaboration is to access foreign technology which is not in the possession of local investors in the ASEAN countries. Next objective of joint ventures seems to be the need of these firms to assure themselves of supply sources of raw materials which may be readily available to international petrochemical firms.

   Transfer of technology and access to alternative sources of raw materials are thus the major contributions of foreign partners, in addition to

imparting training and management knowhow as well as securing or assisting in financing.

For their part, local participants normally contribute their knowledge of the local economic and business environment as well as handle or advise in the marketing activities.

3. Almost all of the firms surveyed have at one time or another availed of government tax and non-tax investment incentives, which is expected in the capital-intensive petrochemical industry. In addition, tariff protection has been enjoyed by these firms to shield the joint ventures from competition by international firms which operate world-scale sized plants. Notable exception may be in Singapore which is aiming to set up a petrochemical complex primarily for competition in the export markets.

4. Joint venture relationships in the ASEAN setting do not necessarily require formal, written agreements, as evidenced by a number of apparently successful joint ventures without such an agreement. There are, however, other governing documents such as articles of incorporations and technical assistance agreements which dictate the responsibilities of and relationships between local and foreign partners. Some respondents in the survey indicate that, more important than documents, successful joint ventures warrant that the partners are compatible and understand each other.

5. Implementation of joint venture projects are normally undertaken through the joint venture firms, as these corporate entities are ultimately responsible to the shareholders. However, it is noticed that in majority foreign-owned firms, it is the foreign partner who takes the lead in precontracting and contracting activities particularly since the foreign

partners are the ones that have the technological background and the network for procurement and securing financing. On the other hand, in majority local-owned firms, the local partners take the lead in implementation, although often taking the advice and utilizing the knowledge of the foreign partners particularly in technical aspects.

6. Management and direction of joint venture operations are normally channelled through the Board of Directors, the body which sets policies, makes major decisions, and is directly responsible to the stockholders. There is only one instance in the survey where decisions in a majority foreign-owned firm are taken up directly by the local general manager with the parent company abroad, without coursing through the board. Without an exception, all the respondents indicate that the composition of the Board of Directors represent approximately the relative shares of the equity contributions of the partners.

7. While there may be problems and certain disadvantages in joint ventures, no respondents in the survey have suggested a different form of collaboration. In fact, from the respondents' own assessment, the joint venture approach of implementing projects appears to be working in the ASEAN petrochemical industry.

PROFILE OF RESPONDE

	Country/Company	Date of Incorporation/ Commercial Operation	Shareholders/Nationality	% Equity	Main Products	Current Rated Capa
	INDONESIA					
1.	P.T. ASEAN Aceh Fertilizer Plant Site: Aceh Utara	1979/1984	Indonesian Government (Indonesian)	60%	Urea	426,000 M year
			Malaysian Government (Malaysian)	13	Ammonia	N.A.
			Philippine Government (Filipino)	13		
			Thai Government (Thai)	13		
			Singapore Government (Singaporean)	1		
2.	P.T. Eastern Polymer Plant Site: Jakarta Utara	1972/1976	P.T. Anugerah Daya Laksana (Indonesian)	50	Polyvinyl chloride	36,000 MT year
			Mitsubishi Corporation (Japanese)	30		
			Tokuyama Soda Co. Ltd. (Japanese)	20		
3.	P. T Teijin Indonesia Fiber Corporation Plant Site: Jawa-Barat	1973/1976	Teijin Limited (Japanese)	65.8	Synthetic fiber - Staple fibers	70 MT/day
			Toyo Menka Kaisha, Ltd. (Japanese)	16.5		
			P. T. Danareksa (Indonesian)	12.7		
			General Indonesian Public (Indonesian)	5.0	- Filament yarn	60 MT/day
	MALAYSIA					
4.	Malaysian Electrochemical Sdn. Bhd. Plant Site: Prai, Penang	1969/N.A.	Malayan Electrochemical (Malaysian)	65	Polyvinyl chloride resin	12,000 MT year
			Nichimen Corporation (Japanese)	35		
			Nippon Zeon Co. Ltd. (Japanese)			

* Exchange rates used to US$1.

Indonesia	:	Rp. 901.9788
Malaysia	:	M$ 2.3212
Philippines	:	₱ 11.2219
Singapore	:	S$ 2.1133
Thailand	:	Baht 21.6475

1/ Company started commercial operations in 1984, and has yet no production and sales data.

N.A. Not available

...PONDENT FIRMS

	Current Rated Capacity	Major Raw Materials	Technical Process	1983 Production Volume (MT)	1983 Production Value (US$ Million)	1983 Sales Volume (MT)	1983 Sales Value (US$ Million)	% Export to Total Sales
	426,000 MT/ year	Natural gas	Toyo Engineering Corporation process	1/	1/	1/	1/	1/
	N.A.							
	36,000 MT/ year	Vinyl chloride monomer	Suspension process	24,200	21.0	22,100	19.2	Negligible
...er ...	70 MT/day	Terephthalic acid, ethylene glycol	Teijin polymerization process	N.A.	N.A.	N.A.	66.2	None
	60 MT/day							
	12,000 MT/ year	Vinyl chloride monomer	Suspension process	10,200	7.8	10,000	8.6	None

	Country/Company	Date of Incorporation/ Commercial Operation	Shareholders/Nationality/% Equity	Main Products	Cur... Rated C...
5.	Petrochemicals (Malaysia) Sdn. Bhd. Plant Site: Johore Bahru	1972/N.A.	Idemitsu Petrochemical Co. Ltd. (Japanese) 51% Sumitomo Corporation (Japanese) Ozzdong Sdn. Bhd. (Malaysian) 49 Guan Aik Moh Sdn. Bhd. (Malaysian) Guan Aik Moh (KL) Sdn. Bhd. (Malaysian)	Polystyrene resin - general purpose - High impact	9,000 M...
6.	Revertex Malaysia Sdn. Bhd. Plant Site: Kluang, Johore	1978/N.A.	Yule Catto & Co. (British) 70 Johore State Economic Development Corporation (Malaysian) 30	Synthetic resin emulsions	11 MT/d
				Alkyd resins	22.5 MT
	PHILIPPINES				
7.	A C I Fibreglass (Philippines), Inc. Plant Site: Calamba, Laguna	1975/1976	Australian Consolidated Ind. Ltd. (Australian) 63 Republic Glass Corporation (Filipino) 28 Private Investment Company for Asia (Panamanian) 9	Fiberglass insulation material	3,600 MT year
8.	Columbian Carbon Philippines, Inc. Plant Site: Limay, Bataan	1965/N.A.	Columbian International Chemical Co. (American) 88 Nitron Chemical Industry (Filipino) 12	Carbon black	15,500 MT, year

	Current Rated Capacity	Major Raw Materials	Technical Process	1983 Production Volume (MT)	1983 Production Value (US$ Million)	1983 Sales Volume (MT)	1983 Sales Value (US$ Million)	% Export to Total Sales
ene al te t	9,000 MT/year	Styrene monomer	Continuous bulk polymerization	N.A.	N.A.	8,500	8.6	Less than 5%
c ers	11 MT/day	Vinyl acetate monomer	Revertex (United Kingdom) process	5,000	3.7	5,000	3.7	24%
sins	22.5 MT/day	Phthalic anhydride, Vegetable oil	Fusion process from Reichhold Chemicals Inc. of USA	4,000	4.3	4,000	4.3	25%
ass ion al	3,600 MT/ year	Silica sand, dolomite phenol formaldehyde	Owens-Corning fiberglass process	2,160	3.6	1,800	6.1	50%
lack	15,500 MT/ year	No. 6 fuel oil	Columbian International Chemical process	11,670	6.6	12,110	9.4	Negligible

	Country/Company	Date of Incorporation/ Commercial Operation	Shareholders/Nationality/% Equity		Main Products	Current Rated Ca
9.	Filipinas Synthetic Fiber Corporation Plant Site: Sta. Rosa, Laguna	1968/1971	Lepanto Consolidated Mining Co. (Filipino) Teijin Limited (Japanese) Toyo Menka Kaisha, Ltd. (Japanese)	60% 35 5	Synthetic fibers - Filament yarn - Staple fiber - Drawtex-tured yarn	34 MT/da 40 MT/da 15 MT/da
10.	LMG Chemicals, Inc. Plant Site: San Pascual, Batangas	1977/N.A.	Chemical Industries of the Philippines (Filipino) Individuals (Filipino) Toyo Menka Kaisha, Ltd. (Japanese)	60 10 30	Alkylbenzene	17,250 M year
11.	Philippine Petrochemical Products, Inc. Plant Site: Rosario, Cavite	1972/1974	Individuals (Filipino) Sumitomo Chemical Co., Ltd. (Japanese) Mitsui & Co., Ltd. (Japanese)	80 12 8	Polystyrene resin - High impact - General purpose - Expandable	30-35 M 35-40 M N.A.
12.	Philippine Polyamide Industrial Corporation Plant Site: Calamba, Laguna	1973/1978	Individuals (Filipino) Itoman & Co., Ltd. (Japanese) Toyo Menka Kaisha, Ltd. (Japanese) Toray Industries (Japanese)	60 40	Nylon filament yarn	5,840 year
13.	Philippine Vinyl Consortuim, Inc. Plant Site: Rosario, Cavite	1971/1976	La Perla & Individuals (Filipino) BF Goodrich Chemical Co. (American)	90-95 5-10	Polyvinyl chloride resin	20,000 year
14.	Polystyrene Manufacturing Co., Inc. Plant Site: Valenzuela, Bulacan	1971/1974	Individuals (Filipino) Mitsubishi Corporation (Japanese) Polychemical Taiwan (Taiwanese)	80 10 10	Polystyrene resin - general purpose - High impact - Expandable	6,000 year 3,000 year 1,000 year

	Current Rated Capacity	Major Raw Materials	Technical Process	1983 Production Volume (MT)	1983 Production Value (US$ Million)	1983 Sales Volume (MT)	1983 Sales Value (US$ Million)	% Export to Total Sales
		Pure terephthalic acid, ethylene glycol	Teijin process	N.A.	N.A.	N.A.	71.8	30-40%
ent	34 MT/day							
fibers	40 MT/day							
ex-	15 MT/day							
ene	17,250 MT/ year	Benzene, propylene tetromer	Chevron process	20,000	15.7	20,000	19.2	None
ene		Styrene monomer	Continuous polymerization	6,600	12.7	6,600	18.2	Negligible
mpact	30-35 MT/day							
al	35-40 MT/day							
se								
dable	N. .							
filament	5,840 MT/ year	Caprolactam monomer	Polymerization	2,500	8.2	3,100	9.5	Negligible
yl ide	20,000 MT/ year	Vinyl chloride monomer	Suspension process of BF Goodrich Chemical Co.	14,500	12.5	11,300	11.0	None
ene								
	6,000 MT/ year	Styrene monomer	Continuous mass polymerization	N.A.	N.A.	N.A.	N.A.	Negligible
pact	3,000 MT/ year		Emulsion polymerization					
le	1,000 MT/ year							

	Country/Company	Date of Incorporation/ Commercial Operation	Shareholders/Nationality/% Equity		Main Products	Current Rated Capa
15.	Republic Chemical Industries, Inc. Plant Site: Metro Manila	1958/1958	Individuals & Corporation (Filipino) Individuals (American)	82% 18	Epoxy adhesives Plastic resin glue Expandable polystyrene products	416 MT/ye 320 MT/ye 2 million b feet/year
	SINGAPORE					
16.	Petrochemical Corporation of Singapore (Pte.) Ltd. Plant Site: Pulau Ayer Merbau	1977/1984	Government of Singapore/ Development Bank of Singapore Ltd. (Singaporean) Japan-Singapore Petrochemical Co., Ltd. (Japanese)	50 50	Ethylene Propylene	300,000 M year 160,000 M year
17.	Singapore Polymer Corporation (Pte.) Ltd. Plant Site: Jurong, Singapore	1969/1971	Development Bank of Singapore (Singaporean) Overseas Union Bank Ltd. (Singapore) Sumitomo Group (Japanese) Others (N.A.)	39 16 43 2	Polyvinyl chloride resin Polyvinyl chloride compound	18,000 M year 15,000 M year
	THAILAND					
18.	Thai Petrochemical Industry Co., Ltd. Plant Site: Rayong Province	1978/N.A.	Individuals (Thai) Individuals (British) Individuals (Malaysian)	94 5 1	Low density polyethylene High density polyethylene	65,000 M year 25,000 M year
19.	Thai Polystyrene Co., Ltd. Plant Site: Samut Prakarn Province	1982/N.A.	Individuals (Thai) Individuals (Taiwanese)	60 40	Expandable polystyrene	2,000 M year

2/ Company commenced operations only in February 1984.

3/ Sales volume and value include both polyvinyl chloride resin and compound.

Main Products	Current Rated Capacity	Major Raw Materials	Technical Process	1983 Production Volume (MT)	1983 Production Value (US$ Million)	1983 Sales Volume (MT)	1983 Sales Value US$ Million)	% Export Total S
Epoxy adhesives	416 MT/year	Epoxy resin	Compounding	N.A.	N.A.	N.A.	3.3	Negligib
Plastic resin glue	320 MT/year	Urea formaldehyde						
Expandable polystyrene products	2 million board feet/year							
Ethylene	300,000 MT/ year	Naphtha, LPG, Others	N.A.	2/	2/	2/	2/	2/
Propylene	160,000 MT/ year							
Polyvinyl chloride resin	18,000 MT/ year	Vinyl chloride monomer	Suspension polymerization	13,000	8.5	21,600 3/	17.0 3/	68%
Polyvinyl chloride compound	15,000 MT/ year	Polyvinyl chloride resin	Extrusion	14,400	10.9			
Low density polyethylene	65,000 MT/ year	Ethylene	N.A.	45,500	N.A.	N.A.	10.6	None
High density polyethylene	25,000 MT/ year							
Expandable polystyrene	2,000 MT/ year	Styrene monomer	Taiwan-sourced process	1,800	N.A.	N.A.	1.9	None