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Monterey, California

THESIS

JAPANESE RESOURCE DEPENDENCE

by

Richard William Sim

March 1982

Thesis Advisor: Claude A. Buss

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It is the writer's opinion that Japan, though inescapably dependent on overseas sourcing for over 80 percent of her raw materials, has woven an effective web of economic interdependence with these three regions and is rapidly learning to cope with the resulting prosperity.

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Japanese Resource Dependence

by

Richard William Sim

Lieutenant Commander, U.S. Navy

B.A., University of Texas, 1968

Submitted in partial fulfillment of the

requirements for the degree of

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March 1982

Author: Richard W. Sim

Approved by: Claude A. Buss

Thesis Advisor

Second Reader

Chairman, Department of National Security Affairs

W M Woods

Dean of Information and Policy Sciences

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I. INTRODUCTION

> "The paradox of Japan, thirty-five years after it was left shattered and desolated by the Second World War, is that its swift emergence as an economic superpower has so overwhelmed it with plenty that it is not unlike some heir to sudden huge wealth who, rather than feeling elated, is embarassed, bewildered, and somewhat lonely as he tries to adjust to the shock of affluence."
>
> (Robert Shaplen)

There is no denying the fact that Japan's postwar diplomacy has been the "diplomacy of the economy, by the economy, and for the economy" with the nation's basic strategy lying clearly in the concept of "seikei burni": a distinct separation of politics, economics and culture. The Japanese have maintained their own style for dealing with everything, old and new, in tribal fashion, through conformity and loyalty, and only rarely on the basis of individual action and expression. In an Oriental societal climate based on consensus, competition is countenanced only if standards are established and respected: the ideal of vertical responsibility -- to goals of the family, the company, and the nation -- takes precedence over individualism. The postwar economic void was filled with an American-style materialistic model adapted to the Japanese climate. Foreign trade grew to dominate economic diplomacy as trading companies and a multiplicity of entrepreneurs, encouraged by the government and supported by an ever higher rate of productivity in such fields as steel, automobiles, pertochemicals, electronics, and shipping, swarmed around the world signing export contracts and building up huge balances of trade in Japan's favor. All of this dismayed not only other industrial nations but developing ones as well, which legitmately think in terms of aid and ivestment to build up their own economic base rather than of themselves as constituting sources of more and more raw materials for Nihon's factories. Little wonder Japan acquired early-on a reputation as an ugly duckling -- this "Resource Diplomacy" complemented the unpleasant memories of the prewar "Greater East Asian Co-prosperity Sphere."

But recently, despite a continued dependence on overseas raw materials, Japan has proven itself to be more capable than others of contending with economic crises brought on by oil shocks and world recession: Japan has become envied and admired for its accomplishments and resilience; "the ugly duckling has engendered swan-like qualities" [Ref.1:p. 124]. Whether from the East or West / North or South, Japan's dramatic progress during the past two decades is most often praised and emulated throughout economic circles around the globe. The world is indeed puzzled by this paradox: a country of 117 million living on an archipelago poor in natural resources ... on a land only 17% of which is arable ... which was deeply mired in feudalism 150 years ago ... has come forth to establish the free worlds second strongest economy ... 3% of the worlds population ... living on .3% of the globe ...

producing 10% of the worlds gross national product [Ref.2:p. 43].

The subject of Japan's resource dependency allows perhaps the most prolific case study of any nation today. It reveals the double-edged sword of affluence: real self-interest required that Japan actively support the health of its major markets in Europe and America and invest heavily on a global scale in the development of new raw material sources.

A question frequently surfacing in the 1980s has been "Can Japan continue this progress and growth level ad infinitum? Or will Japan be forced to restructure its way of life toward economic objectives and try to obtain them through political, diplomatic, and cultural channels?" A study of whether or not the trillion-and-a-quarter dollar Japanese economy will achieve continued growth throughout the rest of this decade is beyond the scope of this study. However, a statistical and conceptual evaluation of recent years' strategic resource policy will provide sufficient background against which can be measured the relative validity of statements/forecasts that currently proliferate economic policy circles. Tables are provided for the reader to examine and use for inductive reasoning. The conceptual framework for the study of Japan's resource dependency and her foreign economic policy dictates that one search for linkages, causal relationships, and important variables. If these linkages are found to be applicable to other situations, they may contribute to an enhanced understanding of the variables themselves. By concentrating on three resource rich global regions (Southeast Asia, the Persian Gulf, and Southern Africa) a diverse case study relationship can be established and policy comparisons/ conslusions can be made.

II. BACKGROUND: JAPAN AND RESOURCES

A. DEPENDENCE PERSONIFIED

Raw materials such as oil, iron ore, copper, aluminum, chromium, rubber, and many others are the lifeblood of modern industry. Most of these commodities occur in the form of minerals or natural resources in practically every part of the world. In practice, however, deposits that are economically exploitable with current technology exist in only a few regions of the world. Moreover, many of the highly industrialized countries that are primary consumers of raw materials do not possess sufficient deposits of these necessary minerals. Japan is perhaps the best example of an economy with rapidly growing needs that must rely almost entirely on the imports of most of its raw materials (Table I).

When basic industries of a country become significantly dependent on supplies of such raw materials from foreign sources, these resources become labled strategically important to the economies of those countries. Not all raw materials are of equal importance to each nation; even when a particular mineral is critical to one industry, it may not be of importance to another unless it in turn depends on production linkage output. As a result, the definition of what is truly strategic/critical material will vary not only from country to

TABLE I

JAPAN'S OVERSEAS DEPENDENCY OF KEY RESOURCES (%)

Resource	1960	1970	1980
ENERGY	56%	78%	86%
Coal	36	68	80
Crude Oil	98	99	99
Natural Gas	--	78	78
Iron Ore	92	98	98
Copper	86	93	94
Lead	55	64	79
Zinc	36	55	79
Tin	99	98	98
Aluminum	100	100	100
Nickel	100	100	100
Titanium	100	100	100
"High Tech"	--	100	100
Manganese	100	100	100
Precious Group	92	95	96
Molybdenum	80	80	80
Tungsten	--	74	75
Chromium	100	100	100
Uranium	--	100	100

Source: The White Papers of Japan 1980 (MITI) country but also among industries within each nation. In addition, if there exists the possibility of a severe shortage or outright supply disruption of material that cannot be readily substituted in an industry, then it must be considered as strategic or critical to the end-users.

B. ACCESS

Among the almost 200 countries of the world there are three basic groups of nations that have differing vital interests in the supply and consumption of raw materials: the industrialized free market economies (led by Japan, the EEC, and the United States), the centrally planned economies (dominated by the Soviet Union and PRC), and the developing countries of the Third World (led in the 1970s by OPEC). The industrialized economies account for 70% of global consumption of raw materials yet own only about a third of the worlds reserves (Table II); as a result, access to sources of raw materials and a secure means of transportation to the end-users is of paramount importance to the industrialized free market economies.

Several factors influence the supply and consumption of various raw materials in any particular country. Included are the existence of onshore mineral deposits, availability of capital and technology, energy supplies, tranportation system, industrial demand, and export potential. Historically the USA and the nations of the European Community (EC) have secured resources through multi-national operations, usually through

TABLE II

A Question of Access and Price

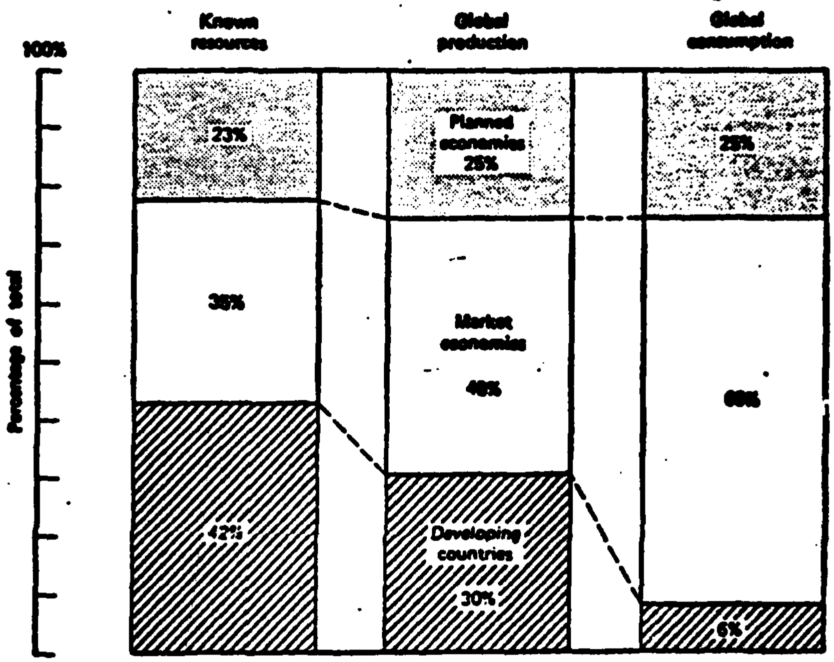


Figure 1.1 Comparative raw materials resources, production, and consumption in three basic groups of nations in the world. Source. Based on estimates in the article "Crisis in Mineral Resources" in SEMA Review published by Metra Consulting in Paris, France, September 7, 1979.

Source: Japan '81 (JETRO)

captive development with vertical integration: that is, a corporation obtains a large area of deposits as a concession and undertakes exploration, development, and production through wholly owned subsidaries. Not only upstream operations but also downstream ones such as transportation processing, distribution, and sales throughout the world are integrated. This method has been quite efficient and profitable for a number of western MNC's (multi-national corporations); oligopolistic domination of worldwide sourcing and sales has resulted [Ref. 3: p. 507].

Japan's case is quite different. Until the 1960s, her resource requirements were satisfied almost exclusively through spot market purchase. But rapid modernization brought heavy industrialization and created commensurate demands on resource access/procurement. Quantum leaps in iron and steel, aluminum, and petrochemical industries fueled the need for increasing energy resources and other critical materials. Japan's primary concern rapidly became the assurance adequate quantities for downstream operations at reasonable prices and without fear of delivery interruptions: No small task in the turbulent decades of the 1960s/1970s! A two pronged attack was developed and has proven to be effective for Japanese interests: long-term contracts and technology/development in exchange for trade. Long-term contracts have reduced host nation concerns for "raw material prostitution" (rape of the South) while development guarantees have improved the host's productivity levels with technological, financial, and broad-based economic assistance by the Japanese. A more detailed regional case study emphasizing this Japanese international business model will be made concentrating on three mineral rich areas of the globe: Southeast Asia, the Persian Gulf, and Southern Africa.

C. RESOURCE UTILIZATION IN JAPAN

Over 70% of the total value of the world's production of the top 50 most critical minerals is represented by energy resources (oil, gas, coal): The availabilty of adequate energy supplies is of great significance to the minerals and metals production cycle-- it is indispensible in exploration, mining, processing, refining, and transportation of raw materials. Several of the metallic minerals are produced in great quantities in the *form of ores*: *iron*, *copper*, aluminum, nickel, tin, lead, and zinc. Since World War II the introduction of many new materials has created a high technology resource industry in which energy, electronics, and advanced systems fields have come to rely on; these materials are often obscured under the label of "nonferrous metals" and include: gold, cobalt, magnesium, platinum, silver, titanium, uranium, in addition to the "exotics" such as columbium, vanadium, and others.

During the 1970s about 50% of the Japanese import bill was made up of raw materials to fuel the advanced minerals processing industries that have been established there since

World War II [Ref. 4: p. 538]. Some of the largest and most modern refineries, smelters, and processing plants in the world are located on Honshu. A brief commodity review will allow investigation of Japan's utilization of resources and possibly assist later analysis of her continued vulnerability to offshore/overseas dependence.*

1. Metals/Non Fuel Minerals

a. Aluminum

The use of aluminum in the world now exceeds the use of any other metal except iron. Construction, transportation, electrical and telecommunications industries are the largest consumers of aluminum in Japan. Now the worlds third largest producer (behind USA, USSR), Japan's production quadrupled between 1965-1975 but was severely affected by the first oil shock in 1973. Current plans are to continue a phased 25-35% reduction in onshore production capacity (dictated in 1978) to maintain a bauxite import level of approximately 5 million tons annually.

b. Copper

Japan's copper production accounts for 6% of the value of all minerals produced in the world. It is indispensible for use in electric power transmission, communications, motors, and thousands of other industry-wide

*Statistics for the resource section are from the Minerals Yearbook [Ref.4], The White Papers of Japan [Ref.5], and Japan'81 [Ref.6].

businesses. Japan's high growth rate in the 1970s was instrumental in sustaining the world's copper market. Though copper business has suffered from sluggish demand, price fluctuations, and reduced profits during recent years, the life expectancy of existing onshore custom smelters provides assured requirements for concentrated ore imports for the balance of this decade (about 2.8 million tons/year).

c. Iron and steel

Iron ore is the primary source material of the iron and steel business, the backbone to any manufacturing system. Construction, shipbuild ng, transportation, agriculture, and almost every other industry is affected to some extent by iron and steel production. Japan's large, integrated, and modern industrial complex became the West's largest producer of steel in 1980 (112 M tons). A consistent world leader in exporting steel products, she maintained a dominant-buyer relationship with a number of iron ore producing nations (over 132 million tons imported in 1979).

d. Lead and Zinc

These two nonferrous metals are vital to Japan's automobile industry (assembly-line die castings and nicad batteries) in addition to having proven versitility in galvanizing steel and as components in safety shielding for the nuclear industry. Refined lead and zinc production throughout the past decade has averaged a 3:1 / 4:1 ratio over local mine production, thus creating an identifiable market that has sustained an import dependency of 70-75%. Environmental concerns and land utilization has encouraged the movement toward offshore ventures in this industry during the last five years.

e. Nickel

One of the most versatile alloying materials, nickel is used in the production of stainless steel and corrosion resistent superalloys; it can be the most important component in electronic gear due to its heat resistent properties. Japan's demand for nickel stems from its substantial smelting/refining infrastructure which produces in excess of 130,000 tons annually and consistently ranks in the top three world refiners.

f. Tin

For many industrial tasks, there are no substitutes for tin; one third of all containers produced in the world are tin. In addition, bronze, brass, ceramics, and miscellaneous chemicals are dependent on tin. Japan has been the world's second largest tin consumer for many years. The abundance of worlds supplies in the Pacific Basin has benefitted Japanese industry and allowed consistent consumption in excess of 30,000 tons/year.

g. Titanium

During the time period 1975-1980, Japan significantly increased its production of titanium sponge -- a major ingredient in the aerospace industry; there currently are only four countries in the world producing this sponge (UK/USA/JA/USSR). About 50% of Japanese production is exported to America and resultant titanium ore imports have averaged 500,000 tons/annually.

h. High Technology Materials

Many new materials have been introduced to develop advanced technology industries that make up a great part of Japan's bright economic future in the 1980s. Electronics, microwaves, lasers, cryogenics, and other similar programs depend on newer "exotic materials" that are relatively unknown commodities due to small production/extraction programs. Over 30 different metals can be identified with the high-technology business and it is not by accident that Japan has become a leader in producing/consuming such materials as bismuth, columbium, germainuim, cadmium, zirconium, selenium, tellurium, indium, and cobalt.

i. Manganese

Almost all imported maganese went to the iron and steel industry where it was utilized as an ingredient in an alloy for high quality, high tensile strength steel. The Japanese are developing deep seafloor exploration/mining equipment to pursue Pacific seabed harvesting of manganese nodules in attempt to reduce their dependence on imports.

j. Precious Metals

1) Gold is utilized in integrated electronic circuits for solid state devices. In addition, 50% of the

gold processed in Japan is held by the government for monetary reserves.

2) Silver has diverse uses but is the most common in electronics and the booming photography industries in Japan. One third of the domestic amount needed for industry was produced in Japan as a by-product of copper, lead, and zinc processing.

3) The platinum metals consist of platinum, palladium, iridium, rhodium, ruthenium, and osmium and are rare, anticorrosive alloys utilized in petroleum refining and the automobile industry. These are used in small quantities when compared to other critical materials but when utilized, there are no practical existing substitutes. Japanese industrial demand is a very strong influence in this metal group and normally accounts for up to 50% of the worlds consumption.

k. Molybdenum and Tungsten

These two metals are utilized in the steel industry as an alloying element to produce high tensile, wear resistent, temperature treated steels for special uses. The 1970s saw wild fluctuations in the market price for these commodities with a quadrupuling of unit value between 1973-1976. Industry demand has kept imports of these two materials at over 20,000 tons annually.

1. Chromium

Another alloy important to aluminum and special use steel production, chromite ore has continued to remain important to Japanese heavy industry, especially in the automobile and aviation business. Import levels are expected to exceed the 4 million tons figure for the forseeable future.

2. Energy Resources

Japan is one of the most significant energy "have-nots" of the 20th century. With a total reliance of 86% of its 1980 energy requirements coming from foreign sources, the bulk of the country's import bill throughout the 1970s has been dedicated to petroleum, coal, liquefied natural/petroleum gas, natural gas, and uranium. To meet the country's energy needs, virtually all forms of mineral fuels were imported to sustain Japan's industries.

a. Coal

The rapid growth of the Japanese steel industry has fueled increased development of the coal business in a number of countries. Due to perfected technology in cokemaking (in order to maximize blast furnace productivity) the Japanese have become dependent on a supply of high quality, low volitile coals from a limited number of sources. In addition, the encouraged diversification in the electric power industry away from crude/fuel oil has significantly raised thermal coal imports. A lack of domestic supply has pushed the coal import total over the 50 million ton per year mark for the last ten years.

b. Uranium

The energy diversification plan dictated by the first oil shock laid out specific growth plans for the nuclear power industry. To achieve a 25% share of energy generated by the end of the century, Japanese reactors need to continue the progressive growth pattern achieved in the last 15 years. This will include a sustained dependency on uranium ore imports, mostly from the African continent, which are needed to fuel the pressurized water, fast-breeder and advanced thermal reactors that Japan has on-line.

c. Gas

The third pillar of the three tiered "alternate energy equation" for Japan is the recent increasing interest in converting the source for much of the industrial electric power to liquefied natural gas; gas powered thermal plants will provide over one third of Japan's electricity in 1983. The 1980 demand of 16 million imported tons of LNG is expected to increase throughout the decade.

d. Petroleum

10% of the world's energy is consumed by Japan; 75% of this Japanese energy is fueled by imported crude oil. Despite an impressive conservation and energy diversification campaign, her oil bill exceeds $70 billion annually and will continue to push the 6 million barrels/day total that the 99% import reliance equated to in 1980.

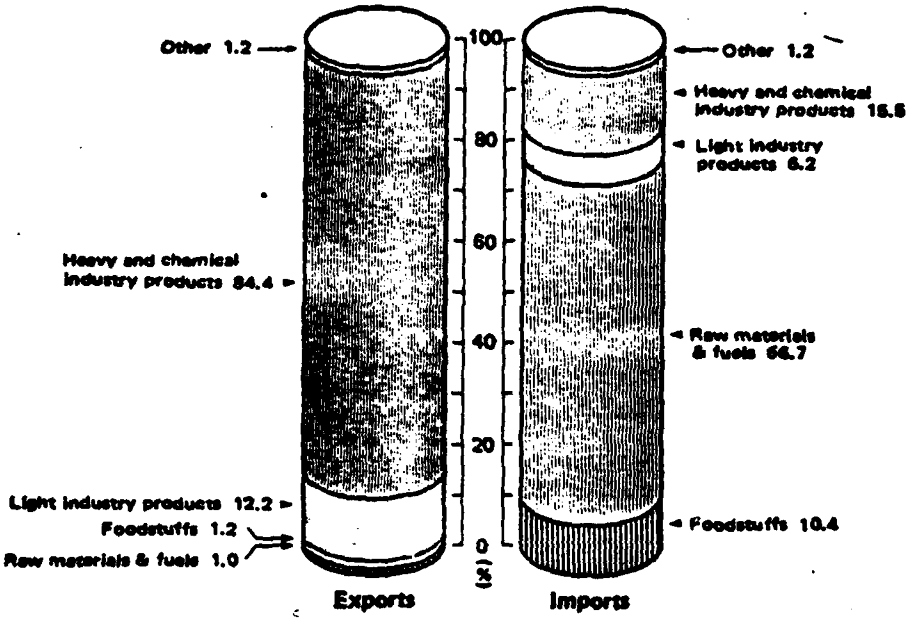
D. RESOURCE OVERVIEW

Japan was one of the first nations to recover from the worldwide economic slump in the aftermath of the 1974 oil crisis. Her surpluses in trade and current accounts have continued to rise annually from the 1974 level. A critically important consumer of raw materials and producer of finished products, her mineral imports bill continues to account for more than 60% of her imports bill (Table III).

Processing raw materials has provided a base for high economic growth and for re-export of higher processed products. Growing concern for energy opposition to land/water resource use for heavy industry during the 1970s brought pressure for a shift in Japan's industrial structure. The successful implementation of some of these new policies, a regional examinination of three resource-rich areas of the globe on which Japan relies for a major percentage of her raw materials and a discussion of Japanese foreign economic policy will be included in the balance of this study.

TABLE III

Foreign Trade by Commodity Group (1980)



Source: Japan '81 (JETRO)

III. JAPAN'S ANSWER TO THE CHALLENGE

"The societies which have achieved the most spectacular broad-based economic progress in the shortest period of time are not the most tightly controlled, not necessarily the biggest in size, or the wealthiest in natural resources. No, what unites them all is their willingness to believe in the magic of the marketplace." (President Ronald Reagan, IMF address, 9/29/81)

Japan's dependence on imports of raw materials and energy is so complete that policies attempting self-sufficiency in any of the key items in Table I appear unrealistic. Indeed, the long-term goals established for Japanese industry/manufacturing are diversification of source of supply, economizing on raw material use, stepping up local production from indigenous resources, and establishing a national stockpile program for emergencies. But the basic character of heavy dependence on offshore sourcing will not change.

A. BACKGROUND OF MATERIALS PROCUREMENT STRATEGY

Throughout most of the 1950s/1960s Japan procured her raw materials directly from sources -- via direct deal or open purchase on the spot market. In most mineral industries, the barriers to participation/joint investment were too high for indigenous industries to overcome. But world market conditions were condusive to obtaining favorable terms and

Japan obtained the necessary materials to fuel her growing industrial demand.

But the early 1970s brought some severe "shocks" to Japan's modus operendi -- the Bretton Woods collapse, the soybean export threat and the dollar devaluation by America, and most importantly, the 1973/74 oil crisis. Those events dealt a fatal blow to the assumption implicit in her past strategy that resources would always be readily available at low cost. As a result of these developments, by the mid 1970s the environment in which Japanese industries operated had changed drastically, forcing them to alter general operations in two important ways: First, Japan's enterprises became increasingly interested in promoting their own resource exploration and development. The obvious result was a significant increase in the number of Japanese-owned, overseas ventures dealing in aluminum, copper, iron ore, petroleum, and other resources. Second, these industries plunged into the establishment of manufacturing facilities abroad, some designed primarily to defend their export market, others to gain access to low-cost labor. In addition, Japanese firms stepped up efforts to gain favored access to advanced technology, low-cost energy, and suitable plant sites.

These two modifications in Japanese foreign economic behavior brought three additional business phenomena into being: a. a marked increase in Japanese direct investment overseas, b. the solidification of the long-term contracts for securing resources offshore, and, c. the proliferation of dominant-buyer relationships as a facet of these contracts.

B. DIRECT INVESTMENT, JAPANESE STYLE

Direct foreign investment, that is, the transmission to the host country of a package of capital, managerial skill, and technical knowledge, is a potent agent of economic transformation and development [Ref.5: p. 77]. Japan has endeavored to invest in developing countries with the object of securing increased imports of primary products which are vitally important for her economy. This is called "development assistance for import" and generally referred to as "trade oriented investment." It is aimed at complementing Japan's comparative advantage position while reducing her areas of disadvantage. An examination of her DFI (direct foreign investment) made by Kiyoshi Kojima in 1980 indicated that three distinct lines were evident [Ref.6: p. 631]:

1. DFI in natural resources development accounted for 23.9 percent of the total amount with mining being the most important source.

2. Manufacturing accounted for 32.4 percent of the total with metals and appliances assuming the bulk investment percentage.

3. DFI in commerce represented 43.5 percent and included banks, trading companies, insurance and shipping

companies -- all of which work in facilitating external trade (Table IV).

Geographically, Japanese DFI was weighted heavily toward the "South" with LDC's receiving over 54 percent of total overseas investment (for the regions in this study: 27% Asia, 6% in the Gulf, and 4% in Southern Africa). More importantly, the trend throughout the 1970s has been for remarkable growth: from a 1971 total cumulative investment overseas of 4.4 billion dollars to a 1980 figure of over 36.5 billion dollars! (Table V). Due to the severe recession after the first oil crisis, Japanese DFI sank in real terms but recovered rapidly along with the economy and by FY77 adjustments were made and overseas assets rose dramatically. The 1978 record outlay of 4.6 billion dollars represented a 64 percent increase and continued higher in 1979 to a new peak of $4.9 billion. A number of factors dictated this overseas investment surge:

1. Japanese enterprises focused on outward investment as part of their long-term business strategy to devlop foreign markets once the oil-induced business slump receded.
2. The yen appreciated in 1978 lowering the relative cost of DFI and encouraging export-intensive industries investment.
3. Japanese business began to increase their overseas branch subsidiaries to blunt LDC criticisms of the dominant foreign MNC.
4. Plant exports were sought to increase local labor-intensive employment in manufacturing.
5. Wage differentials between Japan and the OECD diminished resulting in a reduced comparative labor advantage.
6. Resource shortages prompted DFI in raw-material development projects with developing countries accounting

TABLE IV

JAPANESE CUMULATIVE FOREIGN DIRECT INVESTMENT BY REGION AND INDUSTRY, MARCH 31, 1981

(in millions of dollars)

	Asia	Latin America	Middle East	Africa	Sub-Total	Global Total	Distribution Percentage
Manufacturing	$4,429 (37.5%)	$2,593 (21.9%)	$1,064 (9.0%)	$ 96 (0.8%)	$ 8,182 (69.2%)	$11,815 (100.0%)	32.4%
Resource Development	3,451 (39.5%)	1,573 (18.0%)	42 (0.5%)	529 (6.1%)	5,595 (64.0%)	8,739 (100.0%)	23.9%
Non-Manufacturing	1,951 (12.2%)	2,000 (12.5%)	1,153 (7.2%)	820 (5.1%)	5,924 (37.2%)	15,943 (100.0%)	43.7%
Total	9,830 (26.9%)	6,168 (16.9%)	2,259 (6.2%)	1,445 (4.0%)	19,702 (54.0%)	36,497 (100.0%)	100.0%

Source: Ministry of Finance

TABLE V

TRENDS IN JAPANESE FOREIGN DIRECT INVESTMENT

(in millions of dollars)

	Total	
Fiscal Year	Number of Applications	Amount
1951-1968	2,460	$ 2,007
1969	544	665
1970	729	904
1971	904	858
1972	1,774	2,338
1973	3,093	3,494
1974	1,911	2,395
1975	1,591	3,280
1976	1,652	3,462
1977	1,761	2,806
1978	2,393	4,598
1979	2,694	4,995
1980	2,442	4,693
Cumulative Total	23,948	36,497

Source: Ministry of Finance

for 64 percent of Japan's cumulative total in this sector. [Ref. 7.]

Profits from this upsurge in DFI have been unable to offset the total outflow so far, thus contributing to the overall deficit in Japan's international basic balance. But one of the most often cited indirect benefits of overseas investment is its inherent contribution to the recipient nation in the devlopment arena: capital, technology, and human resources. As of the end of FY79, Japanese enterprises abroad employed 700,000 local employees contributing to 4 percent of the total assets of foreign corporations and 4½ percent of aggregate sales (MOF).

In the developing countries, the investment environment in resource/energy fields presents difficulties, but as it is essential to assure future supplies, Japan will continue to mitigate risks by providing government backed insurance and investment protection to her overseas entrepreneurs.

C. LONG-TERM CONTRACTS

Japan has promoted economic development arrangements leading to trade for virtually all raw materials. Development for trade means offshore sourcing through low levels of trade-oriented DFI [Ref.8: p. 79]. Japan participates to some extent in the development and improvement of productivity of primary product extraction with technological, financial, and sometimes broad economic assistance in order to import these products. Financing is limited, usually taking the form of developmental loans, but assurance of the large home market in Japan through various forms of long-term contracts, has worked a significant role. Specific contractual patterns follow the same lines from country to country, commodity to commodity; generally included are:

1. A 10-15 year quality deliverance guarantee
2. A 10% base tonnage quantity margin
3. A fixed price for the quantity secured for a certain number of years with the provision for price re-negotiation at a later date. (but normally with an agreed upon upper/lower limit window of 7½%).

The obvious benefits of the long-term contract involves advantages for both supplier and receiver -- the large-scale trade improves development allowing economies of scale and identifiable long-term capital gains for both parties. In addition, in the transportation phase, due to the identified market, specialized vessels can be utilized for the trade allowing the most efficient use of shipping and reducing freight costs. Other incidental transaction costs, contract negotiations, customs clearance, carrier selection, and settlement of payments are reduced because of standardization.

D. DOMINANT BUYER SITUATIONS $C = \frac{A}{B}$

Japan has undertaken a national policy of diversification of supply for raw materials to avoid the "single-source vulnerability" syndrome. But in certain minerals, the demand is so large, that a major portion of the suppliers' output goes to Japan, i.e., non-ferrous metals found in ASEAN (copper, lead, silver, bauxite). In this situation, Japan has usually managed to establish a "dominant buyer-major supplier relationship" based on the long-term contracts. When more than 50 percent of a supplying country's total exports of a material are to Japan (A=the ratio of exports to Japan), Japan is the dominant buyer and may be able to exercise monopoly bargaining power. When the share of Japan's imports from a given country is greater than 50 percent (B=Japan's dependency on that country), the supplying country is the dominant supplier and can manifest monopoly bargaining power. The latter rarely occurs due to supplier diversification. When the bargaining power index C (A divided by B) with a country is above one, it means the Japanese position is stronger in determining long-term contract rates, prices, and terms; if the index is less than one, the reverse is true [Ref.9: p.514]. Specific commodity examples will be examined in a later section of this study.

In addition to advancing Japan's own resource security, the long-term contract approach has two possible advantages for the stability of world trade in natural resources: The pricing terms established by Japan and its suppliers set the pace for the world market rate in many commodities; the existence of this long-term contract price can serve to stabilize short-term market fluctuations in the international arena. It can also introduce greater competition into the management of future long-term contracts.

But the market triad approach employed by the Japanese (direct investment, long-term contracts, dominant buyer relationship) is not without problems. Japan's enormous demand for resources is a great incentive, but alone is not sufficient to ensure adequate overseas development -- capital, technology, and active enterpreneurship are needed and this usually meaans purchaser contract diversification by the supplying nation (i.e., US, Canada, EEC, MNC's, or foreign economic investment/loan assistance). In order to earn the respect of the sovereign resource owner and retain its long-term supply chain, Japan has increased its international joint ventures, increased its ODA (government controlled official development assistance), and has intensified its overall conservation of resources campaign -- a policy that has resulted in a resounding success.

E. THE ROLE OF THE MULTINATIONAL

Japanese multinational enterprises are essentially a product of the decade of the 1970s. They are late-comers and have been forced to break into the "bigtime" by competing with the well established western MNC. Breaking into this oligopolic network has meant using overseas production to maintain and expand their market share which was attained originally by increasing exports from Japan. The most significant progress on this track has been registered in the developing countries due to the LDC need for revenue/direct investment. As noted earlier, the Japanese push for raw materials logically dictated that investment, capital, and participation be directed toward procuring offshore natural resources to fuel the growing, resource-poor economy (hence, the still correspondingly high percentage -31%- of Japanese raw materials development ventures by its relatively young enterprises overseas). Through postwar revamping of Meiji Era trading companies which had been established by the "Zaibatsu" (big business organizations) to ensure a supply of raw materials from overseas, Japanese based multinationals began to shift emphasis into large scale overseas projects such as petroleum, aluminum, and steel plant operations. Additional contributing factors mentioned by several authors about this tentatively new and far reaching expansion of the Japanese MNC included:

1. Onshore restrictions to growth in resource processing industries due to environmental concerns, labor costs, and energy use in Japan.

2. Nationalistic concerns voiced by resource suppliers encouraging increased onshore development and investment.

3. The first and second "oil shocks" (1973/1979) which forced Japan to examine her entire economic

infrastructure and reevaluate the various options for future growth.

4. And, as Tsuneo Iida describes it, "...simply that the Japanese economy had finally arrived at a stage of Japanese imperialisn or internationalization... " [Ref. 10: p.51]

For these reasons and a host of others, the Japanese corporate interests abroad significantly increased in the 1970s as Japan emphasized the importance of her overseas ivestments. To allow a more thorough understanding of the growth pattern of a Japanese MNC in a resource industry, a more detailed look will be presented in Appendix A by outlining the exploits of Japanese oil companies in the last 25 years.

F. THE ROLE OF ODA

Japan's "resource constraints" problem did not originate in any sense in an absolute raw materials depletion problem created in the 1970s. It is more a product of the worsening "North-South" dispute resulting from continued development of resources in the LDC's by Japan and other OECD* nations. The 1970s policy of increased direct investment overseas by major

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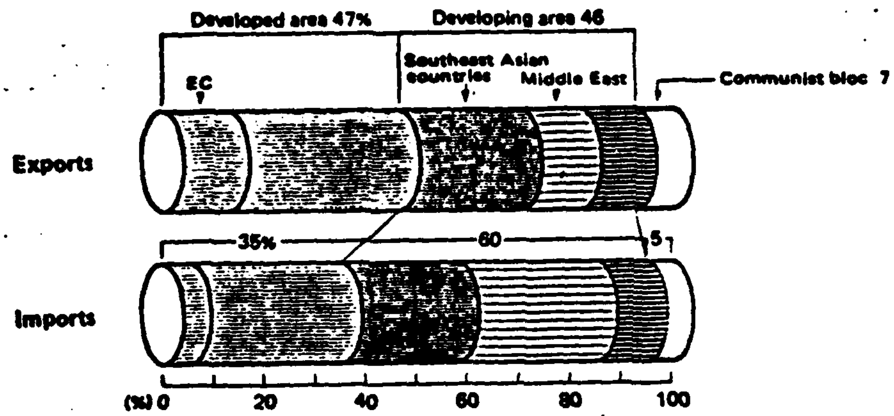
*OECD: Organization for Economic Cooperation and Development; formed 1961 by the major market nations of the North: USA, JA, CAN, AUST, NZ, EEC.

firms has complicated the search for secure supplies due to the controversial "MNC exploitation"; the developing countries are attempting to establish more permanent sovereignty over their raw material resources/onshore devlopment projects. Environmental and conservation concerns are rapidly coming to the forefront as the LDC seeks to protect its treasure of raw materials.

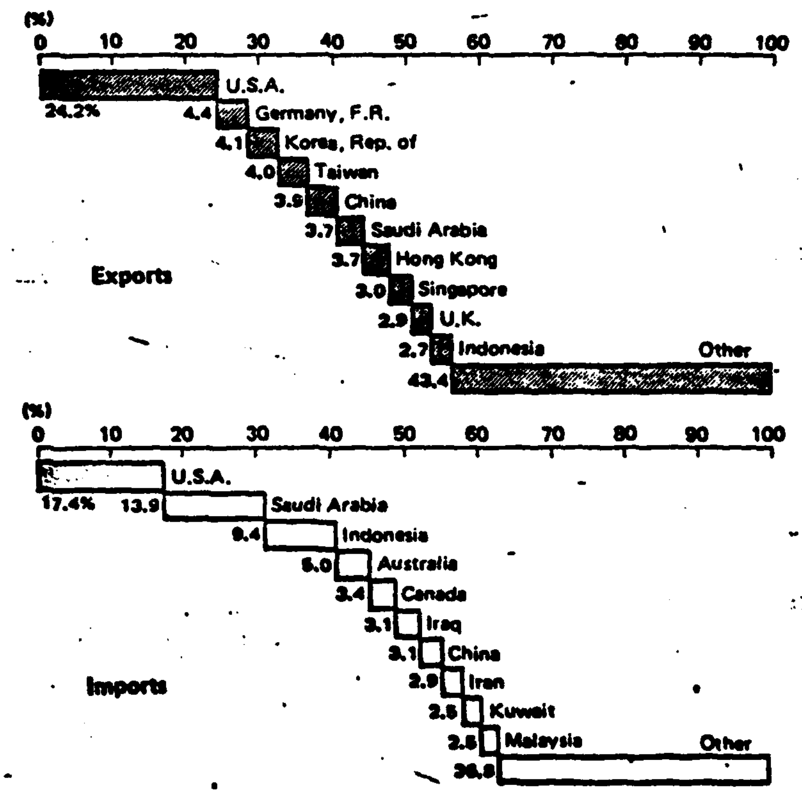
To meet this challenge the Japanese government has proceeded with a two pronged economic attack -- the first being increased direct foreign investment by private concerns (now in excess of 36 billion dollars of worldwide assets) and the second being an active expansion of official development assistance (ODA) directed toward the "South." A review of Japan's foreign trade reveals that from 1976-80, some 45 percent of exports and 56 percent of her imports were conducted with developing countries (compared to OECD averages of 26 and 8 percent) (Table VI). In order to further the MITI/JETRO policy of promoting welfare and assisting in the economic development of the revenue-poor developing nations, Japan has directed its bilateral economic aid toward natural resource rich nations who need assistance building a stable infrastructure. An effective policy has been supervised by MITI linking the three elements of ODA, DFI, and bilateral trade in response to the needs of both countries. Japan's performance in the economic assistance field has realized a massive increase in the last four years [Ref.13]: from a 1975

TABLE VI

External Trade by Region (1980)



Percentage Distribution of Japanese Foreign Trade (1980)



Source: Japan '81 (JETRO)

figure of $1.1 billion/.23GNP to a 1980 total of $3.3 billion/ .32 GNP (Table VII/VIII). A 1980 Cabinet decision acknowledging the UN requested goal of OECD/ODA flow at 0.7% GNP has been described as "attainable by Japan in the 1980s." In addition, the "grant element" inside this ODA program has recently exceeded the 77% level, thus approaching the average Development Assistance Committee (OECD) percentages in respect to grant fund assistance (OECD average 1979: 89%).

A brief look at the Japanese ODA background is needed to put this steadily rising, increasingly altruistic aid in proper perspective. Until the 1973 oil shock, Japan's ODA/ foreign aid program amounted to less than .2% of its GNP. In the aftermath of the oil crisis, MITI developed an economic plan to reflect Japan's energy-short, rising cost-of-labor, pollution-conscious situation. The resulting "Long-Term Vision" contemplated the restructuring of Japanese industry by "giving away" to appropriate third-world LDC's Japan's labor-intensive, energy-consuming, polluting heavy industries; onshore industry would then be concentrated on the high-technology, sophisticated, knowledge-intensive industries. MITI contemplated that these industries would produce against global, not domestic, demand bases and effectively maximize the production cost advantages from economies of scale [Ref.14]. This "Long-Term Vision" was adopted and has been developing steadily over the past eight years. Japan has assisted many LDC's/NIC's (Newly

TABLE VII

Table [illegible] Geographical Allocation of Japanese Bilateral Official Development Aid (Classification of Regions by the Foreign Ministry)

(Net-Disbursement Basis; Unit: $1 Million; %)

	1972	1973	1974	1975	1976	1977	1978	1979	1972	1973	1974	1975	1976	1977	1978	1979
									%	%	%	%	%	%	%	%
Asia	466.73	673.07	762.50	638.03	581.25	533.03	923.45	1,331.15	97.7	88.0	86.6	75.0	77.2	59.3	60.3	69.3
Northeast Asia	114.38	137.73	156.64	75.98	10.92	73.84	55.45	48.07	23.9	18.0	17.8	8.9	1.5	8.2	3.6	2.5
Southeast Asia	295.71	411.53	480.11	425.92	425.68	307.65	588.26	791.74	61.9	53.8	54.5	50.1	56.5	34.2	38.4	41.2
(ASEAN)	241.43	321.03	360.95	380.36	358.80	269.07	449.41	572.06	50.5	42.0	41.0	44.7	47.7	29.9	29.4	29.8
Southwest Asia	55.66	117.40	123.41	132.83	142.32	147.31	263.57	477.17	11.6	15.3	14.0	15.6	18.9	16.4	17.2	24.8
Other Asian areas	0.98	6.41	2.34	3.30	2.33	4.23	16.17	14.17	0.2	0.8	0.3	0.4	0.3	0.5	1.1	0.7
Middle East	3.83	10.59	22.25	90.41	58.98	219.99	347.78	203.45	0.8	1.4	2.5	10.6	7.8	24.5	22.7	10.6
Africa	5.01	18.49	36.23	58.82	45.93	56.25	105.49	186.72	1.0	2.4	4.1	6.9	6.1	6.3	6.9	9.7
Central & South America	*2.72	35.24	38.51	47.21	49.48	79.23	131.79	165.97	*0.6	4.6	4.5	5.6	6.6	8.8	8.6	8.6
Oceania	0.23	2.56	4.95	4.78	7.41	0.08	4.64	13.60	---	0.3	0.6	0.6	1.0	---	0.3	0.7
Europe	1.43	15.21	13.42	0.21	*0.53	*1.30	*2.87	*2.22	0.3	2.0	1.5	---	*0.1	*0.2	*0.2	*0.1
Unclassifiable	3.28	10.02	1.51	10.94	10.43	11.97	20.69	22.55	0.7	1.3	0.2	1.3	1.4	1.3	1.4	1.2
Total	477.79	765.18	880.37	850.40	752.95	899.25	1,530.97	1,921.22	100.	100.	100.	100.	100.	100.	100.	100.

(Note) In some cases, the total does not necessarily come out right, due to the adoption of the formula of rounding to the nearest whole number.

TABLE VIII

Japan's Economic Cooperation

(in millions of dollars)

	1977	1978	1979	1980
Official Development Assistance (ODA)	$1,424.4	$2,215.4	$2,637.5	$3,303.7
Bilateral Assistance	899.3	1,531.0	1,921.2	1,950.8
Grants	236.7	383.4	560.2	652.6
Technical Assistance	147.8	221.2	241.9	277.8
Other Grants	88.8	162.2	318.3	374.8
Loans	662.6	1,147.6	1,361.0	1,308.2
Multilateral Assistance	525.2	684.4	716.3	1,342.9
Percentage Change in ODA	28.9%	55.7%	19.1%	25.3%
ODA as Percent of GNP	0.21%	0.23%	0.26%	0.32%

Note: The figures are on a net disbursement basis.

Source: Association for Promotion of International Cooperation, The Developing Countries and Japan, 1981

Industrializing Countries) in major plant construction (steel mills, copper smelters, petro-chemical complexes) and naturally has exported the machinery parts, technology and the capital investment for these projects. Meanwhile, because Japan has been "giving away" its raw material-intensive, energy- consuming industries, the relative cost to Japanese industry for imported raw materials has realized a decline in real terms while the high-technology export business has flourished. The resulting economic effect has been an ever-increasing trade surplus in international trade. Hence, the rising chorus of requests from the "South" for Japanese monetary assistance and technical aid.

In response to pressures from her LDC trading partners and OECD members (led by the EEC and USA) Japan announced a policy calling for active expansion and improvement of "economic cooperation" with the adoption of the New Economic and Social Seven Year Plan in August 1979. A balanced program of foreign grants, bilateral loans, multilateral aid, and carefully directed technical assistance was introduced by MITI/MOF/the Foreign Ministry. When examined with other OECD members, Japan comes out fourth in absolute amount, twelfth in GNP percentage, and in the middle-of-the-pack in grant element terms. Japan's expanding foreign aid trend can best be seen in the bilateral financial contributions column of Table VIII: the 1979 jump to 1.9 billion dollars was financed by the Japanese Export-Import Bank, the Overseas Economic

Cooperation Fund and the Japan International Cooperation Agency. The large increase in 1980 in multi-lateral assistance reflected Japan's increased participation in the international financial lending organizations, the World Bank and the Manila based, Asian Development Bank (ADB). Japan is the largest single donor to ADB, maintaining a 33% share for 1980/81/82 and also providing the president of this 43-member organization, Taroichi Yoshida. Almost 50 percent of Japan's 1981 ADB grant of $386 M went for infrastructure projects including electric power generation, telecommunications, transportation, and water supply systems construction [Ref.15].

The general picture of Japan's ODA indicates that while there are several areas that should be improved (GNP %, grant %), Japan has steadily been increasing its assistance despite the world's stagnating economy and correspondingly austere budgets in Tokyo. At the North-South summit in Cancun, Mexico, Prime Minister Suzuki announced his government's plan to double by 1985 the aggregate ODA figure attained in 1975-1980 ($21 billion). In addition, the previous goal of reaching a total ODA flow of 28 billion dollars in the "Seven Year Plan" (1979-86) was projected [Ref.16]; by realizing a doubling of the ODA allocation in the first three years of the current Plan, the Japanese have attained the OECD average of .32% GNP and will probably exceed this figure in 1982 with a projected assistance budget of nearly 4.5 billion dollars.

However, the UN imposed target of ODA flow at the .7% GNP level will be harder to achieve due to the restrained growth targets and stagnating world economy in the early 1980s.

G. THE ROLE OF ENERGY CONSERVATION

In order to lend further support for the market triad approach (DFI, long-term contracts, dominant buyer relationships) and demonstrate concern for the future of global natural resources, Japan has developed and enforced the most successful energy conservation program of any OECD member.

Japan depends on oil to provide more than 80 percent of its primary energy base, importing 99 percent of its crude (approximately 3/4 of its 1978-80 supply needs came from the Persian Gulf). The oil shocks of 1973/1979 which resulted in a price-per-barrel escalation from $3 to $36 for Arabian light rapidly increased Japan's crude oil tab to the 50 percentile level of her total import current accounts bill (in excess of $70 billion in 1980). As staggering as this figure may seem, the fact remains that without the imposition of the strict medium and long-range energy conservation goals instituted in the 1970s, Japan's vulnerability to energy associated interruptions could have had more severe, perhaps irreversible effects on their burgeoning industrial economy ..., i.e., a "lesser man would have collapsed" under the pressure. But due to adherence to voluntary and legislated restrictions introduced by the "Law Concerning Promotion of Development and Introduction of Petroleum-Substituting Energy," the creation of the Energy Development Organization, and diversified programs in research and development (the Sunshine Project/Moonlight Program begun in 1974), the Japanese ended the decade importing roughly the same amount of crude oil as in 1975 (Table IX). MITI's conservation program was directed primarily at industry, the user of 60 percent of overall domestic energy, and included financial subsidies and tax benefits to companies utilizing energy-saving technology and specific measures in the major industries such as [Ref.17]:

1. Steel - The steel industry increasingly adopted the continuous casting system for producing crude steel; this allowed a two-thirds reduction in traditional energy methods by recycling gas pressure from blast furnaces to generate electricity. The result was a 9 percent saving over a six year industry period; Nippon Steel itself saved 41 billion barrels of oil in 4 1/2 years.
2. Automobiles - improved control in steel forging waste heat recovery during painting and improved insulation resulted in a 21 percent reduction in electricity and fuel bills between 1973-1978. In addition, Japanese cars showed an 11 percent mileage improvement during this period.
3. Cement - installation of suspension heaters for the limestone kilns increased efficiency and reduced energy consumption by 16 percent.
4. Aluminum - reduction in the amount of heavy oil used in preheating together with other rational measures resulted in a 6 percent drop in energy required between 1974-1978.
5. Other - electrical power stations increased thermal efficiency getting more mileage out of the oil/coal used. Chemical companies produced a 17 percent reduction in fuel costs via new recovery techniques, application of energy saving R&D, and reduced onshore business.

TABLE IX

Japan: crude oil imports, fiscal 1965-80
('000 kilolitres)

	1965	1970	1975	1978	1979	1980	% share 1965	% share 1970	% share 1975	% share 1978	% share 1979	% share 1980
Saudi Arabia	16,856	28,677	71,501	80,309	74,580	82,213	19.2	14.0	27.2	29.7	26.9	33.0
UAE	450	11,693	26,950	28,770	28,157	36,576	0.5	5.7	10.2	10.7	10.2	14.7
Iraq	5,573	–	6,060	10,481	16,953	13,782	6.4	–	2.3	3.9	6.1	5.5
Neutral Zone	14,198	21,105	12,986	15,705	16,248	13,446	16.2	10.3	4.9	5.8	5.9	5.4
Kuwait	20,676	18,210	21,919	22,330	21,501	8,840	23.6	8.9	8.3	8.3	7.8	3.5
Oman	–	5,962	7,503	10,567	9,753	8,737	–	2.9	2.9	3.9	3.5	3.5
Qatar	682	206	183	7,302	7,068	8,637	0.8	0.1	0.1	2.7	2.6	3.5
Iran	18,937	87,483	58,505	34,851	36,145	5,664	21.6	42.7	22.3	12.9	13.0	2.3
Middle East total	77,372	173,336	205,607	210,316	210,406	177,896	88.3	84.6	78.2	77.9	76.0	71.4

Source: Keizai Koho Center (Japan Institute for Social & Economic Affairs)

Introduction of these and other innovative conservation programs resulted in an OECD-leading three year (1979-81) conservation effort of a 16 percent reduction in oil imports, a fact acknowledged by major supplier OPEC nations at the quarterly conferences in 1981. But despite Japan's dogged determination, the inescapable reality of imported oil dependence will remain throughout the century. Conservation and substitution/diversification of oil supplies is not the final solution to a nation with proven crude reserves of less than 60,000,000 barrels [Ref.18]: there is indeed a self-generated limit! To realize this limit, Japan's concern about energy in the next two decades has focused on two tasks:

1. To secure enough oil to maintain steady growth
2. To diversify her sources of energy

H. JAPANESE ENERGY POLICY

In an effort to solve her energy problems yet allow a continued growth rate in the 1980s (official long-term target: +5.7 percent), the Energy Council of MITI published a Long-Term Energy Plan in 1979. The crux of this Plan is generated along an energy conservation strategy of:

a. diversifying the geographical sources of oil imports
b. expanding alternative sources of energy: nuclear power coal, and natural gas

c. conscientiously filling the petroleum/LNG stockpiles to assigned allocations (discussed in Appendix B)

d. increasing R&D in the energy technology fields

1. Diversification

The underlying motif of Japan's oil import policy since 1974 has been geographical diversification. Table IX reflects the Persian Gulf reliance still prevalent in 1981, but points out the major supplier shift from Iran to Saudi Arabia as a result of oil shock # 2. In addition, the gradual build-up of Asian sourcing begins to appear in the "Top Three Suppliers" column of Table X. Specific procurement and recent-foreign MNC dealings are described in Appendix A and are shown in Tables IV and V; as mentioned earlier, the trend in recent years has been toward an increase in government-to-government (GG) deals and spot market or direct deal (DD) purchases to augment shortfalls on seasonal periods of peak demand. GG deals allow Japan to play its "diplomatic card" when necessary, utilizing the DFI, ODA, and "technology for oil" angles for bargaining leverage with oil supplier nations. A prime example of this patented "petro-diplomacy" is presented in Appendix C - "Japan Discovers Mexico".

2. Alternative Energy

Though even the most pessimistic forecasts credit Japan with notable progress in its energy program, the grim reality is that the country will still depend on crude oil

TABLE X

Kinds and Sources of Energy Supply in Japan

Kinds of Energy			Import Volume FY[a]		Share in World Trade (%)[b] 1979CY	Overseas Dependency (%)[c] 1980FY	Top Three Suppliers (%) 1980CY No. 1	No. 2	No. 3	Total
Oil (Crude Oil)				1,000kl						
			1965	87,627						
			70	204,872			Saudi Arabia	Indonesia	U.A.E.	
			75	262,785						
			80	249,199	14.1	99.8	35.3	14.3	13.6	63.2
Coal	Steaming Coal			1,000t						
			1965	—						
			70	—						
			75	(500)			Australia	China	U.S.A.	
			80	7,234	—	38.8	67.6	11.7	5.5	84.8
	Coking Coal		1965	(15,870)						
			70	(42,059)						
			75	(60,813)			Australia	U.S.A.	Canada	
			80	64,698	—	90.6	41.7	31.1	17.1	89.9
	Total		1965	(16,936)						
			70	(50,950)						
			75	(62,339)			Australia	U.S.A.	Canada	
			80	73,072	26.3	80.2	43.0	28.7	16.0	87.7
Liquefied Gas	LNG			1,000t						
			1965	1969=182						
			70	977	(Natural Gas)	(Natural Gas)	Indonesia	Brunei	U.A.E.	
			75	5,005						
			80	16,964	10.4	88.7	50.5	33.0	11.5	95.0
	LPG		1965							
			70	2,897			Saudi Arabia	Kuwait	Australia	
			75	5,894		(1978 FY)				
			80	10,063	—	63.5	54.1	18.4	12.1	84.6
Uranium Ore			Committed as of	1,000st U_3O_8			Canada	England	South Africa	Australia: No. 4 (10.7%)
			Oct. 1981	196			31.6	22.4	14.8	68.8

a) Japanese fiscal year: April 1 through March 31 of following year
b) Data for World Trade Share were in physical terms.
c) Rate of foreign dependence is calculated as follows:

$$\frac{\text{Import Volume} - \text{Export Volume}}{\text{Domestic Production Volume} + \text{Import} - \text{Export Volume}} \times 100$$

Source: MITI, White Paper on International Trade, 1981
( ): Agency of National Resources and Energy, Japan, Energy Statistics, 1980

for approximately 40-45 percent of its energy by the end of the century. The only way to force this dependence figure downward and continue to keep it low is to pursue a determined strategy of alternative energy diversification. The MITI Energy Strategy includes expansion and promotion into three alternate sources: coal, nuclear power, and gas (Liquid Natural Gas-LNG/Liquid Petroleum Gas-LPG) (Table XI).

3. Prospects for Coal

In 1960 the Japanese began to convert from coal to oil for the industrial energy demand. 1980 realized a complete circle as MITI encouraged the industrial and electric power sectors to revert to coal (indeed, oil-fired power stations are not to be constructed after 1985). Japan has proven onshore coal reserves of 8 billion tons but much of this total is low grade, existing in thin seams and in deep mines; technically, most experts agree that 1 billion tons are economically recoverable [Ref.19, p. 24]. The main attraction of coal is the plentiful supply in the Pacific Basin (especially PRC, USSR, Australia, Canada, and USA-all nations with whom external trade balance problems exist for the Japanese). At present, 20 coal fired power plants are in operation producing over 5 million KW on approximately 9 million tons of coal; 8-10 more plants are in the planning/ construction stage with a projected 11 million KW power production. This should achieve the MITI projections of an 18 percent energy share by 1990. Due to the well known

TABLE XI

Supply Target of Alternative Energy Sources

10 million kl oil equivalent

	Target (Fiscal 1990)		Actual (Fiscal 1978)	
Coal	12.30	(17.6)*	5.68	(13.7)*
Nuclear	7.59	(10.9)	1.54	(3.7)
Natural gas	7.11	(10.2)	1.94	(4.7)
Hydroelectric	3.19	(4.6)	1.94	(4.7)
Geothermal	0.73	(1.0)	0.02	(0.0)
Other sources	3.85	(5.5)	0.04	(0.1)
Total	Approx. 35.00	(50.0)	Approx. 11.20	(27.0)

*Figures in parentheses are percentages of the total energy supply.

Source: Keidanren Review

environmental concerns existing with coal based power (bulk ash, desulfurization,and transportati n/storage visibility problems), this will probably be the maximum limit of energy obtained from coal until the R&D efforts of gasification/ liquefaction begin to be realized in the 1990s.

4. Prospects for Nuclear Power

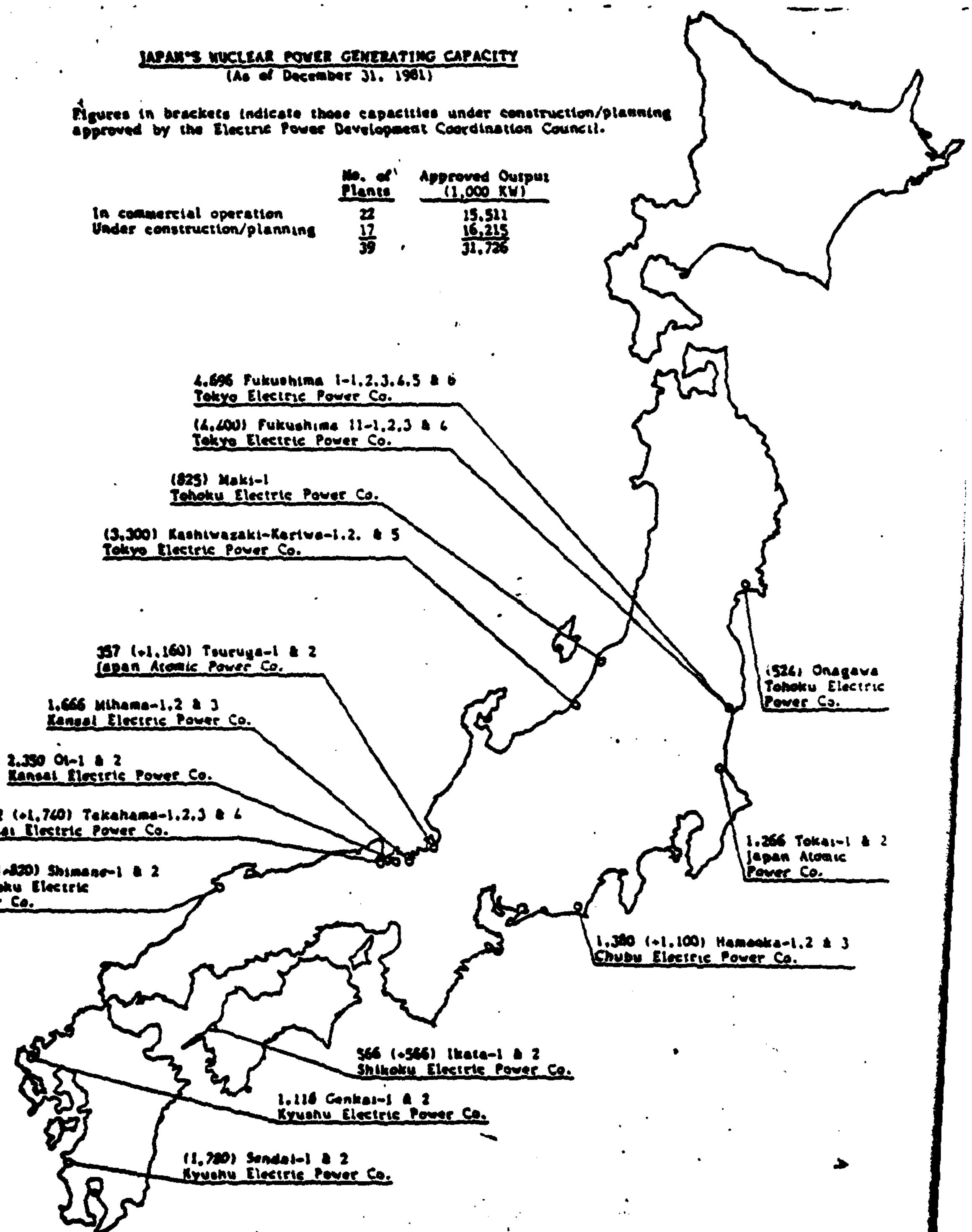
Nuclear power offers Japan the greatest prospect along with the greatest number of problems. The well known and perhaps understandable popular vocal opposition to "all things nuclear" has caused MITI to revise its nuclear power generation goals numerous times in the last 5 years. But the 30 million KW 1990 target now seems both attainable and realistic for planning purposes (Table XII). This would increase nuclear generation to a 12 percent share of energy, well on its way to the 25 percent goal by the end of the century. Japan's twenty-second power reactor went into operation in 1981 - most are either General Electric or Westinghouse technology. Momentum behind the nuclear power strategy is fueled by the need to reduce hydrocarbon energy sourcing (crude/gas) but Japan has faced the same difficulties that all nations have experienced - a concerned populous fueled by Japan's August, 1945, experience, then strengthened, by Three Mile Island, and finally a 1981 onshore case of sloppy waste-disposal at a reactor in Northern Honshu. But Japanese R&D has advanced steadily in the fast breeder field (experimental unit on-line in 1976),

TABLE XII

JAPAN'S NUCLEAR POWER GENERATING CAPACITY
(As of December 31, 1981)

Figures in brackets indicate those capacities under construction/planning approved by the Electric Power Development Coordination Council.

	No. of Plants	Approved Output (1,000 KW)
In commercial operation	22	15,511
Under construction/planning	17	16,215
	39	31,726



Source: Business Japan

the CANDU developed reactor (assisted by Canada) and the advanced thermal reactor (ATR) which reached critical state in 1979. Where Japan has made its greatest strides in nuclear technology has perhaps been in the field of uranium reprocessing and enrichment. In keeping with their desire to be in the forefront of technology, the Japanese completed trial reprocessing of spent fuel at the Tokai facility in 1978. With the November, 1981, arrangement between Japan's AEC and the US DOE nuclear development branch, the Tokai plant will be able to reprocess US-origin spent nuclear fuel through 1984 [Ref.20]. The decision to construct a second reprocessing plant will be announced in 1982; at present contracts with UK, France, and the USA combined with the Japanese facility to treat the less than 500 tons of fuel per year. But a much larger plant will be needed by 1990 to meet her expanding nuclear generation sector.

5. Prospects for Natural Gas

The key element in Japan's oil substitution policy rests with natural gas. LNG has proven especially useful for electricity generation and the manufacture of town gas. The 1980 import-figure of 16 million tons (almost all from Indonesia, Brunei, AbuDhabi, and Alaska) is projected to triple by 1985 in order to boost the current 7 percent LNG energy share to over 12 percent. Storage capacity facilities, receiving terminals, and LNG tanker-construction projects have received tremendous sums of government and industry-borne assistance in the last three years. A sizeable capital investment is required to provide liquefaction facilities to take the product from the storage/ holding stage to the thermal plant for energy production. The major population centers in the Kanto/Kansai areas have realized environmental advantages of the clean fuel, high thermal efficiency of an LNG power plant as the Tokyo and Osaka Electric Power Companies were first to complete major LNG electric plants. The gas option will grow in importance throughout the decade as Japan continues its oil-fired facility conversion to the cheap but environmentally distasteful steam coal plant; LNG offers a "clean," efficient advantage and is found increasingly in the geographically convenient Pacific Basin.

6. Prospects for Other Energy Sources

In the provisional long-term energy demand/supply predictions, MITI has forecast that about 10 percent of total needs will come from a combination of nuclear fusion, solar thermal power generation, gasified coal sources, and deep geothermal harnessing. The Sunshine and Moonlight R&D projects which began in the aftermath of Oil Shock # 1 and are expected to assit these various energy options toward maturity in the 1990s (Table XIII).

The main burden of oil replacement through the 1990s will fall on the conventional systems discussed: coal, nuclear, gas. But the combined government/private industry

TABLE XIII

Outline of Fiscal 1979 Japanese National Budget as Pertains to Moonlight Plan

(¥ million)

		Budget amount for fiscal 1978	*Budget amount for fiscal 1979*	*Measures programmed for fiscal 1979*	*Budget allocation 1978–1979*
1. General Account	(1) Technological research and development for large-scale energy saving	1,365*	2,131*	1) Research and development of high-efficiency gas turbine: Research and development of heat-resistant materials (alloys, ceramics), basic technology for gas turbines (blade cooling and combustion technologies), and research for total energy supply system.	94–399
				2) R & D for technological systems to utilize waste heat: Development of system equipment to recover sensible heat of coke, making of experimental machinery for various kinds of testing amelioration and research for a total system.	617–793
				3) R & D for Magnet Hydro Dynamics (MHD): Construction of the experimental plant to test the Mark VII MHD generator (161–375), manufacturing of all components required to build the Mark VII (flue and electric dust precipitator), research for basic technology to develop new materials for MHD, and research for MHD generation system.	635–914
	(2) Research and development of transcendent and basic energy conservation technology	114	117	Special studies in experimental stations under the supervision of the Agency of Industrial Science and Technology of MITI: Super electric conduction technology, electric power storage using redox cell, powered flywheel, heat-related technology (thermal conductive tube, glass dissolution oven, low-temperature dyeing and processing technology.	114–117
	(3) Assistance to private sector R & D for energy conservation	451	452	1) Competitive development of energy saving technology in household electric appliances (air conditioners)	36–63
				2) Experimental R & D for solar energy (cooling, heating and hot water supply systems using solar energy)	52–52
				3) Other related projects	363–337
	(4) Setting up of standards to regulate energy conservation	37	46	1) Preparation for the standardization of energy conservation for household electric appliances	0–8
				2) Standardization of energy-conserving house construction materials and facilities	37–38
	(5) Cooperation in international research activity	11	24	1) Participation in the Agreement to use an improved type of heat-pump	0–17
				2) Continuance of Joint International Research related to energy cascading	0–17
	Subtotal	1,978	2,771		
2. Special account to promote the development of power supply	Research for demonstration test of technology for treating NOX emitted from high-efficiency gas turbines	–	205	Planning a research and demonstration system for maintaining environmental protection while using high-efficiency gas turbine	0–205
	Total	1,978	2,976		

Source: The Moonlight Plan (Agency of Industrial Science and Technology, MITI)
Note: * includes office expenses and adjustment works expenses.

effort is making progress in brown coal gasification at an experimental plant in Australia. The initial economic forecast is for profitable expansion in this energy field when crude oil reaches a $50/barrel level. The volcanic islands of Japan are thought sufficient to contain enough geothermal reserve for four times the present annual energy demand. Six plants operating in 1980 produced over 200 MW by tapping the deep thermal energy existing in the central Honshu mountains. The Sunshine Project is involved in solar housing construction utilizing panels and reflective mirrors. A windfall from this seven year ongoing project has been the massive surge in commercial solar panel sales (over $100 M is 1979). Behind this search for alternative energy and hopes to reduce oil dependence is Japan's greatest power base - its technical capacity and adaptability [Ref.21]. The progress of these non-hydrocarbon base energy sources is extremely important to Japan's energy strategy in the 21st century. Over 50 percent of the Science and Technology Agency's budget continues to be devoted to R&D in these "energy conter-measures programs."

In spite of her "first place team finishes" during the last few years as the energy conservation leader of the International Energy Association (IEA)*, Japan remains

*IEA: Organization of major western oil importers formed in 1974 in partial response to OPEC export sanctions of October, 1973 inescapably dependent on importing oil as well as the other strategic resources listed on Table I. There is a limit on how much one can do to lessen dependence, how far one can go, and what to risk in order to increase economic leverage with resource suppliers. To investigate Japan's strategic resource economic offensive in the Third World, regional case studies will be presented from Southeast Asia, the Persian Gulf, and Southern Africa.

IV. REGIONAL MARKET OVERVIEW: SUPPLIERS

The three geographic regions chosen for case examination in this study are vital to Japan's economy due to the reserves/resources* that are abundant in each area. It is worth keeping in mind that of the critical resources discussed in this study, 60-95 percent of the material comes from the first five largest producing nations; in other words, the largest producers are indeed countries in which the resources were originally discovered. A list of these regions, the countries included for this study, and the most important minerals exported by region will provide ample evidence as to their importance in Japan's marketplace (Chart 1).

When referring to Chart I, it is important to remember that though a resource-poor nation, Japan is a leading mineral precessing and metal producer in the world. As mentioned earlier, 50 percent of Japanese imports consist of raw materials, but an ever more important 25 percent of her exports are processed mineral metal products. The total value of Japan's mineral output, including the value added

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*reserves: estimates of the amount of a mineral that can be economically and legally extracted from an identified body of known resources; resources: usually larger estimates of the total amount of a mineral whose extraction is only potentially feasible in the future.

CHART I

THE REGIONAL SUPPLIERS

Region	Countries Included	World's Largest Producer of:	Second Largest	Third Largest
Southeast Asia	ASEAN (Association of Southeast Asian Nations): Thailand, Malaysia, Singapore, Indonesia, the Philippines, and Brunei*	Tin Rubber	Nickel Tantalum	Tungsten Titanium
Persian	The eight nations that are littoral to this Gulf: Saudi Arabia, Iraq, Qatar, Oman, Iran, Kuwait, Bahrain, United Arab Emirates	Oil		Natural Gas
Southern Africa	The nations south of 5° South latitude: Swaziland, Malawi, Angola, Zambia, Mozambique, Botswana, Zimbabwe, Namibia, & South Africa	Gold Uranium Vanadium Chromite Cobalt	Manganese Platinum Diamonds Copper Titanium	

*Brunei, though not yet a member of ASEAN, included for purpose of this study only.
Source: US Bureau of Mines, 1979

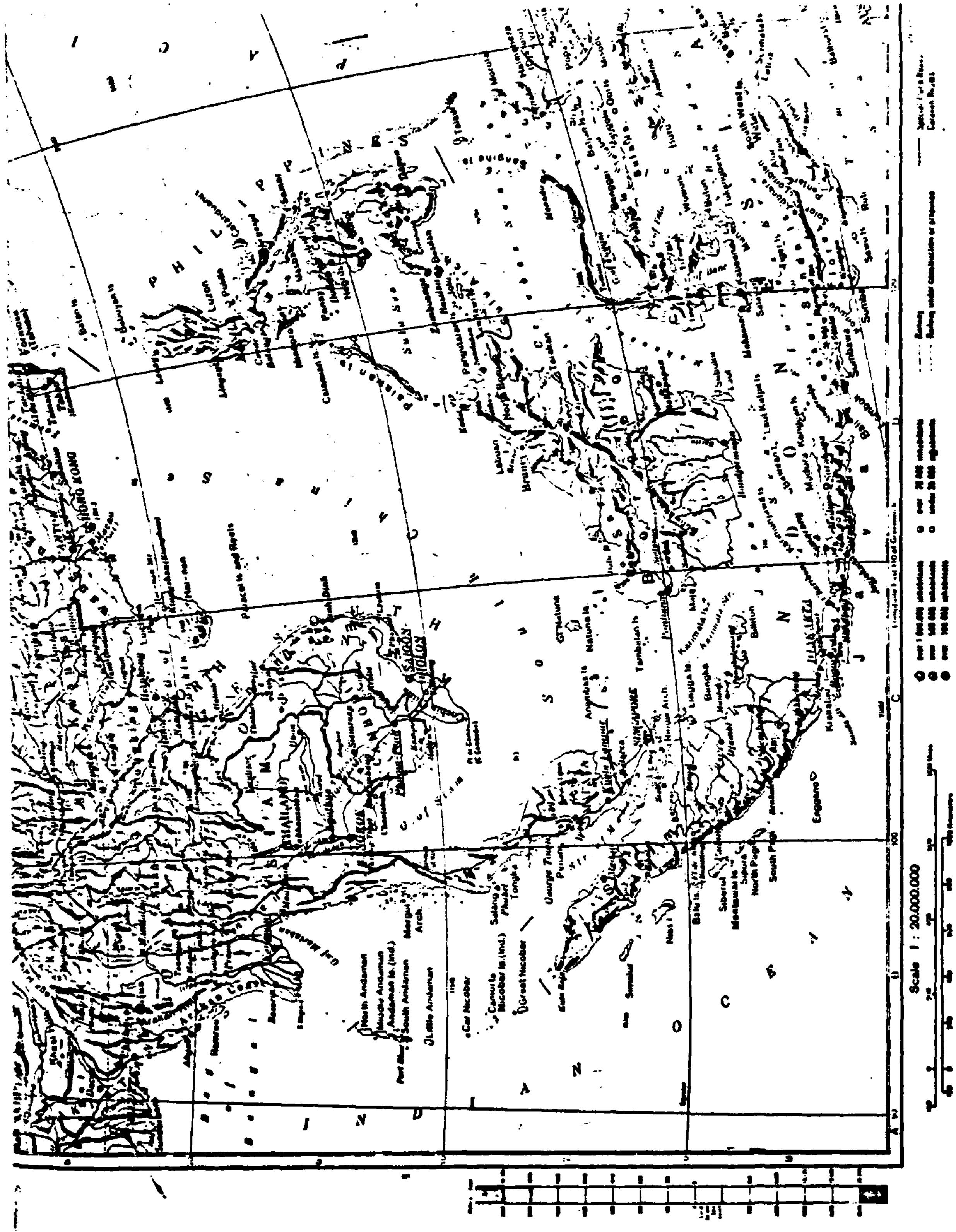
from processing imported materials, has averaged 10 percent of the GNP over the last five years. Japan produced between 5 and 15 percent of the global output in the following products (1976-1980): refined lead, magnesium, petroleum products, steel ingots/products, aluminum, titanium, tungsten, and refined zinc. (US Bureau of Mines)

A. SOUTHEAST ASIA

Japan's experience in Southeast Asia since 1970 has followed a dual track: multi-lateral ties with ASEAN as a political entity and increasing bilateral economic relations with its individual member states.

1. ASEAN: Multilateral Perspective

Japan is closely related with Southeast Asia geographically and historically. But economic cooperation has been a 20th century phenomena which has deepened so much in the 1970s that the term "interdependence" has become almost a reality for the remainder of this century. In 1980, 10 percent of Japan's overall trade, 20 percent of its foreign investment, and 30 percent of its economic cooperation was directed toward the members of the Association of Southeast Asian Nations-(ASEAN) [Ref.24]; Japan's dominance as a trading/investment/cooperation partner is unrivaled in the ASEAN states today. Even closer "economic complementation" between these two partners has been the subject of several annual conferences since 1974,



SOUTHEAST ASIA

seven years after ASEAN was formalized by Thailand, Malaysia, Singapore, Indoesia, and the Philippines.

Earlier efforts to define the basis for Japan-ASEAN ties were some what unsuccessful due to several reasons:

1. ASEAN was too young as an institution and the framework to promote economic cooperation was ill-defined prior to the mid 1970s.
2. Japanese efforts to promote expanded cooperation in Southeast Asia tended to emphasize bilateral aspects rather than organizational ties with ASEAN.
3. The memories of the pre-WWII "Co-Prosperity Sphere" were hard to erase; this caused the Japanese to perhaps become overly cautious in economic dealings and resulted in an apprehensive mood on the ASEAN actors part.

But conditions improved in the early 1970s, the winding down of the Vietnamese Conflict being most beneficial to the geopolitical-economic operations of all Asian states, and the eager traders matured quite rapidly. The framework for a successful economic partnership became self-evident:

On the ASEAN side-

1. Abundant raw materials needed by Japanese industry; prospects were good for lowering final product cost by increased development and processing.
2. Relatively cheap transportation costs as the closest Third World market for the Japanese.
3. Abundant manpower at low cost.
4. Lower site development costs.
5. A preferred "home market base", i.e., the Pacific Basin.
6. Abundant energy reserves in both hydrocarbon (crude/gas) and alternate (hydro, geo-thermal).

On the Japanese side-

1. Greater availability of capital
2. Advanced technology
3. Large industrial capacity, both onshore and exportable
4. Large domestic market
5. Established international marketing power

6. The willingness to embark on a successful, mutually beneficial path.

ASEAN diplomatic efforts by Japan intensifed in the 1978-81 timeframe with the visits of three Prime Ministers (Fukuda, Ohira, Suzuki) and the announced policy of the promotion of small/medium enterprises, development of human resources, expansion of export manufactures, and the solving of the energy crisis. When Prime Minister Suzuki visited all five nations in January 1981, he proclained that Japan was ready to "actively assist ASEAN in their efforts for socioeconomic development."

a. Japan-ASEAN Commodity Trade (JETRO White Paper)

During the 1970s ASEAN has grown to be a major exporter of primary commodities; three member states have an export dependence on minerals, metals, and fuels ranging from 95 percent (Indonesia/Brunei) to 55 percent (Singapore). In the all-important energy field the Philippines and Thailand have a substantial import dependence (70%) and the other three remain net energy exporters (Singapore has the Asia's largest refining capacity). The largest import component across-the-board has characteristically been manufactured goods. An outward looking bloc, the bulk of ASEAN trade (85%) is carried on outside of Southeast Asia and the close geographic proximity and possession of raw materials helps explain the burgeoning Japanese-ASEAN trade. An important producer of rubber, timber, palm oil, copra, sugar, tin, crude oil, and natural gas, the member nations have evolved an effective community trading strategy based on the principle of collective bargaining with the Japanese. The ASEAN policy objectives have blended together effectively with the Japanese goals of: attainment of stable commodity prices, the solidifying of steady long-term growth of exports, and securing of improved access to markets. 1980 Japanese imports from ASEAN totalled 11.5 billion dollars (up approximately 50% from '79) thus garnering a 15% share of Japan's global import market. Mineral fuels and raw materials led the way (up 2/3 with sugar and fishing products registering stable growth (Table XIII). Exports to ASEAN totalled 3.7 billion dollars (up 10%), a 9.5% share of Japan's global market; biggest gains were registered in plant/machinery exports, agricultural equipment, and electronic gear [Ref.25].

b. ODA/DFI: #1 on the Tokyo Program

As Tables VI,VII indicate, Japan's foreign ministry continues to view Asia as the top priority in official development assistance with a three year average of a 65 percent share of total global ODA disbursements. ASEAN has consistently garnered one half of all ODA destined for Asia and Japan has increasingly stressed education and training assistance to these developing nations in addition to the more common tangible aid projects. Both humanitarian concerns and the recogniion of mutual interdependence between the industrially developed model and these developing nations underpin Japan's economic assistance. In addition, strategic considerations as a major partner in OECD have recently come to the forefront: 85 percent of Japan's crude oil is shipped via the Malacca Straits; to the extent that any instability would disrupt this supply, economic growth and political well-being is ASEAN is essential for Japan. Hence, ODA represents an appropriate and effective Japanese alternative to regional defense expenditures, and option which ASEAN does not desire and one which the Japanese are prohibited from offering by their own Constitutional guidelines.

The 20 percent share of Japanese g')al DFI extended to ASEAN gas been fairly steady in the last ten years. However, the pattern of investment within these nations has been changing. The rapidly growing industrial progress in the NIC's (Singapore/Thialand) has brought with it rising wages and labor costs; the result is a gradual shift in manufacturing industries to the Philippines and Malaysia. Yet another factor that the Japanese have considered more carefully in the last three years is the risk and responsibility in overseas investment. Table XIV is representative of private industry's concern for political/economic stability in overseas ventures (All 5 ASEAN states came out in the top half in both years). More than ever before, the Japanese government is being pressured for insurance guarantees, overseas investment protection, tax

TABLE XIV

FIRMS RATE HAZARDOUS COUNTRIES FOR INVESTMENT PURPOSES

Tokyo JAPAN PETROLEUM & ENERGY WEEKLY
in English Vol 16, No 36, 7 Sep 81 p.5

The Nihon Keizai Shibun recently published a survey of 100 leading Japanese companies in which each respondent was asked to evaluate 76 given nations in terms of risks involved when engaging in overseas investments and major trade contracts. As in a similar survey conducted in 1980, the United States came out on top as the least risky nation with which to do business, with a rating of 8.99 out of a possible 10. Nations posing the greatest risks were Afghanistan, Iran, Lebanon and Ethiopia.

Three main factors were taken into consideration in making these evaluations: stability of government, capability to service external debts, and stability of currencies. Of the 100 companies surveyed, 26 had suffered a total of 39 cases of damage in the year ended last July 30. Iran topped the list of the notorious with a total of 14 cases. The most common damage involved non-payment for export deals, unilateral discontinuation of plant construction projects, and cancellation of export contracts. Those companies most severely affected were trading houses, banks and industrial plant makers.

A selected ranking list is presented below:

Rank			
1981	1980	Country	Points
1	1	United States	8.99
2	2	West Germany	8.68
3	3	Switzerland	8.34
4	4	Canada	8.30
5	5	Netherlands	7.84
6	6	Australia	7.81
7	6	Belgium	7.67
8	9	Britain	7.49
9	8	France	7.36
10	14	New Zealand	7.33
11	10	Singapore	7.30
16	16	Hong Kong	6.76
17	19	Malaysia	6.26

TABLE XIV (cont.)

FIRMS RATE HAZARDOUS COUNTRIES FOR INVESTMENT PURPOSES

Rank		Country	Points
1981	1980		
18	21	Saudi Arabia	6.14
19	22	Taiwan	6.07
21	25	Kuwait	5.99
23	18	Mexico	5.95
26	15	United Arab Emirates	5.62
27	31	Indonesia	5.61
29	32	South Korea	5.54
30	27	Soviet Union	5.44
32	35	Thailand	5.25
34	40	South Africa	5.21
35	32	China	5.05
36	24	Philippines	5.01
56	45	Iraq	3.68
61	65	Mozambique	3.08
75	73	Iran	2.19
76	75	Afghanistan	1.78

benefits, and other cooperative requests by businesses being encouraged by MITI to expand DFI. The government is being asked to "prepare the overseas investment environment" to reduce business risks.

c. Plant Exports

The linkage between commodity trade emphasizing raw materials, official development assistance concentrating on training and education, and direct foreign investment in these developing nations is best personified by the demand for plant exports from Japan to Southeast Asia (Table XV). These three economic inputs have polarized in the ASEAN region resulting in a significant increase in export-licenses issued since the inset of the "economic complementation" phase between Japan-ASEAN (1974-present). In FY80, plant exports to Asia were up 30 percent totalling over 25 new industrial composite sites including [Ref. 26]:

1. Singapore- petrochemical complex $720M/turbine generator factory $160M
2. Indonesia- cement plant $160M/power generation facility $200M/LNG plant $675M/ aluminum smelter $1.2B
3. Philippines- copper smelter $380M
4. Thailand- steel mill $50M (share)
5. Malaysia- Fertilizer plant $300M (projected)

In addition to these projects, negotiations continue with ASEAN states for a plethora of similar plant exports which specialize in petrochemical or raw materials processing, two plant categories that have amounted to over 40 percent of global export licenses by type over the past six years [Ref.27]. Though down somewhat in 1981 due to the

TABLE XV

10 Largest Importing Countries of Japan Made Plants

Order \ Fiscal year	1975	1976	1977	1978	1979
1	Iraq	Iran	Algeria	Brasil	China
2	U.S.S.R.	U.S.S.R.	U.S.S.R.	China	Saudi Arabia
3	Philippines	Saudi Arabia	Nigeria	R.O.K.	Iraq
4	R.O.K.	Brasil	Saudi Arabia	Indonesia	U.S.S.R.
5	Singapore	R.O.K.	R.O.K.	Saudi Arabia	Taiwan
6	Algeria	Algeria	G.D.R.	U.S.S.R.	Kuwait
7	Argentina	Iraq	Brasil	Australia	Singapore
8	Indonesia	Kuwait	Iran	Algeria	Algeria
9	Chile	Quatar	U.A.E.	Iran	Indonesia
10	Cuba	U.A.E.	Venezuela	Taiwan	Philippines
Share of 10 largest Importing Countries	65.4%	67.0%	61.6%	64.8%	74.5%

FIGURE 1

Industrial Plant Exports by Region

(Shares are indicated by percentage in value.)

Region \ Fiscal year	1975	1976	1977	1978	1979	1980
Southeast Asia	28.4%	15.8%	21.5%	27.6%	16.0%	27.3%
Middle and Near East	21.8	36.3	21.5	16.3	31.0	19.5
Western Europe & North America	2.7	4.1	5.7	2.5	3.9	8.6
Central & South America	19.4	14.7	9.6	23.2	5.0	8.9
Africa	6.1	10.2	22.7	7.3	7.1	18.4
Oceania	0.7	0.8	1.4	3.7	0.4	3.0
Communist Bloc	20.9	18.1	17.6	19.4	36.3	14.3
Amount of Order Acceptances (in $1 million)	5,240	8,010	8,610	8,730	11,780	8,930

Source: Ministry of International Trade & Industry

FIGURE 2

stagnating world economy, Japan's medium and long term plant exports are expected to develop further along with the promotion of increased ODA/DFI/commodity trade. Plant exports are in the limelight as a means of providing and promoting economic cooperation and technology transfer effectively.

2. Bilateral Perspective

Indonesia is of immense strategic and economic significance to Japan, arguably only second in importance to that of the USA. 60 percent of Japanese trade and 90 percent of her energy imports pass through Indonesian waters. In 1980 Indonesia became Japan's third largest trading partner (behind USA and Saudi Arabia) and surpassed all but North America in cumulative Japanese DFI (over 3 billion dollars). Likewise, Japan is perhaps of even greater importance to Jakarta: accounting for over 40 percent of Indonesia's trade while providing a full 40 percent of foreign investment and 30 percent of foreign aid totals received by Indonesia during 1979 [Ref.28]. The nearly 11 billion dollars of total trade in 1980 left Japan with a 6.5 billion dollar deficit due to energy imports; Indonesia was the source of 15 percent of Japan's oil, 50 percent of its LNG, and 20 percent of other imported raw materials. Japan's diversification of energy supplies, by type and source, has increased its business with Indonesia due to its large proven reserves in both crude and gas. Already entrenched as Japan's #2 crude oil source (after Saudi Arabia) the natural gas contracts negotiated in March 1981, called for a minimum of 13.5 million tons of LNG yearly to Tokyo/Osaka electric power companies commencing in 1983; this will give Indonesia a projected 60 percent share of Japan's LNG business [Ref.29]. In striking economic contrast, the 2 billion dollars of exports from Japan (2 percent of their world total) represented 30 percent of Indonesia's total imports. There is little doubt that this ASEAN member will remain inextricably bound with Japan in a relationship of ever-increasing interdependence which has proved profitable to both.

Malaysia is being cast by Chase Econometrics as the "growth miracle" in Asia during the 1980s:"...together with Australia, the only economy in the area which will improve performance steadily over the decade." If this projection is realized, Japan will surely benefit from the resulting windfall profits. With the rising cost of energy forcing increased plant exports and the existence of cheap and abundant labor, Malaysia is a valuable target of opportunity for Japan. The 1980 trade total of 5.5 billion dollars left Japan with another energy-induced deficit of 1.5 billion dollars. A graphic case study of Japanese participation in Malaysia was done by Paul Cheeseright in August, 1980, [Ref.30], concerning the most northeast state in the Federation: Sabah. Japan buys 61 percent of Sabah's exports-- including most of her crude oil, all of her copper, and the lion's share of the fishing and timber products. In contrast, Japan provides 22 percent of Sabah's imports (mostly machinery/manufactured products). Japanese DFI includes owning/operating the only copper mine, construction of highways and port facilities, hydro-electric power development, a monopoly of the lumber industry process, and fishing industry assistance. Sabah is an excellent example of the developing state in Southeast Asia: rich in resources, ripe for investment, isolated from the mainstream, and seeking partners for business ventures. The Japanese have capitalized on this LDC model throughout the world.

In 1980, with rubber and tin prices on a decling trend with the world economy, the Japanese chanced an increase in their commodity purchases slightly and Malaysia, Thailand and Indonesia remained the source of over 85 percent of these two resources. On the investment/plant export negotiating agenda for 1982 are projects in LNG processing, two refineries, a steel factory, one thermal and one hydroelectric power plant, and the finalization of bidding on a fertilizer plant which has attracted five foreign consortiums to be (financially sponsored by the Japanese Export-Import Bank). Interdependence and economic complementation are growing realities in Malaysian-Japanese relations of the 1980s.

Though Brunei is a semi-autonomous suzerain of Great Britain, its immediate future following independence (1983) will almost surely include ASEAN membership. The Japnese realized investment and ODA potential here early-on and began reaping the benefits in the late 1970s as virtually all of Shell Brunei's natural gas production is destined for Japan. The 1981 oil and gas returns were estimated at 8 billion dollars for this state of 200,000 people, giving Brunei the highest per capita income of any Asian state [Ref.31]. LNG, increasing in importance to the Japanese, will continue to attract Japanese interest throughout this decade and along with it the accompanying DFI/ODA projects will be directed toward this tiny but important state in Japan's Southeast Asian partnership scheme.

Though two-way trade totalling 2.6 billion dollars in 1980 resulted in an 800,000 dollar deficit for Thailand, Japan stands out as the number one trading partner for the Thais. It has also been the single largest foreign investor with a cumulative DFI of 401 million dollars as of June 1981. Bangkok has a long history of trade deficits with Tokyo and the most recent economic negotiations have tended to emphasize ODA/DFI in the large-scale industrial area in order to make local manufactures more export-oriented. As a result, plant exports (auto, petrochemicals, hydro-electric) and agro-based industries have garnered the lion's share of investment and technology transfer funds. The steadily growing 7 percent share of Japanese ODA in 1981 ($240M) was directed toward increasing food production, assisting the Cambodian refugee support programs on the Thai border, and included a guarantee of some 65 million dollars to assist in the construction of a propane plant south of Bangkok [Ref. 32]. A limited source of tin and rubber to the Japanese, the 1981 natural gas discoveries in the Gulf of Siam will have to prove out at greater export potential than the present Union Oil predictions for the Thais to have any hope of denting their chronic trade deficit with the Japanese; Thailand, like the Philippines, suffers from an inescapable deficit postion due to a lack of developed energy reserves.

A ground-breaking ceremony was held in Singapore harbor in July, 1980, on the Pulau Merbau 1.4 billion dollar petrochemical complex -- a 50:50 joint venture between Sumitomo (et.al.) of Japan and the Singapore government [Ref. 33]. The Japanese shareholders include 28 corporations, banks, trading companies, and the government Overseas Economic Cooperation Fund. With total trade exceeding 6 billion dollars in 1980, Singapore continued to be a major supplier of refined oil and pertroleum products in addition to receiving a large percentage of Japan's raw materials and machinery for plant operations. Perhaps the most rapidly developing state in the ASEAN group, Singapore has spent millions of dollars on conservation R&D and is utilizing Japanese assistance in industrial energy conservation planning and for consulting advice as they continue to shift gears into the high technology business. The close economic relationship between these two 1970s success-stories will continue to grow as Japan depends more and more on overseas joint ventures in raw materials processing as a partial cure for her sensitive trade balance problem with ASEAN. Japan became this island-nation's number one bilateral trade partner (surpassing Malaysia) in 1981; DFI was estimated at 700 million dollars with over 1,000 Japanese businesses represented in Singapore. It is a fact that Japanese capital continues to make a vital contribution to building Singapore into a financial business center for Asia.

Economic relations between the Philippines and Japan have been strained at times and clearly on the softest ground of the ASEAN members. Most of the Japanese investment (estimated $500 million) is from Tokyo's MNC's which sometimes clash interests with local Filipino concerns. The structure of Japanese-Philippine trade personifies the worst of the classic "North-South" scenarios: steel products, machinery, chemicals, electronics exported in exchange for lumber, coconut oil, bananas, sugar, and copper. Yet trade has grown steadily over the past eight years with Manila incurring only a 39 million dollar deficit in 1979 due mainly to increase copper, chrome and non-ferrous scrap exports. The Philippine economy has been in flux due mostly to the erratic oil exploration success offshore in the South China

Sea. The Central Bank has reached its borrowing credit limit with foreign banks and now is turning in this decade to Japan for economic cooperation with loan/ODA/DFI efforts. The visits of MITI head Tanaka and Prime Minister Suzuki (twice) in 1981 have resulted in guarantees for human resources projects ($100 million), power plant and geothermal development assistance ($208 million) and increased ODA to $160 million (8% above '79/80) [Ref.34]. Other plant projects under negotiation include an LNG processing facility, and cement, fertilizer and pulp/paper factories. But the inequities of bilateral trade seem to be inescapably present between these two Pacific Basin states. To many Filipinos, nothing really seems to have changed as far as wartime economic Japanese goals are concerned -- the occupation forces simply carry business cards now.

B. THE PERSIAN GULF

1. Multilateral Perspective

The history of exchanges between Japan and the Middle East can be traced back more than 5,000 years but the progress of such exchanges, initially over land on the Silk Road, has only recently realized dramatic expansion via the sealanes, through the Straits of Malacca. Diplomatic relations suspended during World War II were resumed in the 1950s and Japan opened her first local trading company in 1956 (Marubeni Iran). The successful efforts of the Japanese

The Persian Gulf States

owned Arabian Oil Company (Appendix A) facilitated the advancement of other enterprises as Japan's highly paced economic growth continued in the 1960s. Gradually banks and manufacturing firms began to establish small ventures expanding into other Gulf states: Iran 1960, Iraq 1961, Kuwait 1965. Japan's exports to this area began to show a modest increase but her DFI/ODA figures still registered amounts hardly worthy of a MITI/Foreign Ministry "Middle East Desk Officer's" time. But even after 15 years of a growing reliance on Gulf oil for her rapidly expanding economy, Japan had directed less than 5 percent of her DFI and less than one percent of ODA toward this area. Japan was relying on Western petroleum majors to supply her energy needs and the cash-on-the-barrel attitude reflected an almost total lack of official interest in formulating a coherent diplomatic policy toward the Arab world.

The 1973 Oil Crisis, quaintly termed "Oil Shock" in Tokyo, devastated the Japanese. The lights literally went out while Prime Minister Tanaka and his Cabinet hastily formulated diplomatic actions that would remove Japan fom the Arab "Neutral" List (5% oil export reduction) created on 20 October. Saudi Oil Minister Yamani's 12 November 1973, ultimatum to Japan was to-the-point:

> If you are hostile (ie, continue to recognize Israel) to us, you get no oil. If you are neutral, you get oil but not as much as before. If you are friendly (ie, support Arab diplomatic/economic sanctions against Israel), you get the same oil as before [Ref.35].

Tokyo succumbed immediately and on 22 November issued a declaration urging Israel to withdraw from the 1967 occupied territories and threatened a "reconsideration of policy toward Israel." This strategy resulted in late December placement on the "friendly" list and the occasioned the first of many Japanese Foreign Minister "goodwill visits" to the Arab states.

a. Commodity Trade

The marked increase in petro dollars as a result of the price-per-barrel jump in 1974 resulted in expanded purchasing power for the OPEC members/oil producers in general. Much of this new revenue flowed into machines and equipment designed to develop infrastructures in the Gulf region. The Japanese expanded plant exports immediately as full-scale turn-key contracts and joint venture efforts began to rekindle the flattening Japanese economy. But despite the significant increases registered in exports to the Gulf region since the 1973 Shock, the seventy percent reliance on Persian Gulf crude oil has resulted in a consitently large imbalance favoring the Arab states (Table XVI). These trade figures tend to mask the efforts of a successful energy consevation campaign waged by the Japanese -- 1980 oil imports were equal to 1972 totals (Table IX) -- and the fact that in FY81 the GNP rose by 3.8 percent while oil consumption declined by 10.1 percent; the eight year figures

TABLE XVI

Japan's Merchandise Trade with the Middle East, 1968-80
($ million)

	Exports	Imports	Balance
1968	535	1,817	−1,282
1969	627	1,989	−1,362
1970	634	2,337	−1,703
1971	824	3,013	−2,189
1972	1,174	3,491	−2,317
1973	1,774	4,941	−3,167
1974	3,680	15,920	−12,240
1975	6,075	16,477	−10,402
1976	7,276	18,745	−11,469
1977	8,884	20,505	−11,621
1978	10,745	20,777	−10,032
1979	10,734	29,377	−18,643
1980	14,358	44,500	−30,142

Source: Middle East Economic Digest, December 1981

TABLE XVII

Direct Japanese Overseas Investment in the Middle East
($ million)

	Fiscal 1979			Fiscal 1980			Cumulative totals, fiscal 1951-80		
	Applications	Amounts	%	Applications	Amounts	%	Applications	Amounts	%
Saudi Arabia, Kuwait	–	34	0.7	–	63	1.3	4	1,0[illegible]3	2.8
Iran	2	76	1.5	–	71	1.5	108	1,002	2.7
Saudi Arabia	9	19	0.4	10	15	0.3	50	123	0.3
Others	7	1	0.0	5	10	0.2	75	112	0.3
Total	18	130	2.6	15	158	3.4	237	2,259	8.2

Source: Ministry of Finance, Tokyo, June 1981 are even more indicative of this OECD conservation leader's success story: 1973-81 GNP rose 35 percent, energy consumption rose only 15 percent for an overall crude oil import decline of 8 percent [Ref.36]. Tactics used by the Japanese to reduce the growing massive imbalance with the Gulf region include:

1. Marketing "third-country trade" (ie, buying European goods for resale to the Mideast)
2. Expanding barter agreements (ie, crude oil for cars)
3. Attracting Arab institutional investors in the Japanese market (ie, government yen bonds/DFI)

But problems persist for even the most eager Japanese overseas investors: few Arab speakers due to this relatively "recent" emphasis in this region, a lack of Japanese consulting firms compared to the traditional European/US competition, a fluctuating yen rate in 1980/81, and the more recent rise in area risks (Iranian revolution, US hostages, Afghanistan invasion, Iran-Iraq War).

b. DFI/ODA

Until 1971, Japan's direct investment in the Gulf area was less than 500 million dollars. A number of factors constrained DFI projects: domestic capital spending needs, capital outflows limited by the government for balance-of-payment reasons, exportable management/technology inadequate, low wage levels at home favoring domestic production. But the increasing trade surplus combined with the 1973 Shock to witness a rapid change of pace in Japan's potential economic position: the yen appreciation made overseas production cheaper, domestic wages increased radically, capital outflow restrictions were eased by MITI. From a 650 million dollar total in 1974, overseas investment has now exceeded the 2.5 billion dollar level (Table XVII). Table XVIII outlines the major projects undertaken by the Japanese in the MIddle East during the previous eight years. Financial institutions sought to establish Arab branches in order to capitalize on revenue flows from export profits and to entice Arab petrodollars into investment recycling in the Japanese market; over 40 percent of the new securities issued in 1981 by Japanese underwriters were purchased by Arab institutions such as SIBC (Saudi Investment Corp) and SAMA (Saudi Arabian Monetary Agency) [Ref.37]. The resurgence in Japanese capital flow and corresponding Arab investment interest is evidence of the faith that the Gulf states have in Japan's economy and her ability to pay her continuing large mineral fuels bill.

The notion that certain multilateral/bilateral ties were sometimes "special" to the Japanese underpins several important aspects of the ODA program. For Asia, this "special" category was of diplomatic necessity because of World War II occupation and the Co-Prosperity Sphere. For the Persian Gulf region, the "special" ODA label was attached shortly after the 1973 Shock. The rapid response of MITI and the Foreign Ministry resulted in promises of large amounts of

TABLE XVIII

JAPAN-MIDDLE EAST POLITICAL/ECONOMIC RELATIONS 1973-1981

1973	
13 April	Kuwait's Electricity & Water Minister Abdullah Yousef al-Ghanem signs contract with Ishikawajima-Harima Heavy Industries (IHI) for supply, erection and completion of two water desalination plants, valued at KD 3.9 million ($ 13.82 million)
8 June	Japanese Foreign Trade Ministry and Japanese oil refineries oppose 11.9 per cent increase in OPEC posted prices
12 October	Abu Dhabi Oil Company (Japan) announces plans to build Abu Dhabi industrial complex, to include oil refinery, aluminium smelter and soda manufacturing plant
26 November	Group of Arab and Japanese banks announce establishment of a joint banking venture UBAN-Arab Japanese Finance, to be based in Hongkong
27 November	Arab oil states announce Japan's exemption from December's 5 per cent cut in oil supplies under the oil embargo policy
14 December	Delegation led by Deputy Premier Takeo Miki tours Middle East to strengthen relations with the Arab world, particularly oil producers
1974	
17 January	Japan agrees to extend loans totalling $ 1,000 million to Iraq in return for supply of crude oil and gas over 10-year period
7 June	Nissho Iwai Corporation and IHI win $ 120 million oil refinery contract at Banias, Syria
14 June	Group of eight Japanese firms wins $ 150 million contract to supply 220,000 tonnes of steel pipes to Saudi Arabia
26 July	Kobe Steel wins contract to build and manage $ 150 million iron and steel complex at Umm Said industrial estate, Qatar
18 October	Penta-Ocean Construction Company wins three-and-a-half-year, 50,600 million yen ($ 220.96 million) Suez Canal dredging contract
1975	
22 February	Toa Harbor Works wins contract valued at 10,950 million yen ($ 48 million) for dredging work at port of Umm Qasr, Iraq
1 March	Economic and technical agreement is signed during Tokyo visit by Saudi Minister of State for Planning Hisham Nazer
8 August	Algeria's Posts & Telecommunications Ministry signs three protocol agreements with Japanese firms for construction of earth satellite ground station, telecommunications complex and two antenna stations
19 December	IHI and Nichimen Company win $ 53.1 million turnkey contract for four desalination plants in Abu Dhabi
1976	
9 March	King Hussain of Jordan visits Tokyo for talks on Japanese participation in Jordanian development schemes
23 April	Sonatrach, Algeria's state hydrocarbons concern, signs 145,000 million yen ($ 633 million) contract with Japan Gasoline and C Itoh & Company for construction of two natural gas treatment plants
18 June	Visit of Japan's Crown Prince Akihito and Princess Michiko to Jordan
8 October	Mitsubishi Corporation and Chiyoda Chemical Engineering & Construction Company win $ 70 million contract to build natural gas liquefaction plant at Umm Said for Qatar Gas Company
1977	
8 March	Saudi Arabia signs two port contracts valued at a combined $ 450 million with Hitachi Shipbuilding & Engineering Company and a South Korean firm
22 April	Japan Oil Development Company (Jodco) agrees to take up its option for 12 per cent equity in developing offshore Upper Zakum oil field, Abu Dhabi
4 June	Japan Gasoline and C Itoh win their third contract, valued at 142,000 million yen ($ 620 million), to build natural gas treatment plant at Hassi R'Mel, Algeria
31 August	Istanbul Conference organised by Japan Co-operation Centre for the Middle East, attended by delegates from 130 major Japanese companies

TABLE XVIII (cont.)

JAPAN-MIDDLE EAST POLITICAL/ECONOMIC RELATIONS 1973-1981

1978	
6 January	Japanese consortium led by Sasakura Engineering Company wins $265 million contract to build two-unit desalination plant at Bushehr, Iran
3 February	Sumitomo Shoji Kaisha wins $400 million contract from Sonatrach to supply equipment for the third natural gas liquefaction plant
17 March	Furukawa Electric Company wins $230 million contract to supply state-owned Power Generation & Transmission Company of Iran with an electric power transmission line
26 May	Japanese consortium wins contracts totalling $392 million for first phase of 10 desalination plants at Yanbu and Medina, Saudi Arabia
1 September	Nippon Kokan Arabia, a 50-50 joint venture between Nippon Kokan (NKK) and other Japanese interests and Saudi Arabia's Arabian Petroleum Services Company (Petroserv), officially starts business
5 September	Japan's Prime Minister Takeo Fukuda begins visit to Iran, Qatar, UAE and Saudi Arabia
1979	
5 January	Marubeni Corporation and Hitachi Shipbuilding & Engineering Company win $400 million contract to build phosphate fertiliser plant in Tebessa, Algeria
9 July	International Trade & Industry Minister Masumi Esaki begins tour of Iraq, Kuwait, Saudi Arabia and the UAE
17 August	Mitsubishi Corporation and Shimizu Construction Company win $368.8 million contract for construction of town centre in Baghdad, Iraq; Marubeni Corporation and Fujita Corporation win $325 million contract to build 123-kilometre highway from Baghdad to Hit
7 September	Group consisting of Mitsubishi, Sasakura, C Itoh, Hitachi and IHI win most valuable single desalination plant contract yet awarded by Saudi Arabia for 40 desalination units at Jubail industrial complex – valued at $955 million
16 October	UAE Petroleum & Mineral Resources Minister Mana Bin-Said al-Otaibah visits Japan for talks with Prime Minister, Foreign Affairs Minister and International Trade & Industry Minister
1980	
7 March	A $181 million contract for a Libyan cement works is won by Kawasaki Heavy Industries
31 May	Foreign Affairs Minister Saburo Okita visits Jordan for talks on Middle East politics and bilateral relations
18 July	A $200 million contract to build fertiliser factory at Ruwais industrial zone, Abu Dhabi, is awarded to Chiyoda Chemical Engineering & Construction and Mitsubishi
12 September	Iraq orders 60,000 vehicles from Japan's Toyota Motor Company, valued at more than $200 million
5 October	Contract for modernisation of Mina al-Ahmadi refinery, Kuwait, valued at $500 million-700 million, is awarded to JGC Corporation
1981	
May	Japan signs petrochemical venture in Saudi Arabia
October	Palestine Liberation Organisation (PLO) Chairman Yasser Arafat visits Tokyo

Source: Middle East Economic Digest, December, 1981 aid in the short-term -- an unbelievable 100-fold increase between 1972 and 1978 (Table VII). But today the regional concentration of Japan's grant ODA is not in the Gulf region; it is concentrated in Egypt ($700M in 5 years) and northern Africa. The Persian Gulf states are primarily investment, technological cooperation, and government loan recipients. The huge sums of Japanese aid directed toward resource poor Islamic nations in the last 5 years (Pakistan, Turkey, Egypt, Bangladesh) has been transacted in part to demostrate support for the overall "Islamic cause" which is chaired by the House of Saud.

c. "Modified" Seikei Burni

Perhaps there is no more prolific global example of the ability of the Japanese to reach consensus and radically modify a policy concept than in the Middle East during the last nine years. The traditional reliance on separation of economic and politics, seikei burni, as a basis of doing business with the Islamic world was traditionally tolerated until October 1973. Bowing to the Yamani ultimatum, the Japanese began to mollify their support of US positions on the Arab-Israeli question in order to continue an uninterrupted flow of oil to fuel their dramatic growth. The announced support of UN Resolution 242, recognizing the rights of all states to coexist, and backing of the Camp David agreement has since been delicately balanced by a refusal to recognize the PLO as the sole legitimate representative of the Palestinians and, as yet (Feb'82), no clear cut policy statement on Prince Fahd's eight-point peace plan. The Japanese have a distinct advantage in this region (and the African area, for that matter) in that they are without the legacy of colonial rule -- they are in good position to be "unbiased." And they continue to balance business/diplomatic dealings within these diverse Islamic states: resuming crude purchases from Iran in March 1981, after an 11 month suspension; recommencing the numerous construction projects in Iraq after an 18 month war-related suspension; continuing large grant projects in the oil-poor states of Pakistan, Egypt, Sudan, and N. Yemen; and, balancing the massive capital flows in th moderate states of the Gulf region with contracts in the more radical republics of Libya, Algeria, and Syria. In 1980-1981, the Arabists inside the Foreign Ministry were pushing for PLO recognition, support of Prince Fahd's plan, and a more visible presence in Mideast policy circles. The result of this pressure was evident in the corresponding diplomatic exchange (Foreign Ministers' Akita and Sonoda visits to Mideast, PLO Chairman Arafat's visit to Tokyo, and the planned spring, 1982 visit of Prime Minister Suzuki to the Mideast) and the increased but even-handed business reflected in the investment and trade tables. Egyptian President Sadat was to have visited Tokyo in November 1981, but Middle East history altered that trip, just as it has modified seikei burni.

2. Bilateral Perspective

The first talks on closer Saudi Arabian-Japanese relations were held in 1971 when King Faisal visited Tokyo. An agreement reached at the time called for ministerial level meetings to be held at least every other year. After a sluggish start, this program has realized fulfillment due to Japanese concerns for a tranquil diplomatic environment to support their rapidly accumulating investment/import market. Independent development contracts began in 1974 and gradually have transformed into the Japanese preferred joint venture projects (Table XVIII) culminating in the summer of 1981 with the signing of the Al Jubayl petrochemical contract, a record 1.5 billion dollar 50:50 venture which has now inflated to in excess of an estimated 2.5 billion dollars by site completion in 1985. The 53 Japanese industrial firms/financial groups involved are backed by the government's Overseas Economic Cooperation Fund investment and a so-called "retreat clause" which allows disengagement from the project in case of war or revolution. In return for Japanese cooperation in this effort, Saudi Arabia will supply "bonus" crude to Japan (begun in January, 1982) to augment the already growing 33 percent share the Kingdom provides to Japan. Saudi Arabia has been a consistent "top 5 finisher" on Japan's leading plant export list (Table XV) and is expected to remain so due to current negotiations on desalination and thermal power plant construction agreements [Ref.38: p.23]. The economic "lateral arabesque" performed by Japan in this region is best exemplified by studying the trade table (XIX) and the crude oil table (IX); the effects of Oil Shock #2, the Iranian Revolution and he American hostage events, are reflected in Japan's effective "crossing of the Persian Gulf" to continue Mideast business. The decline of Japanese business interests/imports in Iran is evident as are the corresponding increases in Saudi/UAE bilateral business. The most notable recent trends in Japanese participation in the Kingdom are in the LPG import field (in keeping with the growing energy diversification program) and in the growing interest in geological surveys for non-hydrocarbon minerals in this large nation; bauxite, copper, gold, nickel, zinc, uranium, and some exotics exist in Saudi Arabia and the Japanese Geological Mission has been a contracted participant in surveying since the 1970s [Ref.39]. In addition, to partially balance the traditional resources participation projects, Japanese support for investments in solar-energy, arid-land farming, and fish resource development has reinforced the "positive attitude of Japan" toward cooperation in the Gulf world. Businessmen are learning to live with the uncertainties of Saudi politics and religion, somewhat attested to by the rise of Saudi Arabia to the lofty "top 20" position on the risk chart (Table XIV); but so long as one third of their crude oil comes from here, the Japanese have no alternative but to adapt.

The well publicized story began for Japan in 1973 when work on the 1.3 million dollar Bandar Khomenini petro-chemical plant began. The joint project between Iran and Japan's Mitsui Company ended up 85 percent complete before Iraqi bomb damage in October, 1980. Now, after a revolution, a war, the American Embassy takeover, and inflation, Japan's largest foreign investment is worth in excess of 3.5 billion dollars, and, for all practical purposes, is dead. As of December, 1981, the final pleas by the Mitsui consortium to Iran's National Petrochemical Company amounted to an utlimatum for insurance, investment protection, "front money" before recommencing construction, and war clause guarantees for the workforce [Ref.40]. Overall Japanese DFI in Iran fell to an estimated 1 billion dollars in 1981 [Ref. 41]; 1981 crude oil shipments continued an erratic pace from April - October (500,000 b/d) after resuming following an eleven month price squabble interruption. The decline of business profile in Iran can be seen in the crude/trade table (XIX). Japan was edged out by West Germany in 1981 as the leading trade partner to Iran. But with conditions still unstable within the ruling government, all development projects will remain frozen while both parties continue private talks. The mantle for continuing dialogue between the two nations falls on Foreign Minister Sakurauchi and MITI Secretary Abe in 1982.

TABLE XIX

Japan's Major Trading Partners in the Middle East, 1978-80
($ million)

	Japanese exports to						Japanese imports from					
	1980	1979	1978	1980 (%)	1979 (%)	1978 (%)	1980	1979	1978	1980 (%)	1979 (%)	1978 (%)
Saudi Arabia	4,858	3,829	3,254	3.7	3.7	3.3	19,538	12,134	8,460	13.9	11.0	10.7
UAE	1,356	1,045	1,015	1.0	1.0	1.0	8,190	3,633	2,622	5.8	3.3	3.3
Iraq	2,169	1,609	951	1.7	1.8	1.0	4,339	1,816	777	3.1	1.6	1.0
Iran	1,530	925	2,691	1.2	0.9	2.8	4,101	4,271	4,244	2.9	3.9	5.3
Kuwait	1,273	886	774	1.0	0.9	0.8	3,458	4,414	2,482	2.5	4.0	3.1

Source: Keizai Koho Center (Japan Institute for Social & Economic Affairs)

Even with a war in progress, Iraq repeated its 1979 first place performance as Japan's leading market for construction contracts awarded: 31 contracts for 521 million dollars (1979: 30 for $1.1 billion). A sample of the diversity in projects (Table XX) over the previous three years reflects Japanese interest in this traditional Gulf business companion. Even with seven Japanese ships trapped in the bomb-damaged waterway, the Shatt al-Arab, bilateral trade grew consistently and was up 25 percent through the first six months of FY81. But the Iran-Iraq war has indeed taken its toll in delays on projects due to work stoppage and labor repatriation; by December 1981, debts of 200 million dollars had been claimed by Japanese companies and Iraqis had provided assurances for an equitable indemnity schedule and protection for workers [Ref.42]. The growing Japanese DFI boom there is expected to continue just as has the demand for Iraqi crude over the past eight years.

The the Japanese consider the remaining Gulf states (Kuwait, Bahrain, Qatar, UAE, Oman) an important market for their industrial and consumer goods as well as a vital source of crude oil and, more increasingly, natural gas. Japan regularly tops the list of exporters in the region, frequently beating competitors on price, availability, and after-sales service, all in an effort to wage a concerted compaign to reduce the average 4 or 5:1 export-to-import balance-value-ratio these states have maintained over Japan

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TABLE XX

A sample of overseas construction contracts for some of Japan's leading contractors

	Date awarded	Country	Project	Client	Value ($ million)
Kajima	1980	Iraq	Martyrs' museum and monument, Baghdad	Baghdad municipal government	130.7
	1981	Egypt	Children's hospital		
Taisei	1979	Iraq	Five general hospitals – at Kadhmis, Nasriyaha, Jikirit, Arbil and Najaf	Housing & Construction Ministry	179.0
Shimizu	1979	Iraq	Housing development, Baghdad	Housing & Construction Ministry	312.0
	1981	Iraq	Office block		24.1
Ohbayashi-Gumi	1980	Saudi Arabia	Housing development, Jubail (contract awarded to Saudi Japan Construction, a 50-50 joint venture of Ohbayashi and local interests)	Royal Commission for Jubail & Yanbu	47.0
Fujita	1979	Iraq	1,550-kilometre highway	Government authority for road & bridge construction	278.7
	1979	Iraq	Baghdad drainage civil engineering	Baghdad municipal government	87.3
	1979	Iraq	Two technical schools – at Najaf and Ramadi	Public Works Ministry	56.8
	1981	Iraq	Seven hospitals (with Taisei)		241.0
Mitsui Construction	1981	Egypt	Damietta port development		214.0
Toa Harbor Works	1979	Saudi Arabia	Jubail desalination power plant	Saline Water Conversion Corporation	34.9
	1980	Iraq	Berth construction	State Organisation of Iraqi Ports	46.5

Source *Middle East Economic Digest*, Worldwide Projects since 1974/75. Japan is the main trading partner for the United Arab Emirates and Oman and is a consistent "top three" partner with the others. The Gulf states have risen to fill and import void created by Oil Shock #2 and now collectively are providing Japan with more than 25 percent of her imported crude and a similar amount of natural gas [Ref.43]. Japanese oil companies are participating in the Gulf states to a much greater degree than with the region giants (Saudi Arabia, Iran, Iraq) and have several offshore ventures in Qatar, Oman, and the UAE. Investment is active with plant exports and major construction projects following the patterns established in Saudi Arabia and Iraq (Table XXI):

1. In Kuwait, 50 percent of the desalinated water comes from Tokyo's IHI Company locally installed plants.
2. In the UAE, the Japan Oil Development Company is participating with the Abu Dhabi National Oil Company in producing over 35 percent of the yield in this sheikdom.
3. In Qatar, the JGC corporation rebuilt a natural gas liquids plant after a 1977 explosion and increased its capacity to 1 million tons a year.
4. In Bahrain, Japanese financial institutions have followed the lead of other investors and now have 18 recognized banking outlets on the island.
5. In Oman, six Japanese petroleum firms earned development contracts in the first six months of FY82 allowing Japan to remain Oman's busiest petroleum exploration participant.

An example of progressive Japanese barter-trade has surfaced in early 1982. The Japan Oil Development company will soon complete the final plans on a massive oil-for-fresh-water deal with Abu Dhabi. As the empty very large/ultra large crude carriers complete unloading at Japanese receiving stations off Honshu and Kyushu, they will

TABLE XXI

JGC's major Middle East projects since 1976

Client	Location	Project	Capacity (tonnes-a-year – t/y)	Completion (awarded)	Scope of work
Sonatrach	Hassi R'Mel, Algeria	Natural gas processing plants (modules II, III)	LPG 880,000 t/y (x2) condensate 4,000,000 t/y (x2)	June 1979 (April 1976)	EPC
Sonatrach	Hassi R'Mel	Natural gas processing plant (modules IV, pipelines)	LPG 880,000 t/y condensate 4,000,000 t/y	June 1980 (May 1977)	EPC
Bahrain National Gas Company	Bahrain	Associated gas processing plant	LPG 155,000 t/y condensate 125,000 t/y	October 1979 (February 1978)	EPC
Qatar Petrochemical Company	Qatar	General offsite "facilities" for petrochemical complex	–	February 1980 (April 1977)	EPC
Qatar General Petroleum Corporation	Qatar	NGL plant	NGL 1,000,000 t/y	July 1980 (July 1978)	EPC
Qatar General Petroleum Corporation	Qatar	Propane storage facilities	58,000 m^3 x 2	December 1980 (August 1978)	EPC
Kuwait Oil Company	Ahmadi, Kuwait	Crude oil pumping facility	–	May 1980 (December 1978)	EPC
Kuwait Oil Company	Ahmadi	Fuel oil storage facility	–	August 1981 (March 1980)	EPC
Kuwait National Petroleum Company	Ahmadi	Oil refinery (modernisation)	170,000 BSD	autumn 1983 (September 1980)	EPC

Source JGC Corporation, July 1981

onload 100,000 tons of water per hull for transport back to the Gulf. The technology advances in crude oil washing facilities have made it feasible to carry water for about 1 dollar a ton -- at least 25 percent under desalinization plant outlays [Ref.44]. The Japanese are not the first to realize that a barrel of water may in some areas be worth a barrel of crude, but JODCO is on the fringes of a major promotion and the projects' viability has strong potential in the Gulf and other regions where land reclamation and intensive irrigation is underway.

C. SOUTHERN AFRICA

1. Background

Japan has a rather voracious appetite for raw materials and its search for new sources of supply as well as for fresh markets has brought them increasingly into contact with Africa - especially the mineral rich section of Sub-Saharan Africa below the 5 degree South latitude. The countries in this region produce a great portion of the free market economies minerals and in addition possess a vast amount of the world's proved reserves of strategic resources (Table XXII).

Before 1960 and the national "independence movements" in Africa, Japanese contact was minimal; as Japan began to search for new sourcing for her exploding economy, trade relations began to become somewhat significant. But not

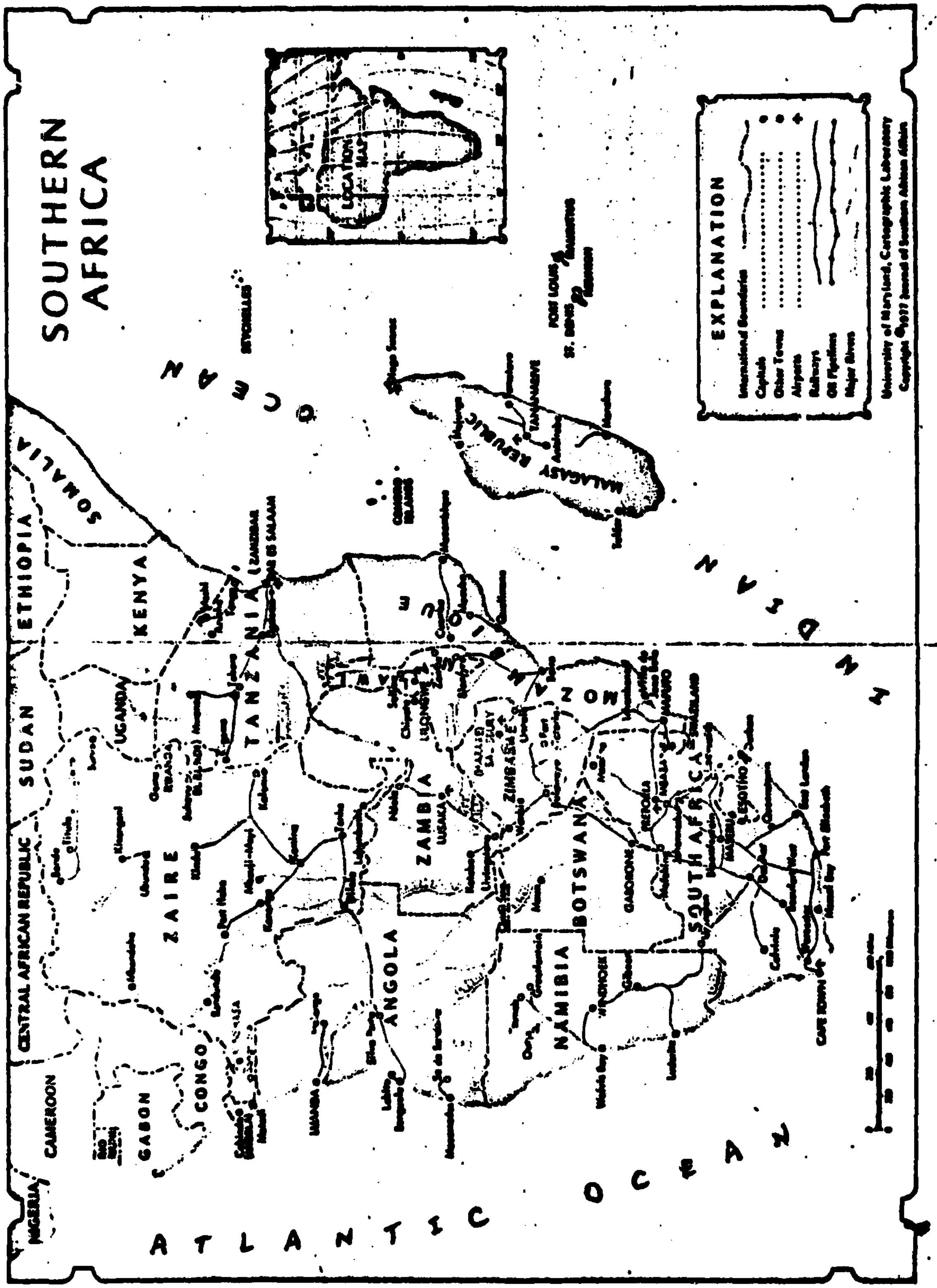
SOUTHERN AFRICA
EXPLANATION
International Boundaries
Capitals
Other Towns
Airports
Railways
Oil Pipelines
Major Rivers
LOCATION MAP
ATLANTIC OCEAN
INDIAN OCEAN
NIGERIA
CAMEROON
CENTRAL AFRICAN REPUBLIC
SUDAN
ETHIOPIA
SOMALIA
KENYA
UGANDA
GABON
CONGO
ZAIRE
TANZANIA
ANGOLA
ZAMBIA
MALAWI
MOZAMBIQUE
ZIMBABWE
BOTSWANA
NAMIBIA
SOUTH AFRICA
MALAGASY REPUBLIC
SEYCHELLES
TANANARIVE
CAPE TOWN

TABLE XXII

RESOURCE POTENTIAL OF SOUTHERN AFRICA

Mineral	Countries with Major Deposits	Percentage of: Global Production/ Global Reserves
Chromium	South Africa, Zimbabwe	40% / 75%
Platinum metals	S. Africa	54 / 75
Diamonds	S. Africa, Namibia, Botswana, Angola	50 / 83
Vanadium	S. Africa	42 / 64
Manganese	S. Africa	28 / 53
Columbium	Mozambique, Zimbabwe	27 / 38
Uranium	S. Africa, Namibia	21 / 32
Cobalt	Zambia	31 / 16
Copper	Zambia, S. Africa	13 / 16
Nickel	S. Africa	8 / 10
Zinc, Silver, Coal, Iron Ore, Titanium, Lead and Tin	Found in exportable quantities throughout Southern Africa	3-7% / 2-6%

Source: Compiled from US Bureau of Mines Yearbook ('79), Africa South of the Sahara '81/82, and the Financial Times, (5/26/81).

until 1974 did a Japanese Foreign Minister visit the continent: Toshio Kimurs's five nation trip marked the beginning of Japan's awareness that Africa would soon be an entity requiring a coordinated policy for ODA/DFI/and trade. The growth of trade between 1961 and 1980 resulted in a twelvefold increase amounting to over 9 billion dollars in 1980, 61 percent of which took place with the nations of Southern Africa (Table XXIII). The major thrust of Japanese interest here has been to diversify sources and secure mineral supplies, and as a major economic superpower with no colonial involvement in Africa, Japan has perhaps been more successful in the 1960/70s than the other OECD nations. But lately, these mineral rich states have been studying the OPEC lesson book and are becoming increasingly conservation-conscious and concerned about the value of resource rents as the materials sit undeveloped in the ground. The Japanese have been confronted with increasingly common requests for development aid, technical assistance, and grant/loan extensions. And the Japanese have responded in kind.

2. ODA/DFI

Up to 1973 Japanese aid to Africa was hardly significant in either quality or quantity (Table VI). At that time Japan admitted both cultural and language barriers, a natural result of the lack of colonial history ties and existing geographical constraints. An official Foreign Ministry Program Appraisal was conducted in 1973 and resulted

TABLE XXIII

JAPAN'S TRADE WITH SOUTHERN AFRICA 1980
(Yen '000 with Yen 220= US $1 approx.)

Country	Japan's exports	Japan's imports
Angola	18,768,080	23,277,714
Botswana	93,995	140,936
Malawi	4,759,565	994,389
Mozambique	7,900,947	4,331,085
South Africa **	405,604,353	406,029,404
Swaziland	1,250,651	4,754,098
Zambia	12,421,083	68,494,719
Zimbabwe	6,176,745	6,867,427

** Includes Nambia

Source: Figures compiled by the Customs Bureau, Ministry of Finance, Tokyo in a four year plan to triple Japan's total ODA destined for Africa. This goal was realized but the grant aid and technical assistance portions represented less than 20 percent of her total cooperation in Africa. With the advent of the 1978 "Seven Year Plan" to increase ODA, bilateral and multilateral economic participation is again on the upswing doubling between 1978-80 and now accounts for over ten percent of Japan's overseas assistance. A frequent participator in bilateral projects throughout Southern Africa, Japan formally joined the 50-nation African Development Bank in May 1981, with an initial five year loan credit line of 27 million dollars [Ref.45]. This pledge placed Japan among the top three donor members in the ADB (along with Canada/USA). The Japanese success record in modernization and industrialization is regarded by many African states as a model for development and as a result, emphasis on human capital training - education, technology aid, and research grants - has correspondingly increased from Japan into the "know-how" hungry African LDC's. Thousands of African trainees, Japanese volunteers, and technical experts skilled in African problems have been involved in a growing vocational aid program.

The 1.5 billion dollar Direct Foreign Investment figure (Table IV), indeed only 4 percent of Japan's overseas DFI, is reflective of the reluctance the Japanese have in the economic stability and political climate existing in Southern

Africa. A review of the investment risks chart (Table XIV) reveals that only South Africa made the top half of those rated in the survey. Japanese business efforts have concentrated in the mining/energy sectors which now account for more than 75 percent of her DFI in this region. Raw materials ventures in Africa began in Swaziland in 1964 with the iron ore mining and railway construction; both projects established to furnish ore to the Japanese ships bound for Tokyo and this same effort, to obtain long-term supplies, still proliferates Japan's African modus operendai.

3. Bilateral Ties

If the seikei bunri policy seemed somewhat "modified" in the Middle East region in order to conveniently marry-up political/economic objectives, the unmodified Japanese version operates in full force in public dealings with the Republic of South Africa. The refusal of the Japanese government to allow direct investment into the South African raw materials infrastructure leads to a perplexing situation: on the one hand, Japanese Foreign Ministry spokesmen were often credited in 1980/81 with quotes about South Africa's "morally bankrupt" regime and the fact the "Black Africa is far more important to Japanese interests" [Ref.46]; yet on the other hand, a reference to the African trade (Table XXIII) reveals that the Republic is indeed in a category by itself: as the number one trading partner with Japan on the entire continent (no small task when one realizes that none of this bilateral trade involved crude oil/LNG). The two and one third billion dollar 1980 figure takes on additional significance when compared with the more traditional OECD bilateral partners that South Africa has cultivated for decades (USA, UK, FRG): only a few percentage points separate Japan from a "top three" billet [Ref.47]. Though not directly involved in onshore joint ventures, South African demand generates an identifiable market for Japanese business as an importer of high tensile steel, electronics equipment and approximately one third of the Japanese four wheeled vehicles marketed in Africa over the last five years. Japanese imports are simply a mirror-image of the South African mineral resources production/export (Table XXIV) with iron ore, coal, uranium, and platinum leading the quantity/value column. These resource imports provide an example of indirect foreign investment due to Japanese demand for the coking coal, iron ore, and uranium in South Africa: Due to the traditional long-term Japanese contracts for these materials, the South Africans were able to plan ahead and budget capital to open two new industrial ports in 1976, Saldanha (near Capetown) and Richards Bay (northeast of Durban). These complexes account for thousands of jobs and support not only the local economy but also, in the case of Richards Bay, a Mozambican port facility due to a railroad link which routes some ore to the north for Japanese ships calling in Maputo [Ref.48].

TABLE XXIV

SOUTH AFRICA'S STRATEGIC MINERALS (1979)*

	Global Position:	
Mineral	Production Rank	Reserves Rank
Chronium	1	1
Copper	10	10
Diamonds	3	2
Gold	1	1
Iron Ore	9	7
Manganese	2	1
Nickel	7	7
Platinum group	1	1
Titanium	3	6
Vanadium	1	1
Uranium **	3	2
Zinc	21	5

* Includes Namibia

** Western world only

Source: The Financial Times (5/26/81), South Africa '81, and US Bureau of Mines (1979).

For Japan, the predicament of dealing with South Africa is the same as other OECD members are confronted: a complex situation involving an industrial giant, economically advanced, technologically progressive, and geographically positioned on, literally, a "gold mine" of strategic resources that Japan needs. Yet constant sanction pressures are felt from the emerging states in Africa, the Frontline States of Southern Africa, the OAU (Organization of African Unity), the United Nations General Assembly, and the "South" in general. Capitalizing on the "interdependence theory" (that so much of this region depends on the well being and economic health of South Africa) the Japanese have perhaps preferred to continue their healthy trade relationship with the Republic while even-handedly increasing their ODA/DFI/ participation with the rest of this region of Africa.

Turning to the Black States of Southern Africa, Japanese 1970s interests followed OECD pathways to a great extent: the minerals markets of Zambia, Zimbabwe, Mozambique, and Angola accounted for more than half of the remaining trade and much of the DFI in this region. There are signs of increased ties in the recent past: diplomatically with visits by the leaders of Zambia and Zimbabwe to Tokyo in 1980/81, and economically with marked increases in bilateral trade and a major thrust by Japan in the multilateral aid grant to the ADB. Brief profiles for the 1980/81 timeframe include [Ref. 49]:

1. Zimbabwe - increased activity in commodity traffic, especially chrome, but a reluctance to increase investment due to what the Japanese see as a "politically delicate situation" due to skilled white emigration. The recent visit of President Mugabe *o Tokyo resulted in pledges of ODA grants and loans in excess of 100 million dollars for projects in this rapidly changing nation.

2. Zambia - the traditional leading supplier of Japan's copper (over 50,000 tons annually throughout the 1970s), this country has also become an important cobalt source due to increasing concern for the business risks in Zaire. A 1980 deal tied-in the biggest rice-for- copper barter program ever signed, but Zambia has maintained a traditional 5 or 6:1 advantage in trade balance with the Japanese for years. The visit of President Kaunda to Tokyo in 1980 resulted in the finalizing of a construction contract for a sulphuric acid plant ($40 M) and increased grants/loans for railway and telecommunications development.

3. Mozambique - a purchaser of much of the mined columbium here, the Japanese have tried to balance business with fishing industry assistance and overseas volunteer technological training programs. But the overall investment environment in this struggling nation has prevented large increases in DFI/grant assistance.

4. Angola - a major petroleum contract signed in 1978 has begun to attract Japanese investment interst in the Luanda/Cabinda area. Trading companies were active in 1981 and the resulting business is expected to secure Angola's hold on the number 3 position in bilateral trade with Japan in this region.

5. Malawi - probably the largest increase in grant ODA from Japan has been realized by one of the regions poorest states. Answering a UNCTAD (United Nations Conference on Trade and Development) plea for soft loan aid, the Japanese have extended over 10 million dollars in irrigation and airport modernization assistance in the last two years; project supervision with technological instruction has been conducted on site by Japanese volunteers.

Japan has followed a carefully selected path in Africa. After thirty years of investing globally as an independent nation, her total DFI on the entire continent is only 1.5 billion dollars; more than 50 percent of that amount is tied up in the tiny merchant marine king, Liberia [Ref.

50]. Development assistance continues to increase, but will probably level off again at the 10-12 percentile (Table VI) due to budgeting priorities and economic necessity. The Japanese have pursued a pragmatic goal-oriented route in every bilateral relationship in Southern Africa; the long-term philosophy of bilateral trade, resource development participation/technology, training in entrepreneurial skills and, from time-to-time, ODA in grant and soft loan form has worked well for Japan. And it is the long-term which is most important - for the immediate future, this region can offer Japan strategic resources, but little else.

V. JAPAN'S SELF-INTEREST

For three decades Japanese foreign policy was moulded by the dictum: "Smile, sleep, and stay silent." From the safe haven of the US defense umbrella, Japan tended to hang on to US foreign policy strings. But a number of developments in the 1970s have forced a local reappraisal and the Japan of the 1980s has begun to step out on her own as one of the world's premier economic superpowers.

A series of "National interest shocks" occurred in Asia during the turbulent 1970s which affected Japan's international policy outlook: the 1973 oil shock, the "opening" of China, the announced US troop withdrawal from South Korea, the invasion of Cambodia by the Vietnamese, the Soviet military actions in Afghnistan and in the Northern Islands, and the general decline in the entire region's economy due continuing deficit problems attributed to oil shock #2 and the tripling of crude prices. During the aftermath of these events a plethora of writing on Japan's national interest, i.e., her perceived needs and desires in relation to the other sovereign states in today's world order, has surfaced in policy circles at home and abroad.

A. BASIC INTERESTS

The underpinning issues of foreign policy that determine Japan's overall national interest are:

1. economic: the enhancement of the one trillion dollar plus GNP
2. world order: the maintenance of an international political/economic system in which the vital overseas trade function remains prosperous
3. ideological: the protection and promotion of the Japanese system of values
4. defense: the protection of the citizens and the physical well-being of Japan as a nation-state

These basic national interests, which tended to be separate concerns from 1945-75, are now linked in a web of cross cutting interdependencies and changes in their priorities continue to transpire. In assessing the levels of intensity of these basic interests, the Japanese analyze their potential policy options examining costs and values perceived to be involved in coping with the issues at hand and categorize the differing degrees as:

1. Survival: the very existence of the state is in jeopardy
2. Vital: a serious threat to Japan's political/economic well-being
3. Major: trends in the international environment that may adversely affect Japan's well-being
4. Peripheral: interests of MNC's/private investment overseas may be endangered

B. NUECHTERLEIN AND RESOURCES

To illustrate how policymakers in Japan may use these various categories/intensities, application of the Nuechterlein national interest matrix becomes a useful tool

[Ref 51]. When adapting this model to Japan's resource dependency problem, the following chart can be hypothesized:

Country: Japan	Issue: Resource Dependency			
Basic Interest at Stake	Intensity of Interest			
	Survial	Vital	Major	Peripheral
Defense of Homeland			**	
Economic Well-being		**		
Favorable World-Order			**	
Ideological				**

1. Discussion

Viewed from the Japanese perspective, government officials are convinced that the country can continue to play a forceful foreign economic role without playing any direct part in global defense. Through active promotion of overseas aid (ODA), steady cooperation via investment (DFI) in the developing countries, the establishment of joint ventures and accompanying technology transfer, it is the consensus in Japan that they can remain complementary to the defense role being played by the US in Asia and NATO in Europe. By stimulating growth in the market economies and assisting development in the LDC/NIC's, Japan can continue to pursue its brand of economic diplomacy in a valuable and distinctive way, thus ensuring a favorable atmosphere for the growing interdependence in the world-order of the 1980s. Indeed the recent Suzuki/Sakurauchi (Foreign Ministry Secretary) speeches reflect this evolution:

> The peace and security of a nation cannot be ensured by simply beefing up defense potential. To preserve peace, it is necessary that Japan, which depends on overseas sources for most of its resources, energy, food and other needs, establish a comprehensive security policy for carrying out all policies through coordination [Prime Minister Z. Suzuki, 25 June 82; Ref 52].
>
> Economic cooperation is not only Japan's responsibility to international society, but forms an important link in Japan's comprehensive security policy. From this point of view, Japan will continue to increase its aid to areas important to the maintenance of world peace and security. In order for Japan to play its role as an important member of the community of nations, it is particularly important to widely intrcduce the picture of Japan in its entirety to the world - not only its political and economic images, but its social and cultural images as well - and have the community of nations accurately understand Japan's basic foreign policy and the ideas that underlie that policy [Foreign Minister Sakurauchi, 25 Jan 82; Ref 53].

a. Defense

The increased rhetoric in defense/security related matters emanating from Tokyo in the recent past is simply the response to a decade of direct and indirect pressure applied by many international actors - including the United States and most of the OECD nations - and reflects the heightened interest that the defense issue has garnered in Japan. An examination of the current resource importation table (XXV) reveals that a phenomenally high percentage of

TABLE XXV

JAPAN'S RESOURCE SUPPLIERS
January--June 1981

Commodity	Import Dependence (%)	Major Suppliers (%)
Rubber	100	Thai 61, Mal 15, Indo 8
Non-Ferrous Ores	99	CAN 18, RP16, Aus 11, Zam 7
Copper	96	Zam 43, RP 20
Coal	78	Aus 43, USA 28, CAN 16
Anthracite		PRC 45, SVR 27, S. Afr 14
Coking		Aus 45, USA 31, S. Afr 16
Bauxite	100	Aus 60, Indo 19, Mal 6
Vanadium	100	S. Afr 81
Platinum	100	S. Afr 49
Palladium	100	USSR 52, S. Afr 16
Chromium	100	S. Afr 40, Rp 20, Indo 15
Manganese	100	S. Afr 48, Indo 40, Thai 7
Uranium	100	CAN 34, UK/S. Afr 32, Aus 15
Crude Oil	99	Saudi Arabia 33, Indo 16, UAE 14, Kuwait 13
Petroleum products		Sing 26, Indo 16, S. Afr 14
Natural Gas	84	
LNG		Indo 30, Brun 25, Abu Dhabi 16
LPG		S. Afr 23, UAE 20, Aus 16
Methane		Indo 49, Brun 34, UAE 11

Source: JETRO Research Library, San Francisco

Japan's strategic resources for her industrial infrastructure sail through two nautical choke points: the Straits of Hormuz and the Straits of Malacca. The the extent that instability in either of these areas might cause an interruption of the supply chain fueling this economic machine, Japan has a legitimate concern for her economic and physical well-being. The political and military activities of the Persian Gulf and the ASEAN sovereigns are subjected to continual scrutiny by many western analysts. But less is known about the discussions that sur ly arise behind closed doors in Tokyo when situations occur such as the attack on a Japanese tanker off the Philippines in January, 1982 [Ref 54]; questions must surface which crosscut all four basic interests but the resulting decisions are sometimes not tacitly understood until months later. However, recent ODA/DFI policies have reflected the effects of increased western pressure on Tokyo for global security assistance:

1. The previously mentioned increase in economic support for Turkey, Pakistan, and Egypt, nations which have limited natural resources and no real history of traditional ties to Japan. The 750 million dollars directed to these three strategically located nations in 1980/81 has acted to reinforce OECD security policies.

2. The revelation that a Japanese construction project is two thirds complete on the port of Lumut, Malaysia; strategically located on the Malaccan Straits, Lumut will be the largest ASEAN naval facility and includes buildings, repair facilities, a training complex, and berthing for the Malaysian Navy (frigates, patrol boats, mine sweepers, and amphibious ships) [Ref 55].

b. Economics

That the Japanese economy depends to a vital degree on the importation of resources is a fact that been documented in the previous chapters of this study. The various commodity markets have been subjected to wild fluctuations during the last three decades as Japan has pursued its role as a growing economic superpower. But the constant has indeed been thirty years of solid growth including the survival of two major oil shocks, achieved by tightening wages, increasing productivity, and saving energy. The current decade will present many challenges to Japan as continued growth will be scaled down (1982 projection: +4.7 percent) and exports will meet increasingly tough resistance in the face of a global recession. Success has presented Japan with a unique problem: it has reached the forefront in so many fields that it is decreasingly able to "borrow" technology/R&D from others [Ref 56]. Making breakthroughs is a slow, tedious process and their economy must increasingly reflect the reality that continued economic progress will depend greatly on adherence to the rules that global interdependence dictates.

c. World-Order

The Japanese FY82 budget reflects the tightening of pursestrings mirrored by all nations; but increases were authorized in three areas: defense, ODA, and energy appropriations. With the projected 4.2 billion dollar foreign assistance program, there seems no doubt that as the United States and other OECD donors curb aid, so will Japan's increasing contributions assume even greater importance. In addition, a plan to upgrade the quality of its development assistance and "untie" (by removing expenditure restrictions) a greater percentage of loans and grants is expected to help ease the vailed reality that those nations possessing strategic resources are indeed the recipients of the bulk of Japanese foreign aid. The planned priority of rural development aid, agriculture advisory assistance, and the promotion of small/medium sized businesses is being supported by increased cooperative private investment (2.4 billion dollars for the first half of FY81; a 100% increase) [Ref 57]. The large contributions to the Asian and African Development Banks serve to reinforce this diplomatic offensive on aid - it is in Japan's best interests to generate growth and stability in developing countries. Not often in postwar times has a nation had an opportunity to demonstrate humanitarian generosity and concern for fellowmen without investing heavily in arms trade or security assistance. But Japan surely has the opportunity in this decade of serving its own interests and those of peace-loving mankind by continuing to increase its cost-effective, growingly altruistic foreign aid program.

d. Ideology

In due course, it is inevitable that Japan become more directly involved in the international process of political consultation. The Sakurauchi quote reflects intentional movement toward this arena: ..."to have the community of nations understand Japan's basic foreign policy and the ideas that underlie it." The promotion of Japanese social and cultural values and ideals has been slowest of all basic interests to be broadcast overseas. The pre-1945 "Fortress Japan/Asian Co-Prosperity Sphere" label has taken more than a generation to disappear, especially in Asia. But despite the tremendous progress registered in foreign economic policy circles during the last ten years, the Japanese are often times their own worst ideological enemy:

a. Southeast Asia: openly anouncing support for ASEAN policies including an economic boycott of Vietnam, yet, continuing to import massive coal shipments from SRV in 1981 (Table XXV); agreeing to original US requested sanctions of the Soviet Union due to Afghanistan, yet, dramatically increasing overall business in Siberia during 1981, especially in the natural gas, coal, and timber areas.

b. Persian Gulf: taking an active diplomatic participation including a probable Fall, 1981, intermediary role between the PLO (Arafat October visit); yet, continuing to support both sides in the Iran-Iraq War - the latter via renewed construction/ project starts, the former with an unbroken supply support effort via the Soviet Trans-Siberian Railway (80,000 tons per month) [Ref 58, p 31].

c. Southern Africa: the offering of huge increased projects to Black states such as resource poor Malawi; yet, continuing to increase a flourishing trade relationship with South Africa and "laundering" lucrative resource investment (mostly uranium) in the area under the "Namibia-UK-USA" label [Ref 59].

Surely these examples of inconsistently and unevenly applied foreign policy in the three important regions studied cause consternation on the part of Japan's international partners. The facts tend to bare themselves out when examining the basic interests applied to strategic resource dependence: the enhancement of Japan's economy is The fundamental vital interest involved; in order to assure continued progressive growth in the 1980s, it is necessary for Japan to promote an open, outward-looking economic system to ensure free flowing overseas trade. This fact in itself dictates that a path of internationalism be followed, especially in the confrontation-plagued regions discussed. Solid policy decisions must be made, announced, and carried out ..... or the vulnerable kendo (fencing) posture "happo-yabure", loosely defined as "defenseless on all sides," could well become a diplomatic reality for the Japanese.

C. A 1980s FORECAST

And indeed, vulnerability is today an important factor, virtually a survival issue in certain resource dependency scenarios. Consider the following dilemmas:

1. February, 1982, the Japanese aluminum industry: As the two oil shocks raised the energy cost to onshore smelters over eightfold in six years, the decision was made to export plants and produce ingots in Southeast Asia and the Middle East. The comparative advantage quickly switched to these labor-rich/energy-rich areas while Japan, the producer of over 8 percent of the world's aluminum between 1975-80, found itself importing 1,000,000 tons of ingots in 1980 and importers paid the 9 percent duty on their overseas Japanese produced goods! Cumulative losses by major refiners totalled one trillion yen ($4.5 B) in FY80 alone! The resultant slashed output to two thirds capacity has not prevented world wide falling prices and market market dumping. But until the world recession resides and resulting depressed demand is corrected, cutbacks and losses will continue in an industry that is a key indicator of Japan's overall economic well-being. And, hypothetically:
2. February, 1984, ten years after the International Energy Agency (IEA) was formed: Oil from the Middle East is abruptly cut off; the US dependence on Persian Gulf-oil is now below 10 percent - but Japan still relies on that region for 60 percent of its crude sourcing. As a loyal IEA member and leader in the conservation effort, Japan expects the energy wealthy Americans to honor the Agency bylaws and share the resulting deficit equitably by feeding them some US oil; and even beyond that, by applying the required military muscle to restore order in the Middle East.

   But, will the US public forget the damage done in the previous six years by Japanese imports and the accompanying effect on labor and industry? Can Washington forget the massive deficits in the trade balance between 1980-83? And will our security planners forget the famous "free-riders" in defense who carved-out the world's second most productive economy while devoting 1% GNP to her defense spending?

Viewed in light of the above scenarios, it is little wonder that the Japanese continue to approach every potential problem with a feasibility study group, a KEIDANREN-MITI-MOF commissioned opinion survey, an LDP faction parley, and a resultant consensus decision. The top priority with which the current government assigns to economic issues is evident in the Prime Minister's recent Cabinet shuffle: Shintaro Abe, considered a rising star and possibly a future P.M., selected for MITI head and Joshio Sakurauchi as Foreign Minister, a businessman with lots of savy in political-economic trade problem fields. Their proving grounds will surely be the upcoming June 1982 OECD economic summit and the November '82, GATT negotiations in Geneva

D. ASSESSMENT

The preceding two scenarios underscore the dilemma created by a nation dependent on the importation of over 80 percent of her strategic resources. But these conditions are survivable in today's increasingly interdependent world. Japan has methodically prepared for predicaments such as these and has learned from the oil shocks by pursuing a path offering: development assistance packaging in the LDC's (including ODA/DFI), long-term contracts and dominant-buyer positioning (monopsonist) in raw material commodities, and a genuine interest in making her foreign aid/investment/joint ventures work and become effective elements of Japanese economic policy. At the heart of the pattern of successful economic adjustments made in the 1970s is the energy conservation *effort*, and *effort* which allowed Japan to enter this decade on a relatively firm economic foundation--especially in relation to the other OECD members. The concept of geographic resource diversification has driven Japan to broaden her markets considerably, thus reducing the possible effects from a third energy disruption postulated in scenario #2 above. In addition, despite occasional bold rhetoric from ASEAN, OPEC, the OAU, and other organizations from the "South", the chance of any type of jointly applied sanctions by the resource suppliers in all three regions discussed is remote at best. Japan's movement into business relationships with countries outside these regions is growing and will continue to do so throughout this decade: Mexico (oil/iron ore/and possibly uranium), China (oil/coal/others), Australia (all minerals), Alaska (gas and eventually oil), and the Soviet Union (oil/gas/coal/iron/others).

The Japanese effectively dealt with two major resource supply emergencies in the last eight years (oil shocks #1/2) and they are now learning to cope with the prosperity that has evolved from three decades of determined growth.

APPENDIX A

JAPAN'S SEARCH FOR A PETROLEUM MNC

In the 1960s it had become apparent that oil would replace coal as the primary source of energy for the expanding Japanese economy. This was a special concern to the Ministry of International Trade and Investment (MITI) since Japan relies on foreign sources for 99% of her oil supplies. By 1960, 74 percent of her oil was provided by foreign MNC's, mostly through five year contractual agreements. The 1958 formation of the Arabian Oil Company (AOC) by Taro Yamashita was the first success story in Japan's search for oil by an wholly-owned Japanese firm. Yamashita's contract with Kuwait and Saudi-Arabia (both nations retained 20% equity in AOC) to drill for oil in the Neutral Zone is still one of the classic success stories in petroleum circles today. He convinced the members of Keidanren (Federation of Economic Organizations) to assist in this expensive business venture and mobilized support from various industries, utilities, banks, and insurance companies. With the discovery of oil in 1961, the flow of crude resulted in making AOC one of the leading independents in the world; throughout the 1970s they supplied Japan with 10 percent of her oil needs (1979 production continued to run at 570,000 barrels/day). But despite Yamashita's singular impressive success, a full two thirds of Japan's oil supply remained in the hands of the major multinationals. MITI officials realized the need to expand local control of crude sources but firms were short on experience and capital. Moreover, perhaps in oil above all other raw materials ventures, the tainted World War II reputation stuck with the Japanese as they attempted to secure crude supplies in Asia; the memories of the western oil blockade and the rabid attempts by Japan to procure oil to fuel their war machine were still evident two decades later. In 1967 the government established the Japan Petroleum Development (JPDC) under the MITI policy guidance. JPDC was authorized to invest and loan money to firms for overseas oil and gas development. Within four years oil projects abroad proliferated and 36 companies had been formed [Ref.11, p 44] and were searching for oil in southeast Asia, the Persian Gulf, Africa and Latin America. Essentially all these ventures were joint development/buffer stock agreements with the four major trading companies leading the way (Mitsubishi, Mitsui, Marubeni, and Itoh). Though exploration/development efforts had realized massive growth, marketing and refining interests had been left largely in the hands of the major foreign MNC's.

Shock #1

So in the 1974 "shock", as the Mideast crude supplies dried up, Japan found herself without any downstream refining alternative to its equity Asian/African oil; she watched helplessly as the majors filled orders for crude at home before securing a supply for the Japanese market - a market over 70% dependent on Mideast oil. Only government assistance, in the form of a rapid foreign policy tilt toward the Arabs, saved Japan from energy collapse. This "shock", more than anything else, eventually shaped the formation of Japan's energy policy for the remainder of this century.

Beginning in 1974, the government sought to redefine its national economic goals. Keidanren and MITI identified a series of carefully developed program goals designed to support a 6 to 7 percent annual growth in real national income. The oil industry played a major role in the scenario established: a government energy conservation program designed to permanently reduce the 99% dependence on overseas oil (80% of energy source) in addition to expansion of coal development, nuclear, geothermal, and solar power sources. Furthermore, heavy energy users, i.e., smelting and aluminum processing industries, were checked from further onshore expansion. Recognizing Japan's inescapable dependence of foreign oil and foreign MNC's, the government adopted a strategy designed to merge Japan's interests with those of the international oil companies: increased joint participation and accelerated investment in refining/ marketing [Ref.12].

Shock #2

By 1978 there were fifty Japanese oil firms involved in overseas exploration - providing approximately 9% of Japan's crude oil needs. This inferior supply position reinforced Japanese efforts toward dual channel "energy diversification": broadening the source of crude supplies geographically while expanding the source of energy utilized by the nations growing economy. In addition, the emphasis placed on downstream refining/distribution, as evidenced by Table A-I, has increased Japan's share of locally refined oil today to nearly 48 percent. The government push for direct deal (DD) and government-to-government (GG) contracts has increased radically in the wake of oil shock #2 - the 1978-80 tripling of barrel costs due to the Iranian crisis and the Iran-Iraq war. Initially, the marketing firms descended on the oil producing countries and made large oil purchasing agreements out of fear concerning supply problems similar to 1974. However, the concerted efforts of Japanese industry has recently led to a reduction in crude requirements and a leveling off of imports at the 3.5 to 4 million barrels daily figure. As a result, the long-term purchasing agreements made in 1979/80 for expensive crude has now contributed to Japan's oversupply problem in 1981. The worldwide oil glut, Japan's overall successful conservation effort and the drop in yen value during 1980/81 had fueled record losses by Japanese oil companies (Table A-II).

TABLE A-1

PRESENT STATUS OF JAPANESE REFINING & MARKETING/PRIMARY DISTRIBUTION COMPANIES

	Capitalization (¥ million) (as of Mar.31, 1981)	Refining Capacity (as of Dec.31, 1980) BPSD	Refining Capacity (as of Dec.31, 1980) % Share	Sales Volume in Fiscal 1979 % Share
A. Oil Companies, Wholly Owned by Foreign Capital or Affiliated with Foreign Oil Comapnies				
a. 100% owned by foreign capital:				
• Esso Standard Sekiyu	20,000	-	-	4.88
• Mobil Sekiyu	11,000	-	-	5.97
• Shell Sekiyu	6,904	-	-	6.96
	37,904			17.81
b. 50% owned by foreign capital:				
• Koa Oil (Caltex)	6,000	229,000	3.86	0.29
• Kyokuto (Mobil)	7,000	150,000	2.52	-
• Mitsubishi (Getty)	15,000	375,000	6.31	7.72
• Nippon Petroleum Refining (Caltex)	10,000	580,000	9.76	-
• Showa Oil (Shell)	6,750	192,000	3.23	4.39
• Toa Nenryo (equally by Exxon and Mobil)	22,264	430,500	7.25	-
	67,014	1,956,500	32.94	12.40
c. Less than 50% owned by foreign capital:				
• General Sekiyu (49% owned by Exxon)	4,699	175,000	2.95	3.85
• Seibu Oil (20% by Shell)	8,000	190,000	3.20	0.56
• Showa Yokkaichi (25% by Shell)	4,000	310,000	5.22	-
	16,699	675,000	11.37	4.41

TABLE A-1 (cont.)

PRESENT STATUS OF JAPANESE REFINING & MARKETING/PRIMARY DISTRIBUTION COMPANIES

	Capitalization (¥ million) (as of Mar.31, 1981)	Refining Capacity (as of Dec.31, 1980) BPSD	Refining Capacity (as of Dec.31, 1980) % Share	Sales Volume in Fiscal 1979 % Share
d. Either indirectly owned by or teamed up with foreign oil companies:				
• Nansei Sekiyu	7,625	80,000	1.35	-
• Nippon Oil	33,515	26,000	0.44	17.74
• Tohoku Oil	7,500	100,000	1.68	-
	48,640	206,000	3.47	17.74
Industry-wide Subtotal	182,218	3,097,500	52.15	53.53
B. Wholly Japanese-Owned Oil Companies				
• Asia Kyoseki	9,600	150,000	2.53	-
• Fuji Oil	10,000	210,000	3.54	0.75
• Kashima Oil	20,000	180,000	3.03	-
• Kyodo Oil	18,000	-	-	12.87
• Maruzen Oil	20,469	392,500	6.61	8.03
• Nippon Mining	24,600	249,350	4.20	0.04
Industry - wide Subtotal	139,077	2,842,860	47.85	46.47
INDUSTRY TOTAL	321,295	5,940,360	100.00	100.00

TABLE A-II

SELECTED JAPANESE OIL COMPANY PERFORMANCE
OCT80---MAR81

FIRM	Profit/loss (US dollars)
Foreign MNC Affiliates:	
Nippon Oil	$ + 1,200,000
ESSO Standard	+ 900,000
Mobil Sekiyu	+ 800,000
Toa Nenryo	+ 1,800,000
General Sekiyu	+ 230,000
Japanese Firms:	
Maruzen Sekiyu	- 1,800,000
Taikyo	- 200,000
Mitsubishi	- 1,003,000
Kyodo	+ 50,000
Idemitsu Kosan	- 500,000
Showa Sekiyu	- 400,000
Kyushu Sekiyu	- 50,000
1980/81 TOTAL LOSSES UP TO 30JUN81:	$ - 21,200,000

Source: Financial Times SEP 02, 1981

In summation, Japanese oil ventures overseas have completed a full circle in twenty years:

1. A slow but concerted start in the 1960s

2. Rapid expansion after the post 1973 Oil shock

3. And finally, government directed intervention and control during the present oversupply period

The position of the four international majors who are directly involved in Japan's oil industry (Shell, Caltex, Exxon, amd Mobil) remains significant; they continue to provide almost 50 percent of Japan's crude and will probably outlast the current sinking spell as local oil companies drown in the temporary glut. The advantages of diversified source supplies, balanced capital assets, and depth in business sense continue to keep the majors afloat.

APPENDIX B

JAPAN'S STRATEGIC STOCKPILING PLAN

Japan's sentiment about national security, a well publicized topic, has allowed the focus of postwar progress and growth to dwell on "what's good for the economic health of Japan." As such, little attention was devoted to decreasing the growing critical dependence of imported oil until the 1973 shock. The onshore petroleum industry retained an "in-house" 45 day reserve for peak demands. After joining the IEA, Japan enacted the Petroleum Stockpiling Law (April, 1976) and mandated a 90 day supply as the target by FY79. The Japan Petroleum Development Corporation (JPDC) joined with seven private firms to form the Niigata Joint Petroleum Stockpiling Company and commenced construction on a 1.2 million kiloliter tank storage facility near Niigata. The projected initial figures were in excess of $8 M for building with most of the outlay coming from MOF low interest (2%) loans to private concerns [Ref.22].

Shock #2 caused Japan to reaccess its original 90 day target and the resultant two pronged plan announced in 1979 is currently being pursued:

1. private industry must maintain a 90 day stockpile (achieved in 1981 due to the glut)

2. Government (JPDC) will maintain an additional 30M KL (40 day) storage by the end of FY88

The JPDC has conducted three rounds of feasibility studies to select six suitable locations for 5MKL facilities. In 1981 three sites were completed and filled ahead of schedule (once again due to the glut). But future construction has slowed due to:

1. environmental concerns (aesthetics and pollution)
2. overloading of petroleum industry in certain locations (Tokyo Bay, Inland Sea)
3. deficit spending budget problems at MOF

A variety of proposals have been examined by the JPDC; the original Niigata standard tank designs have given way to underground tank programs in Kagoshima and Akita, seacoast land reclamation projects for tank farms near Fukui, and an approved construction of 7 floating tanks (about 6MKL each) off Kyushu [Ref.23].

While these construction projects are underway, the Japanese government has established a sea-based stockpile program by designating certain Very Large Crude Carriers (VLCC: 150,000 - 300,000 deadweight ton capacity) to moor off the coast with their crude load onbaord. As of July 1981, one third (26) of Japanese owned VLCC's were participating in this government funded "seaborne stockpile." Five different locations around the nation have been designated for a holding areas for this tanker stockpiling program.

Due to the increasing emphasis on LNG (now used as energy source by 65% of households) the Petroleum Storage Law is under study for a 1982 amendment to designate a mandatory level for imported LNG/LPG stockpiling. Government funds will be allocated to private concerns for construction of LNG holding tanks; the pattern followed in petroleum stockpiling will be repeated for this rapidly expanding energy source.

APPENDIX C

JAPAN DISCOVERS MEXICO

Mexico is a poor country with a rapidly growing population of 70 million, extensive unemployment, a distribution of income and wealth that is among the most skewed in the world, a large native Indian population that has yet to be assimilated, and an inefficient, nearly feudal agricultural sector that employs nearly half of the labor force but which produces only 10 percent of the GNP yet receives a mere 6 percent of the national income [Ref. 60]. The most important policy question facing Mexico today is whether the speedy development of its enourmous petroleum reserves offers a means for alleviating these serious socio-economic problems and advancing Mexico's development as a successful modern nation. In particular, can Mexico use its oil wealth to finance the capital investments necessary to transfer large numbers of underemployed workers from the agricultural sector to more productive jobs in the industrial and service sector? Where and How does Japan fit in? Answer: Financial cooperation including ODA/DFI, technology transfer into the industrial and agricultural sectors, and increased bilateral trade.

Background

The relatively low level of trade between Mexico and Japan in the 1950-60s reflected the rather limited interests that these two nations shared. Geography worked against a convenient bilateral economic realtionship; there was no large identifiable Japanese colony in Mexico such as the case of the 800,000 plus group in Brazil; and developed resources, until the mid 1970s, amounted to only silver, copper, lead, and manganese in very limited quantities (ie, not a top five Japanese supply source); as a result, direct investment and official development assistance prior to 1970 totaled less than 25 million dollars, even when lumped together. So it was left mainly to Oil Shock #1 in 1973-74 to bring these two Pacific Basin states closer together.

The worldwide effect of the Arab boycott on oil exports has already been documented and discussed; suffice it to say that two direct after-effects of this traumatic event were: 1. A rejuvenated effort by Mexico to examine her own pertoleum development which had stagnated between the nationalization effort (1938) and the "Reforma" oil field discovery (1974), and, 2. A dedicated and doggedly successful geographic resource diversification effort by the Japanese which "re-introduced" them to the Pacific Basin and into Southeast Asia, Australia, China, Siberia, and finally Mexico.

Post-Shock Build-up

From 1974 to 1980 bilateral trade with Mexico quadrupled from 470 million dollars to just over 2.1 billion dollars while Japanese investment jumped from a 1975 figure of 141 million dollars to a respectable 750 million dollars (Aug.'81), thus, ranking Mexico in the top 12 DFI markets with 2.3 percent of Tokyo's investment overseas [Ref. 61]. Some KEIDANREN-related private ties had existed prior to this timeframe (Japan-Mexico Businessmen's Conference, established in 1961, and the Japan-Mexico business trainee exchange program, 1971) but in general, the increased interest was due to Japan's recognition that the oil projections finally outweighed the concern over the controversial 1973 foreign investment law which mandated a local 51 percent Mexican ownership of all joint ventures. In 1976 Pesident Lopez Portillo relaxed certain facets of this regulation and the resultant rush by foreign investors was immediate -- Japan ended 1980 with a 6 percent share of Mexico's total overseas investment. This effort has assisted both nations: President Portillo is attempting to reduce dependence on US investment sources and the increasing Japanese/OECD interest has promoted this goal (US private investment declined to 68% of the total in 1980) [Ref. 62].

In addition to the obvious natural resource interests, Mexico offers access to three large markets: a local rapidly growing domestic market and the geographical proximity of easy-access to both the US and the expanding central American marketplaces. The Southeast Asian pattern of plant exports for machinery, electronics, and even automobile assembly is gaining in appeal as several Japanese factories have been established, many along the Mexican-US border during the last four years. The labor market is both cheap and plentiful and the northern border offers immediate access to the US market. Combined with the abundant energy supply, these factories can run efficiently and relatively cheaply, thus improving the Mexican-Japanese comparative advantage.

The Pacific Basin Angle

The 1977 Campeche Bay discovery boosted Mexico's proved reserves past the 70 billion barrel mark, even by the most conservative estimate. Only Saudi Arabia has more confirmed crude and Mexico has already far exceeded any Persian Gulf states's gas reserve with a 1981 estimate in excess of 100 trillion cubic feet [Ref. 63]. This combination of energy reserves has clearly been Mexico's ticket to development. After extending a small Export-Import Bank loan to improve the silver export facilities at Manzanillo, Japan began to concentrate on other Pacific ports to help accelerate Mexico's Pacific Basin development program. The lion's share of Japanese DFI/ODA/and technological assistance over the last five years has gone into the Pacific industrial port complexes at Salina Cruz and Lazaro Cardenas. Every aspect of the transportation infrastructure has been aided by Japanese participation:

1. Bulk loading docks/containerization facilities
2. General cargo warehouse improvements
3. Railroad terminal modernization
4. Roads/bridge construction on feeder routes
5. Oil pipeline extension/pumping terminals

The Japanese see these two ports as the key to economic development of Mexico as a Pacific Basin state. In addition, by improving the inland transportation links to these ports, Japan acts in both her own and Mexico's best interests. Hence, the increased investment emphasis in 1980/81 on the "landbridge" across the 180 mile Isthmus of Tehuantepee; this proposed project will link the oil-rich Gulf coast port of Coatzacoalcoa with Salina Cruz-- by rail, by highway, and by oil pipeline. Lazaro Cardenas, once a jungle town, is now the rapidly growing home of Sumitomo Steel and the Sicartsa tube mill project. Much of the planned 10 million ton per year output (by 1990) will be used to beef up this port facility and produce pipeline tools and equipment [Ref.64].

The Oil for Technology Angle

The October, 1977, formal request from the Mexican government to Japan for financial development assistance in exchange for crude oil deliveries prefaced the worsening crisis in Iran. The first written contract guarantee was transacted in February, 1978, by three firms in Tokyo (the

Industrial Bank of Japan, Mitsuibishi, and Mitsui) and the Mexicn Petroleum Company (PEMEX): 65 million dolar loan credits for pipeline and port improvements in the Gulf in exchange for an export guarantee of 25,000 barrels per day. Japan had depended on Iran for 17 percent of its oil and was anxious to diversify in the early days of Oil Shock #2. An endless string of official trips across the Pacific began in 1979 as both sides tried to agree on industrial projects and oil export totals. After two years of continuous deliberations, the following milestones fall out chronologically: (FBIS, Latin America/Asia)

a. November 1978, Lopez Portillo secures 1.1 billion dollar package of credits and technology assistance in agriculture (soybeans, corn, beef) while on a state visit to Tokoyo

b. July 1979, 300 million dollars extended to PEMEX for gas pipeline development; Foreign Minister Sonoda secures guarantee to increase oil exports to 100,000 bpd effective September 1980.

c. March 1980, Mexican trade delegation receives direct investment guarantee of 2.1 billion dollars for steel development between 1981-85.

d. April 1980, Keidanren president requests increase to 200,000 bpd during tour of Japanese projects in Mexico. PEMEX agrees to move up earlier increase by three months and will "consider future increases."

e. May 1980, Prime Minister Ohira asks for 300,000 bpd in exchange for a 200 million dollar credit line in 1981; and official visit to Mexico ends less than a month before his sudden death.

f. December 1980, Prime Minister Suzuki offers Mexico the largest untied loan ever provided by Japan (outside of ASEAN) - 700 million dollars - to solidify the oil export increase requested by Ohira.

g. January 1981, MITI head Rokusuke Tanaka secures Pres. Portillo's promise "to increase Japanese oil exports as early as possible, but not earlier than 1982; Tanaka extends soft loan of 125 million dollars for "unspecified purposes."

h. June 1981, Suzuki visits Mexico and solidifies increased oil imports "up to 300,000 bpd in late 1982" in exchange for technological assistance in refining plants and steel mills along with the already promised loan credits.

i. July 1981, Foreign Minister Sonoda changes Japanese tune and tells Mexicans that due to the oil glut, no increase from the 100,000 bpd total will be requested in 1982 by the Japanese.

j. November 1981, Prime Minister Suzuki appoints Kiyoaki Kikuchi to be new Ambassador to Mexico -- a 35 year Foreign Ministry veteran and former head of the Economic Cooperation Bureau.

The pattern of further Japanese investment, increased trade, and closer relations between these two Pacific Basin nations has continued to prove out during the last six months: Nissan Motors announced auto plant expansion plans totaling 400 million dollars in the next five years, Nippon steel received a 225 million dollar order for the Sicartsa project, Hitachi joined with a West German steel company to win the expansion contract at Sicartsa, and Mitsubishi agreed to deliver four steam turbines ($45 million) to the Federal Electric Company for a new power station [Ref. 65].

Outlook

1982 promises to be a difficult year for Mexico: the oil glut has created complex economic problems for the world's oil-rich and oil-poor alike. Increased production seems to lead to worsening inflation and the 1981 28 percent figure is already higher than Miguel de la Madrid, the ruling Institutional Revolutionary Party (PRI) selection for Mexico's next President (Dec '82-88), would like to inherit. A conservative Harvard trained economist/technocrat, Sr. Madrid is expected to continue to seek diversified investment sources from a variety of nations abroad. The Portillo 1981 economic plan boosted employment (1,000,000 jobs), agricultural output (7%), the overall growth rate (8%), and, inevitably, the public debt ($500M) [Ref. 66]. But with the expected "slowdown" forecast for 1982-83 (4-5% growth), it will be in Mexico's best interests, and Japan's as well, to continue to pursue increased ties across the Pacific. For example:

Advantages for the Mexicans:

1. Allows further development of the economically stagnant Pacific coast: jobs, infrastructure improvements, factories, and other projects, all of which will lead to improvement of Mexico's access while facilitating business/trade with all Pacific Basin Nations

2. Underlines the obvious fact that the Japanese have refined technology in industries that Mexico is seeking to develop: electronics, steel, automobiles, fishing, and agriculture

3. Results in the windfall realization that increased Japanese business further reduces traditional dependence on US investment funds, thereby allowing economic diversification for Mexican interests

Advantages for the Japanese

1. Allows futher development of the Pacific Basin, now Japan's #1 marketplace

2. Offers a non-OPEC alternative to future oil/gas supplies by a nation which needs Japanese technology/investment

3. Complements US policy in Latin America: economic development assistance in Mexico assists the search for stability and prosperity of a democratic Latin America, thereby demonstrating support for another Pacific friend -- the United States.

Mexico's long-term economic health will be determined by a variety of factors, not the least of which will be the stability of the world's oil production and price. Now, in the immediate post boom years (1981-85), financial experts are predicting a slowdown and consolidation of the fabulous gains that Mexico made during the Portillo years. But one thing is certain: renewed growth and expansion will most definitely occur. And the Japanese are deeply involved in assisting this growing Pacific partner. Truly, the rising sun is shining brightly in Mexico.

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