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THE ROLE OF FOREIGN DIRECT INVESTMENT IN RESOURCE-RICH REGIONS

Japan's FDI to the Middle East Energy Sectors: The Objectives, Outcomes and Implications

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Introduction

This paper makes a comprehensive analysis on the development, effectiveness and implications of Japan's foreign direct investment (FDI) to energy resource-rich countries in the Middle East. Experiences of the first Oil Crisis in 1973 forced Japan to embark on full-scale deployment of energy security policies and strategies, both for domestic and international market. FDI was then regarded as an important diplomatic tool to enhance mutual economic relations with energy resource rich countries, which was then expected to contribute to improving Japan's energy security. In this regard, this paper will highlight the actual development, outcomes and implications of some of the typical Japan's FDI in major Middle East countries' energy related sectors, with an aim to discuss the effectiveness of the FDI strategy from a viewpoint of energy security of Japan and the impacts on the host countries' economy and society. The paper also discusses the impact of Japan's FDI strategy to influence other energy-hungry Asian countries including China, Korea and others to replicate Japan's strategy.

Government Support to Japan's FDI to the Middle East Energy Sectors

According to the Ministry of Finance, Japan's total global direct investment during FY 1951-2004 amounted to $5.96 billion. It should be noted that the investment is a matter for private companies and that private companies tend to make their decisions on FDI based on the evaluation of such factors as:

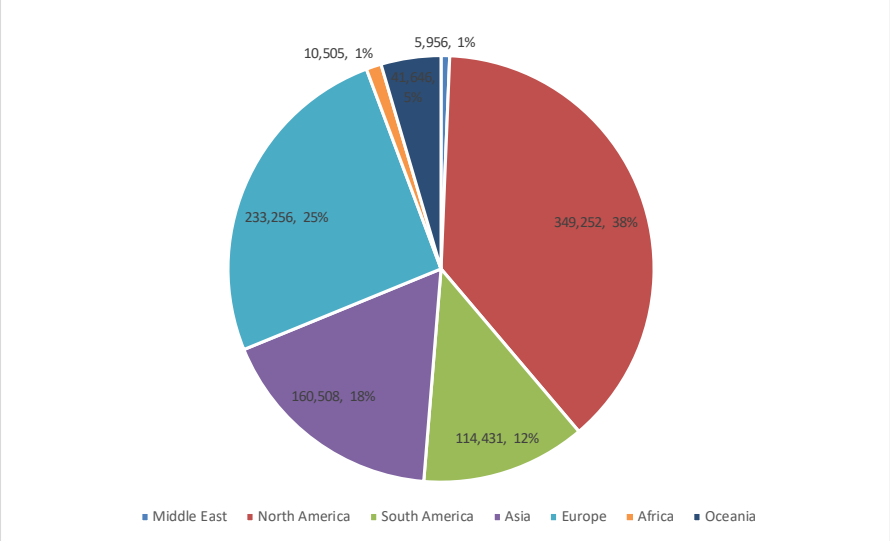
- Scale of the market for the products produced;
- Access to and cost of materials;
- Availability of skilled and/or low-cost labor;
- Availability and cost of other productive resources such as infrastructure; and
- Security of the investment from political and economic risks.

In this context, the actual result of the regional distribution of Japan's FDI (Fig. 1) shows that the private sector has preferred North America, Europe and Asia as the principal target areas for direct investment.

In those circumstances, the Japanese government actually continued to make specific efforts to encourage and assist private direct investment in the Middle East, considering the importance of this investment as a tool of economic cooperation.

This was because the effect of direct investment, the transfer of technical and managerial resources as well as financial resources, was regarded as very important elements of economic cooperation. This was relevant because the transfer, if realized, was expected to contribute to the strengthening of Japan's economic relations with the major Middle Eastern oil producers.

Figure 1: Regional distribution of Japan's FDI



Source: Ministry of Finance, Japan and JETRO

This was important because the Middle Eastern oil producers had actually embarked on their large-scale economic development programs during the 1970s after the oil boom. Some countries, for example Saudi Arabia and Iran, concentrated on industrialization programs to prepare for the post-oil era, based on the understanding that:

- Industrialization could lead to a shift in economic structure; and
- Industrialization could provide employment opportunities to a larger population than in other Gulf countries (especially for countries characterized by younger populations).

In those circumstances, it was considered that Japan's direct investment had a good chance of being highly appreciated by these oil producers, by transferring the resources needed by them, and therefore it could become an important economic link between Japan and the Middle Eastern oil producers.

In addition, the existence of "the incentive crude oil" for direct investment in Saudi Arabia, which meant a kind of a supply guarantee of Saudi crude oil to the foreign investor issued by the Saudi government, supported the recognition that direct investment could lead to security of oil supply to Japan.

In reality, Japanese government encouragement of FDI comprised of the following elements:

- Collecting and providing information on investment opportunities;
- Financial support for investment;
- Assistance in marketing of products.

Assistance to Collect and Provide Information

Dispatching economic delegations to the Middle East has been an important element of government assistance.[1] In addition, economic attaches in the Japanese embassies in the Middle East have tried to collect information. Furthermore, government organizations such as the Japan External Trade Organization (JETRO), Japan International Development Organization (JAIDO), and Petroleum Energy Centre (PEC) have also worked for this purpose.

The Japanese government has given support to activities such as public relations and investment seminars to promote investment in the Middle East by JETRO, JAIDO and the Japan Cooperation Centre for the Middle East (JCCME).

In FY 1993, MITI started the "Program to encourage direct investment in the Middle Eastern oil producing countries," in which subsidies were allocated to JCCME's activities such as dispatching delegations, holding exhibitions and other public relations exercises to encourage investment.

FDI Financial Assistance

Financial assistance by the Japanese government for direct investment in the Middle East can be broken down into the following five kinds of flows.

Firstly, the government can provide financial assistance for a feasibility study of an investment project through such organizations as JETRO, JAIDO, JICA and JCCME.

Secondly, official soft loans through such organizations as the Export-Import Bank of Japan (EIBJ) are available to an investment project. The typical example was an extension of ODA (Yen loan) of 28.8 billion yen through EIBJ and EIBJ's direct loan of 60 billion yen to IJPC in 1976.

Thirdly, the government can invest in a project through the then Japan National Oil Corporation (JNOC), later reorganized and renamed as Japan Oil, Gas Metal Corporation (JOGMEC) in 2004, or Overseas Economic Cooperation Fund (OECF) to become an owner of the project. In this case, the project is often called a "national project." The first national project, the Japan Oil Development Company (JODCO), was established in 1973. Following JODCO, IJPC, AR-RAZI, a methanol joint venture between a Japanese consortium and Saudi Arabian Basic Industries Corporation (SABIC), and SHARQ, a petrochemical joint venture also between a Japanese consortium and SABIC, became national projects.

Fourth, concerning financial assistance specific to oil and gas upstream investment, JNOC/JOGMEC can provide loans, as well as equity capital, for private oil and gas exploration projects in overseas areas, and guarantee liabilities related to development projects. For example, JNOC's financial assistance for exploration and development projects reached a cumulative total of 1.85 trillion yen by the end of FY 1998.

Fifth, MITI has prepared a system of trade insurance for foreign direct investment particularly in developing countries where country risk is rated high. The system

comprised of Export Insurance, Export Credit Insurance, and Overseas Investment Insurance tries to promote private investment in these countries by insuring from the effects of risks such as wars, revolutions, and limitations on foreign exchange.

Marketing Assistance

Considering that marketing is an important element of the success of the investment, the Japanese government has sometimes tried to provide "administrative guidance" to domestic consumers to encourage use of products – usually through influential "persuasion" by government officials in charge of policy towards the industry concerned.

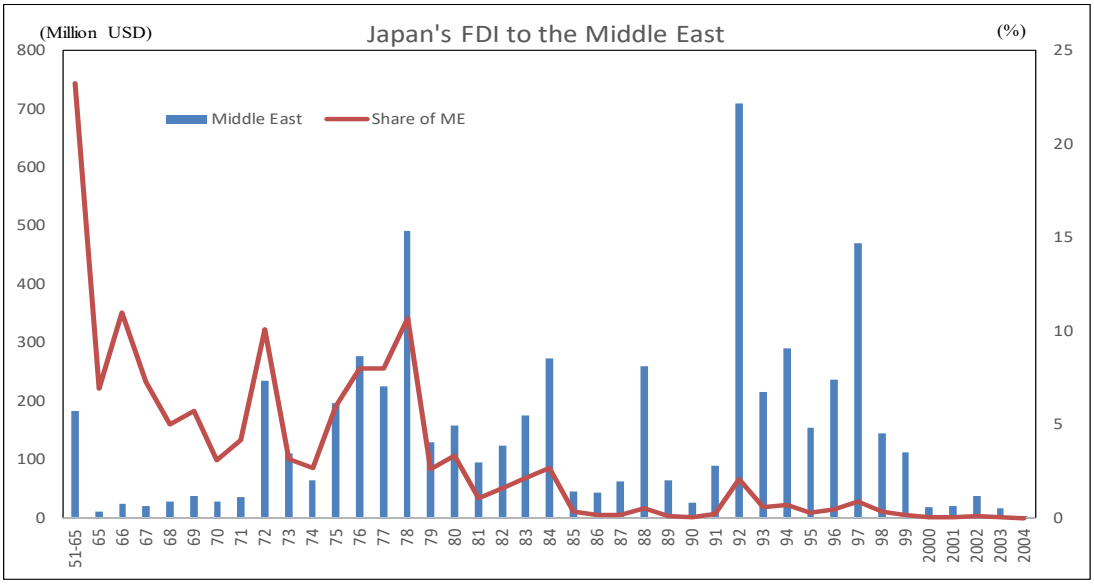
A typical example was MITI's administrative guidance to the oil companies in Japan to encourage lifting of Khafji crude oil, a very heavy and sour crude oil produced in the Neutral Zone by the Arabian Oil Company.[2] In 1961, MITI introduced a pro-rata system for the lifting of Khafji crude oil based on the previous year's crude oil throughput level by company.[3]

Development of Japan's FDI to the Middle East Energy Sectors

During FY 1951-1970, Japan's total FDI in the Middle East reached $334 million (reported figures base). Most of the amount ($326 million, 97% of the total) was spent for Neutral Zone, mainly for AOC related investment.

As Fig. 2 shows, Japanese direct investment in the Middle East sharply increased from $36 million in FY 1971 to $492 million in FY 1978.[4] This was mainly because of a rapid increase in investment in IJPC in Iran.

Figure 2: Trend in Japan's FDI to the Middle East



Source: Ministry of Finance, Japan and JETRO

Coupled with the increase in the amount of investment, the share of direct investment in the Middle East, of the total direct investment increased after FY 1974, and peaked at 10.7% in FY 1978 (Fig. 2).

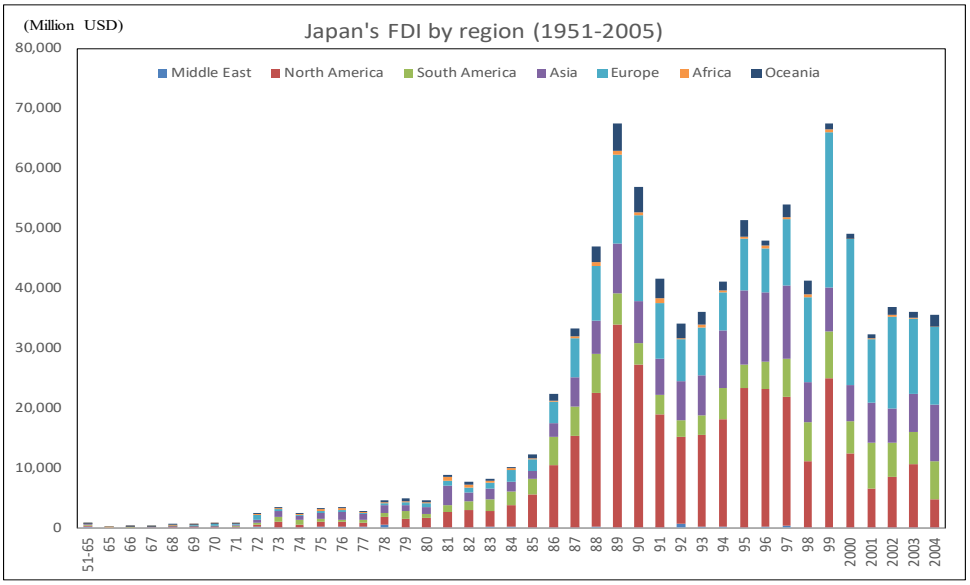
After the increase in the late 1970s, Japan reduced its direct investment in Iran very sharply in the 1980s. This was because of political and economic turmoil in Iran after the Iranian Revolution and during the Iran-Iraq war, as well as the interruption of IJPC since 1980, made Japanese companies hesitate and avoid any new large-scale direct investment in Iran. Actual investment dropped to almost nil after FY 1980 when the final investment of $71 million was made on the IJPC project.

In Saudi Arabia, plant construction of AR-RAZI and SHARQ, resulted in a total investment of $239 million during FY 1981-1985. After the completion of these plants (plant operation started in 1983 for AR-RAZI and 1985 for SHARQ), Japan's direct investment in Saudi Arabia stagnated in the late 1980s (the reasons will be discussed later).

The combination of the above trends in investment in Iran and Saudi Arabia resulted in a significant reduction in Japan's direct investment in the Middle East in the 1980s as shown in Fig. 2.

On the contrary, Japan's total direct investment increased sharply in the 1980s, particularly the late 1980s (Fig. 3) mainly due to a sharp rise in investment in North America and Asia. In combination with the two trends mentioned above, stagnation in the amount of direct investment in the Middle East and the rapid increase in total direct investment resulted in the negligible share of the direct investment in the Middle East of Japan's total investment (Fig. 2) in the late 1980s.

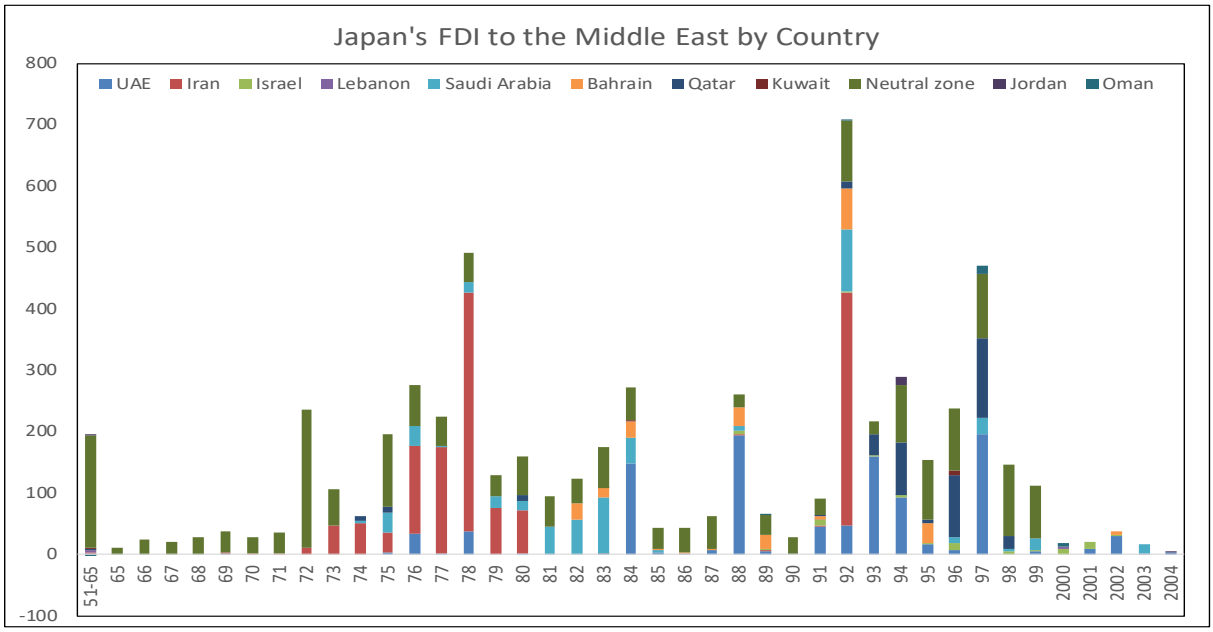
Figure 3: Trend in Japan's FDI by region



Source: Ministry of Finance, Japan and JETRO

In cumulative terms, during FY 1951-2004, the Middle East countries received direct investment of $5.96 billion in total from Japan, which is very small compared to Japan's FDI to the other regions. Out of the countries included in this total, the largest investment was made in the Neutral Zone, followed by Iran, UAE, Saudi Arabia and Qatar (Fig. 4). The investment in the Neutral Zone and those four countries in combination accounted for 93% of the total investment in the Middle East. Furthermore, almost all of the investment expenditure in these countries was spent on a small number of projects such as AOC in the Neutral Zone, IJPC in Iran, JODCO and Abu Dhabi National Oil Company (ADNOC) in UAE and AR-RAZI and SHARQ in Saudi Arabia. In the following part, the development of AOC, IJPC, JODCO and SHARQ will be examined below in detail as specific important examples of Japan's direct investment in the Middle East.

Figure 4: Distribution by country of Japan's FDI in the Middle East, USD Millions



Source: Ministry of Finance, Japan and JETRO

Examples of Japan's FDI to the Middle East Energy Sectors

Arabian Oil Company (AOC)

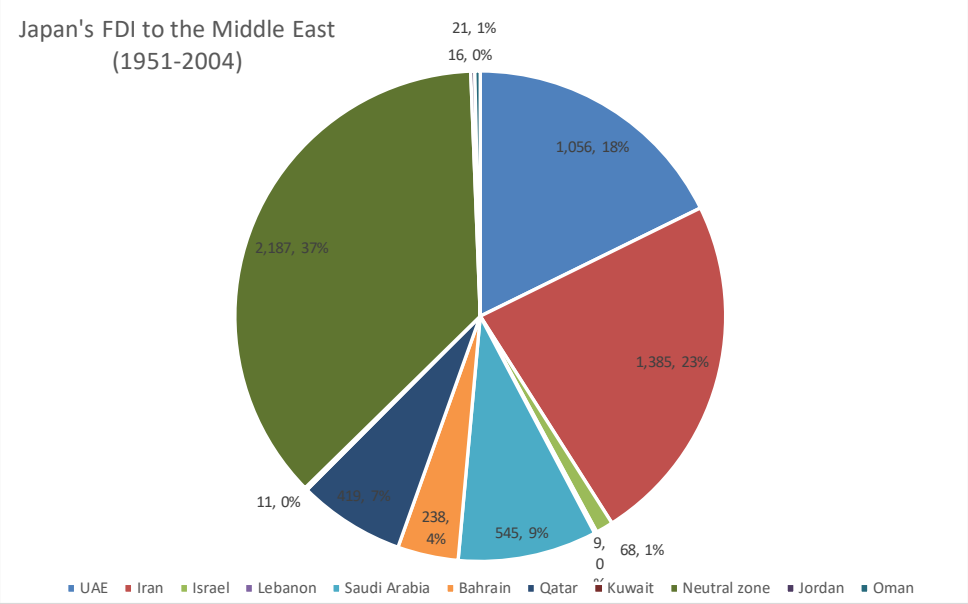
In 1957, Taro Yamashita, President of Japan Petroleum Trading Co Ltd, visited Saudi Arabia to begin negotiations on a concession agreement with the Saudi government. A concession agreement on oil development in the offshore Neutral Zone was concluded between the two parties in December 1957 with profit sharing of 56% to Saudi Arabia and 44% to Japan.[5]

With government backing, the Arabian Oil Company (AOC) was founded in February 1958 with paid-up capital of 3.5 billion yen from 40 major Japanese private companies, centering on the nine electric companies, steel companies, and trading houses in Japan. The company inherited the concession agreement.

In August 1958, a seismic survey began, and in January 1960 Well No 1 confirmed a huge oil field, which was later named Khafji oil field. Khafji proved to be a world scale oil field with estimated total recoverable reserves of 6.6 billion barrels. Crude oil production from Khafji oil field and Hout oil field discovered in 1963 sharply increased, and AOC's crude oil production reached a peak of 410,000 b/d in 1972. Although the production peaked, it maintained a level of over 300,000 b/d even in the late 1990s.

Apart from its pure business activity, AOC made various investments in the Neutral Zone, Saudi Arabia and Kuwait in order to contribute to local society. In total, the investment by AOC became the largest of the Japanese investments in the Middle East. The direct investment in the Neutral Zone alone accumulated to 2.19 billion USD by the end of FY 2004, accounting for 37% of total Japanese direct investment in the Middle East (Fig. 5).

Figure 5: Share by country of Japan's FDI distribution in the Middle East, %



Source: Ministry of Finance, Japan and JETRO

Crude oil developed by AOC has become an important source oil imports to Japan. For example, the total cumulative imports of AOC crude oil reached 429.5 million kl (2.7 billion barrels) by the end of FY 1999, accounting for 46% of total Japanese equity crude oil imports. The total cumulative crude oil import share in Japan was 5.3%.

According to the concession agreement, the AOC's concession right with the government of Saudi Arabia had duration of 40 years and was set to expire on February

27, 2000. As AOC had no significant oil producing assets other than those in the Neutral Zone, renewal of the concession right was crucial for the survival of the company. In the 1990s, AOC started to negotiate with the Saudi government for renewal of this concession right.

Considering the importance of AOC as the largest Japanese upstream oil company and as a "symbol" of the Japan-Saudi economic relations, the Japanese government embarked on discussions with the Saudi government to assist the AOC's negotiation. Numbers of Japanese government delegates - particularly from MITI (later METI) - visited Saudi Arabia for government-to-government talks on AOC's concession right.

The Saudi government argued that preferential conditions were essential to compensate for the following opportunity costs on the Saudi side. The first concerns the operational efficiency of AOC. The company, with limited international operational experience except for that in the Neutral Zone, was regarded as potentially inferior to competitors in terms of operational efficiency. It was considered that replacement of the company, for example by the state Saudi company Aramco or other international oil companies, could reduce operational costs and therefore contribute to improved profitability for the Saudi oil sector, which was very important for its domestic economy.

The second concerns lost revenue due to lower priced AOC crude oil. Since the introduction of the OPEC production quota in 1982, there has been an in principle ceiling for Saudi crude oil production. Apart from the issue of compliance with the production quota, the ceiling imposed a volumetric constraint on Saudi crude oil production. In those circumstances, the government could maximize oil export revenues by maximizing production and exports of crude oil the highest possible international price.[6] However, AOC crude oil production, priced at parity with Arabian Heavy - the lowest priced Saudi crude oil grade - prevented revenue maximization.

To compensate for the opportunity costs, the Saudi government made the following requests as preconditions for renewal of the concession right. First, they requested a substantial increase in imports of Saudi crude oil by Japanese companies. The Saudi government proposed that the import volume should be raised to the level of 1.5 million b/d from the then prevailing rate of 1.0 million b/d (average rate of 1990-1998) so that Saudi Arabia could become the leading crude oil supplier to Japan instead of the UAE. The Saudis argued that the increased trade would be beneficial not only to Saudi Arabia but also to Japan, because the increased, stable oil supply from Saudi Arabia would enhance the energy security of Japan. It was very difficult for the Japanese oil companies to substantially increase Saudi crude oil imports. This was because any increase in Saudi crude oil imports meant an almost equivalent reduction in crude oil imports from other sources at a time when the Japanese crude oil demand had begun to flatten out as a whole in the 1990s (and later started to continue to decline). The Japanese oil companies, with a number of term contracts with other oil producing countries, including other Middle East oil producers, were not able to easily accept the Saudi proposal.

The Saudi government then requested direct Japanese investment in Saudi Arabia to assist its industrialization program. In particular, the Saudi government insisted on Japanese investment in the construction of a large-scale railroad as an essential precondition for AOC negotiation. The railroad project, with a total length of about 1,400 kilometers, was aimed at establishing a transportation link between the northern area of the country, endowed with mineral resources and the Arabian Gulf port. Based on the Saudi request, the Japanese conducted a feasibility study for the project. Costs were estimated at about $2.0 billion. The feasibility study produced an unfavorable result, questioning the economic viability of the project. It was therefore difficult to expect any private sector investment for the project, and direct Japanese government financial commitment became a key for the project.

The Japanese government also had difficulty injecting "taxpayers' money" directly into a project whose economic viability was questioned. As a compromise, the Japanese government finally offered a financial assistance package including 140 billion yen soft loans from Japan Bank for International Cooperation (JBIC) to the railroad project as well as 500 billion yen financial assistance to Japanese FDI in Saudi Arabia. However, the Saudis were not satisfied with the Japanese proposal, and the negotiation between the two countries finally failed to reach agreement.

As a result, AOC's concession right with the government of Saudi Arabia expired on March 6, 2000. The AOC's operation in Saudi Arabia was taken over by the state Saudi Aramco.[7] As AOC still held a concession right with the Kuwaiti government, which was set to expire in 2003, the company maintained its operation in the Neutral Zone. AOC, after having lost half of the assets in the Neutral Zone by the failure of the negotiation with Saudi Arabia, also failed to renew the concession right with Kuwait government. Thus, the company is now operating in Neutral Zone as a service provider after a drastic restructuring program including substantial manpower reduction to reduce costs for its survival.

Iran Japan Petrochemical Company (IJPC)

The first government economic delegation visited Iran in 1968 to discuss Japanese economic cooperation with respect to the fourth, five-year economic development plan for 1968-1972 in Iran. Iran, with its oil revenue of $0.7 billion in 1968, needed direct foreign investment to realize the ambitious five-year plan, whose requirements for total capital investment had been estimated at $10.9 billion.

During the visit, Sueyuki Wakasugi, a member of the delegation and Vice President of Mitsui & Co (Mitsui, hereafter)[8] was asked to examine the possibility of Japanese investment to process the flared natural gas in the Iranian oil fields by Bagher Mostowfi, Director of the National Petrochemical Company (NPC) a subsidiary of the National Iranian Oil Company (NIOC).

Following this request, Mitsui started to examine the possibility of a petrochemical project in Bandar Shahpur.[9] In October 1970, NPC officially proposed a joint feasibility

study with Mitsui for the project, offering various concessions to improve the profitability of the project.[10] The feasibility study started in early 1971.

Iran announced in July 1970 that it would invite international bidding for oil exploration rights in the Luristan province, in the western part of Iran, 400 miles inland from the Persian Gulf. A Japanese consortium, of which Mitsui was an important member, decided to take part in the bidding with the blessing of the Japanese government. They expected Luristan to be very promising, with huge oil reserves. During the bidding process, NIOC informally told the Japanese consortium that Iran considered the signing of a Letter of Understanding (LOU) for the petrochemical project would be the precondition to the awarding of the Luristan bid. Pressed by the Iranian initiative, Mitsui actually signed the LOU on July 14, 1971, and the exploration rights in Luristan were awarded to the consortium on the same day.[11]

Following the LOU, the Basic Agreement (BA) on the petrochemical project was concluded between Mitsui and NPC in October 1971. Based on the BA, the Iran-Japan Petrochemical Company (IJPC) was established in April 1973, as a 50-50 joint venture between the Iran Chemical Development Company (ICDC), a Japanese consortium led by Mitsui, and NPC. It was agreed to construct a petrochemical complex in Bandar Shahpur with an annual production capacity of 300,000 metric tons of ethylene.

In the BA, the total capital cost required by IJPC was estimated at 27.1 billion Iranian rial (128.9 billion yen). However, the inflation in the early 1970s, which was accelerated by the first oil crisis, pushed up the cost of IJPC. In April 1974, ICDC estimated the total capital cost at 284.3 billion yen, with further, estimated increases reaching 740.9 billion yen in October 1974. Following that, IJPC decided to reconsider the project plan and lower the cost, finally concluding that the total capital should be reduced to 550 billion yen, of which the Japanese were responsible for procuring 300 billion yen. As for the capital procurement, the Yen loan of 28.8 billion yen and the direct loan of 60 billion yen from EIBJ were decided as financial assistance to the project in August 1976. IJPC plant construction commenced in November 1976. After constructing 85% of the project (in terms of weight base), it was interrupted in March 1979 by the political turmoil of the Iranian Revolution. The revolutionary government insisted on re-starting the project, but this interruption and inflation increased the cost of the project sharply. Under the circumstances, the Japanese government decided to increase its assistance to IJPC in October 1979, investing 20 billion yen through OECF, based on the expectation that IJPC could become an important link between Japan and Iran. Thus, IJPC became a national project. Construction re-started in November 1979.

Construction was again interrupted with the outbreak of the Iran-Iraq War in September 1980, and as the plant was damaged by attacks from the Iraqi Air Force, resumption of the project became unrealistic. During the war, negotiation on a settlement began between Japan and Iran, and final liquidation of IJPC was agreed in October 1989 with the condition that Mitsui would pay 130 billion yen as compensation

to Iran. The agreement was called "The Friendly Separation Agreement."[12] After the agreement, IJPC was liquidated in February 1990.

Japan Oil Development Company (JODCO)

In December 1970, British Petroleum (BP) informed the Industrial Bank of Japan (IBJ) of its intention to invite the Japanese to participate in the concession rights of the Abu Dhabi Marine Areas (ADMA). ADMA, a joint venture between BP (holding two thirds of the shares) and Compagnie Française des Petrole (CFP) holding one third of the shares at that time, had concession rights on oil exploration and development in a 17,284 square kilometer zone offshore from Abu Dhabi, which included Umm Shaif and lower Zakum oil fields. The two oil fields combined were estimated to have a production capacity of 500,000 b/d with total reserves in place of 80 billion barrels. The major reason for BP's invitation was that BP needed to raise capital to increase production from the lower Zakum oil field and to develop the upper Zakum oil field, while they embarked on large-scale investment in Alaska and the North Sea.

Negotiations started in early 1972 between BP and the Overseas Oil Development Company (OODC), a Japanese consortium made up of major private Japanese companies.

They reached an agreement in December 1972, the major points of which were:

- The Japanese would pay $780 million for its acquisition of the share of BP Exploration Holdings (BPXAH), an affiliate of BP that held two thirds of the share of ADMA;
- The Japanese partner would pay one sixth of $2.0 billion for the development costs for the following 12 years;
- The Japanese partner should be prepared to have paid up capital of 24 billion yen at first, and increase it to 70 billion yen later.

Considering the size of the investment and the importance of the project to Japan's security of oil supply, the Japanese government decided to extend full support to the project in December 1972, by making it the first "national project" through JNOC's capital investment. Following this decision, the Japan Oil Development Company (JODCO) was established in February 1973 with paid-up capital of 12 billion yen.[13] In March 1973, JNOC paid up another 12 billion yen to JODCO.

JODCO inherited the agreement between OODC and BP, and bought 45% of the BPXAH's share, which implied a net acquisition of 30% of ADMA's concession rights.[14] In October 1972, the "participation agreement" was reached between the Gulf countries and the Majors, and the state Abu Dhabi National Oil Company (ADNOC) who decided to participate in ADMA at the rate of 25%. The participation reduced the net share of JODCO in ADMA to 22.5%. The share was further reduced to 12% due to the decision by ADNOC to increase the rate of participation to 60% in 1974. In 1977,

JODCO became a direct 12% shareholder of ADMA, when a restructuring of ADMA took place to establish ADMA-OPCO as an operating company.

Currently, the three main oil fields, upper Zakum, Umm Al Dalkh and Satah in the ADMA area are producing crude oil (together with other two fields that started operation in 2014 and 2015 respectively). The total cumulative amounts of imported crude oil developed by JODCO reached 286.9 million kl (1.81 billion barrels) by the end of FY 2004, accounting for 3% of total crude oil imports in Japan for the same period. The amount also accounted for 27% of total Japanese-developed crude oil imports, being the second largest after AOC.

In 2004, JODCO became a 100% affiliate company of INPEX Corporation, and INPEX started negotiation with Abu Dhabi government for contract extension of the existing projects as well as for securing new contracts, supported by Japanese government. With strong government support, INPEX/JODCO succeeded in the following achievements with regard to the negotiation with Abu Dhabi:

- *Jan. 2014:* Extension of upper Zakum contract
- *Apr. 2015:* INPEX acquired 5% equity interests in ADCO area
- *Nov. 2017:* Re-extension of upper Zakum contract
- *Feb. 2018:* INPEX acquired 10% equity interests in lower Zakum oil field
- *Feb. 2018:* Extension of Umm Al Dalkh and Satah

Eastern Petrochemical Company (SHARQ)

In July 1970, Dr. Taher, the then president of Petromin, a state corporation formed to develop petroleum and mineral resources in Saudi Arabia, visited Japan and made a request to the Mitsubishi Corporation and Mitsubishi Petrochemical to cooperate in a petrochemical project based on the utilization of associated gas from crude oil production to be constructed in the Al Jubail industrial area, located in the eastern part of the kingdom. The Mitsubishi group, following this request, decided to conduct a joint feasibility study for the project with Saudi Arabia. This was the origin of the project, currently known as the Eastern Petrochemical Company (the so-called SHARQ), the largest Japan-Saudi joint venture company then.

In the background to the proposed project, there were requirements for Saudi Arabia to make the best use of flared associated gas from oil fields in the kingdom and to add value to its domestic natural resources. The kingdom also aimed at industrialization and diversification of the oil dependent economy by establishing a domestic petrochemical industry, as well as creating employment opportunities to absorb its growing population. Technical transfer and securing outlets for its products through a joint venture business was considered another benefit to the kingdom. The proposed joint venture also meant a new business opportunity for the Japanese to establish a petrochemical factory located in a resource-rich country like Saudi Arabia. The

Japanese objective was to also establish and expand an oil business in Saudi Arabia by strengthening relations with the kingdom through the proposed joint venture.

The outbreak of the first oil crisis in 1973 added a new element to the project. In December 1973, Vice Prime Minister Miki visited several Middle Eastern countries including Saudi Arabia as a special envoy to the Japanese government. During his visit to Saudi Arabia, the Japanese delegation made a proposal to the Saudi government. This included an economic and technical cooperation agreement in which the Japanese government could cooperate with private Japanese investment in petrochemical and other large-scale projects. Thus, both governments started to pay attention to the proposed joint petrochemical venture, considering the project would become an important element of economic cooperation.

The feasibility study examined a petrochemical project, a methanol project and a refinery project. As a result, both the methanol and refinery projects were abandoned because of their inferior economic viability. The study regarding the petrochemical project continued but also produced a negative result. This took into account sharp rises in construction costs caused by the first oil crisis and uncertainty about product outlets for the project in a stagnated world economy. However, the Saudis government strongly requested the Japanese make further efforts to promote the project, with a promise from the Saudi side to reconsider and improve conditions for the project.[15] The Saudi side also began to consider the introduction of an incentive crude oil system, which will be discussed later, as an incentive to the Japanese side. At the same time, there were changes in control over the project inside the Saudi government. Initially Petromin was in control of the project, control was then transferred to the Ministry of Electricity and Industry in 1976. Finally, Saudi Arabia Basic Industry Corporation (SABIC), which was established as a state organization to promote the kingdom's industrialization program in its second five-year plan, took control.

At the same time, the Japanese government, deeply interested in the petrochemical project from the viewpoint of strengthening its relationship with Saudi Arabia and the security of oil supply to Japan, decided to consider the idea of injecting government capital into the project. In May 1977, the government finally decided to make capital available to the project from Overseas Economic Cooperation Funds, a governmental financial institution, in the hope that the Mitsubishi group, a private entity, could become a centerpiece to promote the project with the above assistance.

While this framework of government assistance was being established, the Mitsubishi group, in July 1978, proposed that the project concentrate on producing ethylene glycol and polyethylene from ethane gas. The Saudi side agreed, and a joint detailed feasibility study based on the proposal was conducted. For this purpose, in January 1979, the Mitsubishi group established Saudi Petrochemical Development Co Ltd as a research company for the project. In April 1980, an interim agreement was concluded between Saudi Petrochemical Development Co Ltd and SABIC to conduct a joint feasibility study for the project. The feasibility study, commenced just after the

agreement, finally resulted in an affirmative conclusion for the joint venture petrochemical project in March 1981.

In response to the results of the study, the Japanese, in May 1981 established SPDC Ltd an investment company for the project.[16] As mentioned before, Overseas Economic Cooperation Fund (OECF) joined SPDC Ltd based on a decision in the Cabinet Meeting that OECF should supply 21.6 billion yen, 45% of the total capital (48 billion yen) required for the joint venture from the Japanese side. Thus, the project officially became a "national project" in Japan. Participation of private companies not belonging to the Mitsubishi group was promoted so as to make it a "national project." As a result, 66 companies, including electric power companies, oil refining and marketing companies, petrochemical companies, steel companies, car manufacturing companies as well as the Mitsubishi group companies and OECF, became the owners of SPDC Ltd.

Following the establishment of SPDC Ltd, a final contract for the joint venture project was signed by SPDC Ltd and SABIC. The Eastern Petrochemical Company (so called "SHARQ") was then established in Saudi Arabia in September 1981 as a joint venture company held by SPDC Ltd (50%) and SABIC (50%).

Since its commencement, the project has progressed on schedule and has expanded production and business. In April 1983, construction work on the project began. The first phase of the construction[17] was completed in 1985, and commercial operation of the constructed plant started in 1987 after a test run. Since the late 1980s, the second phase and then the third phase expansion programs were implemented. As of now, the production capacity of Eastern Petrochemical Company is 2.05 million metric tons for ethylene glycol and 1.55 million metric tons of polyethylene.

The Eastern Petrochemical Company has continued operation as a joint venture between Japan and Saudi Arabia and has succeeded in expanding its business. The company thus became the largest direct Japanese investor in the Saudi Arabia industrial sector. The company's capital of 1.89 billion Saudi Riyal is far greater than the second placed company, AL-RAZI at 0.26 billion Saudi Riyal, a joint venture methanol project. The company provides employment for approximately 700 employees at the end of the 1990s. This was more than twice as large as that of other Japanese investment in the kingdom.

Furthermore, the number of Japanese staff employed in the company was reduced from 140 in 1985, to only four in 1998 having been replaced by Saudi employees. Therefore, "Saudization" of employment and technical transfer advanced in the company. In this context, the company has played a role to contribute to industrialization, creation of employment and technical transfer in Saudi Arabia.

Despite the expansion and progress of the company mentioned above, there was another story about incentive crude oil for the project. Incentive crude oil, which was originally proposed as an idea to promote the project and of which the Japanese side also appreciated its potential merit, failed to be transacted as programmed.

The Saudi side suggested the possibility of incentive crude oil for the Japan-Saudi joint venture petrochemical project as early as in the late 1970s. It was also reported that the Saudi Petrochemical Development Co Ltd, a Japanese research company, placed a condition of securing incentive crude oil in the project feasibility study, which started in 1979. Finally, negotiation on the subject resulted in a contract to supply incentive crude oil for the project signed in November 1981, after establishment of the Eastern Petrochemical Company, in May 1981.

The content of the contract was as follows:

- SPDC Ltd was entitled to lift 575 million barrels of Saudi crude oil in total for 15 years after Eastern Petrochemical Company starts commercial operation. (The average lifting volume for the period was calculated at 105,000 b/d)
- In reality, SPDC Ltd was able to begin lifting the crude oil before start-up of the petrochemical project. The lifting schedule was then decided as such: 21,000 b/d for 1982; 42,000 b/d for 1983; 63,000 b/d for 1984; 84,000 b/d for 1985 and 91,000 b/d for 1986-2000.
- Crude oil supplied in the framework of the contract was comprised of Arabian Extra Light (8%), Arabian Light (42%), Arabian Medium (20%) and Arabian Heavy (30%).
- Transaction of the crude oil was based on the Government Selling Price (GSP).
- The crude oil, which SPDC LTD was entitled to lift, was then transferred to the Japanese oil companies involved in the project and refined in the Japanese market.

The contract was signed amid the period of higher oil prices in the second oil crisis caused by the Iranian Revolution and Iran-Iraq War. Security of crude oil supply was considered as a matter of crucial importance to Japan. Therefore, both the Japanese government and the companies involved believed incentive crude oil was advantageous to them.

However, evaluation of incentive crude oil by the Japanese was greatly affected by a change in the world oil market, namely the glut market in the middle of the 1980s, in which buyers had little difficulty in finding sellers willing to supply oil. Furthermore, price discounts from Government Selling Prices and lowered prices in the spot market became prevailing situations, caused by competition among crude oil producers and exporters. Because of the changes, the economic disadvantage of incentive crude oil priced at Government Selling Prices became clear.

The volume of crude oil lifted by SPDC Ltd in 1982 and 1983 was maintained as originally scheduled. However, the actual lifting volume in 1984 and 1985, 53,000 b/d and 39,000 b/d respectively, remained below the schedule level.[18] In 1986, the lifting stopped completely when crude oil prices on the world market collapsed. Saudi Arabia gave notice in July 1986 that the contract to supply incentive crude oil to SPDC Ltd

would be terminated at the end of September 1986. The contract had a penalty clause for SPDC Ltd if the company failed to lift crude oil as agreed. However, Saudi Arabia did not exercise that penalty and the incentive crude oil supply to Japan through SPDC Ltd ceased

Sumitomo Chemical's Investment in Rabigh Refining and Petrochemical Company

In the early 2000s, Saudi Arabia started a new effort to diversify its economic structure and to promote valued-added industry in the Kingdom. In this regard, an international competitive bidding was invited to participate in a large-scale project to construct a refining-petrochemical complex in Rabigh, located on the Red Sea coast and 150 km North of Jeddah. Sumitomo Chemical, one of the leading Japanese chemical companies and well known as the company with experiences of international investment and operation (such as those in Singapore Petrochemical Complex) decided to join the international bidding.

Sumitomo Chemical finally won the bidding and selected as a partner to Saudi Aramco in 2004. In September 2005, a joint venture company, Petro Rabigh (Rabigh Refining and Petrochemical Company), was established by Sumitomo Chemical and Saudi Aramco and the construction of the complex started in March 2006.

For Saudi side, Petro Rabigh was expected to make a significant contribution to its economic diversification and promotion of high value-added industry policy. Furthermore, the newly built complex was expected to contribute to create employment opportunity. For Sumitomo Chemical side, the project was expected to enhance its international presence and competitiveness as a partner with Saudi Aramco and more importantly with the advantage of competitive feedstock (natural gas) prices for the chemical complex. And as the timing of Petro Rabigh negotiation fell on the period of rising oil prices (up to the summer in 2008 in particular), large scale economic cooperation project with FDI was regarded as very important to enhance the relation between Japan and Saudi Arabia, which again was expected to contribute to oil supply security to Japan.

Under the circumstance, Japanese government fully supported the project, and JBIC and NEXI provided financial support to the project. The first phase of the project started its operation in 2009 with the capacity of 400,000 b/d of refining throughput, 1.3 million tons of ethylene production and others. In 2008, Petro Rabigh made an IPO at Saudi Stock Exchange and the shareholding structure after the IPO became Sumitomo Chemical and Saudi Aramco: 37.5% each and 25% owned by public shareholders.

In 2009, the discussion on the phase two (expansion) started between Sumitomo Chemical and Saudi Aramco formally started, and the investment decision was made for the phase two on May 2012. In the phase two, a new ethylene cracker plant and other production facilities of high value-added chemical products were constructed with additional gas and naphtha feedstock capacity. Just as the case of other large-scale construction projects, Petro Rabigh project (both for phase one and two) experienced

numbers of challenges such construction delay, cost run-up and equipment/facility failures since its construction and operation of the phase one. Nevertheless, phase two of the project started up operations in 2016, and it is now expected to make a full-scale economic contribution to Saudi Arabia and Sumitomo Chemical. Total investment in Petro Rabigh in phase one and two reportedly reached as high as 1.5 trillion Japanese yen, which makes this project one of the largest Japan' FDI in the Middle East energy sector, in particular, made after the 2000s. As for employment creation, Petro Rabigh phase one created 2,000 new employment for its operation, of which less than 10% was shared by Sumitomo Chemical.

The Effects and Impacts of Japan's FDI to the Middle East Energy Sectors

Conditions Affecting Japan's FDI to the Middle East Energy Sectors

The discussion in the previous parts showed that direct Japanese investment in the Middle East stagnated in the 1980s and that the importance of the investment, in the general context of Japan's direct investment, was reduced very sharply and remained low since then. In addition, the regional distribution of the cumulative amount of Japanese direct investment also illustrated what little importance had actually been attached to investment in the Middle East as a whole by the Japanese private sector.

There seemed to be two major reasons for the stagnation: the first concerned specific factors affecting the economics of investment in the Middle East, and the other related to the lowered interest in security of oil supply in Japan, which reduced the significance of the investment.

Major factors that adversely affected economic attractiveness of the investment were:

- Limitations on domestic markets in the Middle East in terms of their size and growth;
- Limited availability of skilled labor forces for expansion into manufacturing and high tech;
- Factors to increase production costs such as high labor costs;
- Perceived high risk of investment;
- Oil/refining/chemical sector with limited role played by foreign investors.

Limitations in Domestic Markets

It was often considered that the domestic markets in the Middle East were not large enough to absorb large-scale direct investment. The relatively small population of the Middle Eastern countries (for example, in comparison with Asian countries), particularly in the Gulf countries (although their population are growing), lead to the recognition by Japanese private companies that the local market for the products of

investments would be potentially limited, and this could prevent investment from achieving economies of scale, leading to higher production costs.

In addition to the relatively small population, the attractiveness of investment in many Middle Eastern countries was undermined by their economic stagnation since the 1980s.

This was attributable to such various factors as:

- Lowered oil revenues due to the combined effects of loss of market share in the world oil market and the decline in oil prices particularly after 1986;
- Damage to domestic economies caused by the Iranian Revolution, the Iran-Iraq War and the Gulf War.
- Actually, when the world oil price started to rise in the early 2000s, interests in FDI in the Middle East were revisited. The point here is that attractiveness of FDI in the Middle East is affected by many factors including oil price fluctuations.

The Limited Availability of a Skilled Labor Force

In addition, the difficulty of introducing women into the workforce due to cultural and religious factors, and the absorption of their potential labor by the military, were pointed out as significant constraints on the supply of labor in the Middle East (although the situation in women workforce is changing in the Middle East including Saudi Arabia).

More importantly, it was pointed out that domestic nationals in the Gulf countries, in particular, tended to look down on and avoid labor in the manufacturing sector, compared to other sectors such as the commercial and government sectors. The tendency was often regarded as a serious problem that limited the availability of a domestic skilled labor force for foreign investors to diversify these economies into manufacturing or high tech

In these circumstances, investors had to rely on the introduction of foreign labor. According a Japanese estimation conducted in the 1980s, 3.9 million foreign workers accounted for 65% of the total labor force in the six Gulf countries. Furthermore, the share in the manufacturing industries was estimated at as high as 99% in UAE, 98% in Qatar and about 70% in Saudi Arabia.

However, the introduction of foreign labor caused other problems for investment. Firstly, dependence on foreign workers prevented the realization of technical and managerial transfer, one of the important objectives of the investment, in the country concerned. Secondly, strong demand for skilled foreign (and domestic) labor resulted in increasing costs to obtain and maintain them, which will be discussed below in detail.

Factors Increasing Production Costs

Various factors increased the costs of investment in the Middle East. Firstly, labor costs were regarded as expensive compared to those of other developing countries. For example, the above-mentioned survey/estimate pointed out that the average labor cost in the manufacturing industries in Kuwait was $13,042 per year as of 1985, which was closer to that of Japan ($18,408) than to those of Korea ($4,345) or the Philippines ($1,333).

Another factor was higher inflation in the Middle East. For example, the average annual rate of increase in the wholesale price index in the Middle East was 20% during the period 1974-1985, higher than the OECD average (7%), Asian countries (9%) and the world average (11%). This was mainly because of demand-pull inflation backed by rapid economic growth in the Middle East brought about by sharp rises in oil revenues in the 1970s. The high inflation also increased import costs for intermediate materials and parts that were needed in production processes, but not available in the domestic market due to the underdeveloped manufacturing industry base.

These factors were considered to have a very influential effect on the production costs of direct investment in the Middle East, offsetting economic incentives given by the government of the host country, such as low energy and utility costs, and soft loans available from organizations such as the Saudi Arabian Industry Development Fund (SIDF). It should also be noted that the deteriorating financial situations in many Middle Eastern countries since the 1980s often resulted in an increase in energy and utility costs and a constraint on the availability of soft loans, reducing incentives for investment.

Perceived High Risk of Investment

Country risk comprises liquidity risk and political risk. Liquidity risk mainly concerns the problem of the capability of a country to repay loans extended to it. The typical example was that experienced in the debt accumulation problem in many Latin American countries centering on Brazil and Mexico. Political risk can be broken down into expropriation risk, war, revolution risk, and convertibility risk, mainly concerns the problem of direct investment caused by a sudden, and often unexpected, change in policy or political situation in a country.

In this context, the country risk, particularly the war and revolution risk, in the Middle East tended to be rated as very high, because there was a lot of political turmoil, such as the Yom Kippur War in 1973, the Iranian Revolution in 1978-1979, the Iran-Iraq War in 1980-1988 and the Iraqi invasion of Kuwait and the Gulf War in 1990-1991. In those circumstances, it seemed reasonable for private companies to hesitate in investing directly in the Middle East. Particularly, the interruption of IJPC by the Iranian Revolution and the Iran-Iraq War, and the final liquidation of the project, became a warning of the risks of direct investment in the Middle East to Japanese private investors.

In addition to the factors mentioned above, the softening of the world oil market since the 1980s, affecting Japanese perception of security of oil supply, undermined the incentives for direct investment in the Middle East.

Taking all of these into account, the Japanese private sector as a whole has selected, not the Middle East, but other countries in North America, Europe and Asia as the principal targets for direct investment especially in manufacturing. The exceptions are the development of the several previously mentioned important investments by Japanese companies in the energy sector in the Middle East. It should be noted, however, that these investments in the energy sector had the following common characteristics (or advantages).

They were:

- The major aim of private investors was access to abundant and low-cost natural resources or raw material for the investment;
- Their output targeted the export market (mainly Japan), not the limited market in the Middle East.

Impact of Japan's FDI to the Middle East Energy Sectors

There are two aspects concerning the impact and effectiveness of Japan's FDI in the Middle East. The first concerns the link between the trends of the investment and the security of oil supply to Japan from a macro viewpoint, and the second focuses on the effects of individual investments.[19]

As explained earlier, Japan's direct investment in the Middle East increased in the 1970s, and the cumulative amount during FY 1976-1980 reached $1.28 billion, the highest level up to now.

However, it seems hard to argue that the increase in investment directly contributed to security of oil supply, considering the following facts:

- The investment in IJPC accounted for the dominant part of the increase in the investment during the late 1970s;
- IJPC itself failed and was finally liquidated in 1990;
- Japan's crude oil imports from Iran were significantly reduced in reality after the Iranian Revolution and stayed low during the 1980s.

In contrast to the 1970s, Japan's direct investment in the Middle East declined sharply in the 1980s. However, the decline, this time, also seemed to have had very little direct effect on the security of oil supply since the 1980s, when Japan had no serious problems importing oil from the prevailing buyer's market, regardless of the issue of direct investment.

Therefore, Japan's direct investment could not be effective from a macro viewpoint in the context that the aggregate trends of investment seemed to have little to do with the security of oil supply to Japan.

However, an examination of individual investments in the Middle East shows that their contribution to employment, technical and managerial transfer, and social welfare in the local community, might be appreciated by the government of the host country, which could result in encouraging "friendly" relations with Japan. For example, the Japanese considered that the governments of Saudi Arabia and Kuwait appreciated the following contributions:[20]

- Creation of employment;[21]
- The establishment of the Kuwait Institute for Scientific Research in 1967[22] with an annual donation of $600,000 for operational funds;
- Tree planting in and around the Khafji base and related technology transfer;
- Construction of the hospital in the Khafji base in 1960 open to the local residents;[23]
- The establishment of the Japan-Saudi Arabia society in 1960 and Japan-Kuwait Society in 1965 in Japan to encourage cultural interchanges;
- Sponsorship for Saudi and Kuwait students to study in Japanese universities.[24]

In addition, the governments of Saudi Arabia and Kuwait issued official letters of appreciation for the AOC's "cooperative and brave behavior" during the Gulf Crisis, in particular, to their not abandoning the Khafji Base and maintaining operation until it was actually attacked by Iraq missiles on January 17, 1991.

Furthermore, crude oil imports from the output of these investments, particularly by AOC and JODCO, were actually significant with respect to Japan's total crude oil imports. For example, the cumulative total of the imports of AOC and JODCO developed crude oil reached 740.4 million kl (4.66 billion barrels)[25] during FY 1961-2004, which accounted for 8% of Japan's total crude oil import for the period.

It was also a fact that investment by SHARQ (and AR-RAZI) resulted in flows of "incentive crude oil" from Saudi Arabia, although their volumetric contribution, was smaller than that of AOC and JODCO.

Based on the above recognition, it may be possible to conclude that these existing projects have actually made certain contributions to strengthening economic cooperation with the Middle Eastern countries and to the actual oil flows from them to Japan. The problem is that the lack of new investment since the late 1980s could result in criticism of the behavior of Japanese companies as a whole, offsetting appreciation of the above investment.

Currently, the need to invite foreign direct investment is being felt more keenly in many Middle Eastern countries, including Saudi Arabia, as they face problems such as:

- Economic stagnation in some cases in terms of overall economic growth rates and for almost all countries in terms of per capita income terms since the late 1980s due to reduced oil revenues and economic damage from the Iran-Iraq War and the Gulf War;
- Concern over stagnation of their oil revenues in the medium, or even longer term, with the expectation of growth in Non- OPEC and Non- Gulf oil production and the resultant effect to limit rises in the oil price;
- The need to improve economic performance and industrial diversity and to create new employment opportunities for the growing young population;
- Perceived higher need to prepare for global energy transition and the possible "oil demand peak."

In these circumstances, the criticism being raised is that Japan (or Japanese companies) is interested only in imported oil from the Middle East, not in assisting economic development. In other words, Japan is criticized because she has not extended enough assistance in the form of FDI when they are really in need of it – outside of the oil sector.

Considering the significance of the criticism on one hand, and the growth in imports of crude oil from the Middle East from the late 1980s on the other as well as higher oil prices since the early 2000s, the Japanese government, tried to further intensify its efforts to encourage Japanese FDI in the Middle East.[26]

However, FDI in the Middle East energy sectors were generally small relative to the investment made by the national oil companies in the respective countries. The failure to diversify their economies lies with their government investment and economic policies rather than at the feet of the relatively small FDI in the energy sectors.

Current Challenges for Japan's FDI to the Middle East Energy Sectors

This paper so far discussed Japan's FDI to the Middle East energy sectors. The efforts are still being made by Japanese government and industry to find the opportunity of FDI in the Middle East energy sectors in a hope that the FDI can contribute to Japan's energy security and reasonably good business profits obtained from the FDI.

But an emerging situation in the Middle East resource rich countries is that they need more FDI to fuel their economies and diversify their economic structure, which can be characterized as energy (or oil/gas) revenue dependent economy. Oil revenue is important and is expected to be so for a foreseeable future for many Middle East oil producing countries. But the recent history indicates that oil revenue alone is not enough to meet growing spending needs for the government. Under the circumstance, the Middle East oil producing countries including Saudi Arabia are required to adopt oil revenue maximizing strategy which now takes the form of "OPEC plus" coordinated production cut.

At the same time, however, the Middle East oil producers such as Saudi Arabia initiated national program to diversify its economic structure and reduce dependence on oil sector. In case of the oil industry, further development of higher value-added industry structure is one of the important goals for the kingdom. Thus, investment in downstream sectors including petrochemical sector becomes the priority. But more importantly, investment and technology transfer in innovative technology in energy sectors attracts significant attentions in the Kingdom because of the perceived needs to prepare for the impact of ongoing "global energy transition" to decarbonized future.

The Middle East oil producers are arguing that fossil fuels including oil continue to be dominant in global energy supply, but at the same time, they seem to recognize the necessity to prepare for the possible impact of "global energy transition." The Middle East oil producing countries are now embarking on development of non-fossil fuel energy options such as renewable energy and nuclear power but largely to allow for more oil exports and less use of oil in electricity generation. They are also very much interested in such advanced or innovative technology options as hydrogen, carbon recycle and CCUS so that their fossil fuel resources can be effectively used even in decarbonized future. These are all related to the long-term strategy for the Middle East oil producers and they all require investment and technology transfer.

In addition, more fundamental economic diversification will be necessary for those who face serious challenges of creating an economy to provide sufficient employment opportunity to the growing young population. This is very serious because the success or failure in job creating can directly affect the political, social and economic stability in the related countries or the region. Again, FDI is critically important to create the manufacturing, service and other industries that can contribute to real economic diversification and significant job creation.

Under the circumstance, Japanese government and industry are now working hard in the collaboration with many Middle East oil producing countries including Saudi Arabia for their economic diversification program such as "Vision 2030" of Saudi Arabia. But the current investment climate surrounding the Middle East is challenging for Japanese industry in particular, given the geopolitical uncertainties in the region as well as the remaining or even more complicated constraint factors for FDI discussed in the previous section

Impact on Other Asian Countries of Japan's FDI to the Middle East

This paper so far discussed Japan's FDI in the Middle East energy sectors, from a viewpoint of Japan (as an investor) or the Middle East (as the host country). But Japan's FDI had another implication on its international dimension. Namely, Japan's FDI had impact on promotion of similar FDI by other energy hungry Asian countries.

For example, Korea (ROK), which has similar energy supply-demand structure and vulnerability with Japan (high oil import dependence and high Middle East

dependence on oil supply), became very much interested in pursuit of FDI opportunity in the Middle East energy sector as a mean to enhance their energy security.

Korea National Oil Corporation (KNOC) just as the case of JNOC (later JOGMEC) in Japan, continued to play a role to find and promote FDI opportunity in the Middle East oil/gas upstream sector, supported by Korean government. Other Korean energy related companies and business entities actively pursued FDI opportunity in the Middle East for their business development and energy security of Korea.

After becoming a net oil importing country in 1993, China started to embark on similar FDI strategy toward the Middle East with Japan, but in a far broader and bigger scope and magnitude. China's powerful FDI strategy toward the Middle East was backed by the country's serious concerns over energy security and national security as growing Middle East dependence means not only energy security vulnerability but also higher dependence on sea-lane transit which is protected by, and under control of, US.

Another unique and important factor is the existence of large-scale Chinese state oil companies such as CNPC, SINOPEC and CNOOC. These Chinese oil majors played an important role as vehicle of China's energy policy and promoting FDI in particular in the energy (oil and gas) sectors in the Middle East to get direct access and equity share of oil and gas sectors in the region. The companies' efforts to find and secure FDI opportunity in the Middle East were strongly supported by Chinese government, as these initiatives are believed to contribute energy security in China. Various political, economic and financial supports were given to Chinese companies including the above oil majors while increasing China's presence itself in the world and international energy market and accumulated financial buffer/surplus in China helped a lot to securing FDI opportunity. Recently, China's FDI is being promoted in the broader strategic concept of the "Belt and Road Initiative."

As Chinese oil companies became active internationally in the area of investment in oil and gas (upstream) sector, their investment resulted in accumulation of significant volume of equity oil and gas production that was entitled to the Chinese companies. Thus, the companies are arguing that their investment contributed to larger volume of equity production thus leading to enhancement of energy security. But their investment may not necessarily contribute to large-scale employment creating because oil and gas sector by nature are capital intensive (not labor intensive) as well as because the Chinese investment often accompanied by Chinese labor (Chinese companies often bring large Chinese labor to go on the project of the investment).

In any case, Japan's FDI in the Middle East energy sector in the past became a role model for other oil import dependent Asian countries that replicated Japan's strategy with modification to make their own strategy function better.

Conclusion

After the oil crises in the 1970s, Japanese companies started their efforts to explore and secure opportunities of FDI in the Middle East energy sector, backed by strong support by Japanese government. The primary objective of the FDI was the enhanced access to energy resources and lower cost energy feedstock. The FDI was supported by Japanese government because the FDI was regarded as an important tool to enhance economic and strategic relations between Japan and resource-rich Middle East countries. The expectation was that the FDI could contribute to Japan's energy security.

The major examples of the FDI include those made by AOC, SHARQ and Sumitomo Chemical in Saudi Arabia, by JODCO in Abu Dhabi and by IJPC in Iran. Except for IJPC which was finally abandoned by Japanese side due to the problems created by Iranian Revolution and Iran-Iraq war, the above cited Japan's FDI is still active and in operation in the host countries. It is also a fact that crude oil developed by AOC and JODCO is a significant source of crude oil import in Japan up to now. But in general context, Japan' energy security or oil supply security has been affected by other more influential factors such as situations of global oil supply-demand balances, geopolitical problems and the related supply interruption and global economic and financial factors.

The host countries in many cases showed appreciations of the FDI for their contribution to the countries' economic development, social welfare and employment creation. In this regard, the Japan's FDI discussed in this paper played a role to enhance relations between Japan and the host countries. But the fundamental problems remain, as the FDI's effect to create new employment is rather limited due to the fact that the FDI was targeted in energy sector that has capital intensive nature. The FDI made a contribution, but it could not meet the desire of the host countries to fully diversify economic structure and create large-scale employment opportunity for their population. To this end, Japanese companies still continue to find many constraints and challenges for business environment in the Middle East for making FDI in such area as manufacturing industry.

Understanding the growing need of the Middle East energy rich countries to diversify and upgrade economic structure amidst in the ongoing global energy transition, Japanese government and industry are working hard to find a way for economic cooperation to such an initiative as "Vision 2030."

Japan's FDI had another important international implication. The Japan's efforts were replicated by some of the energy hungry Asian countries such as Korea and China. Their FDI also resulted in the enhanced access to equity oil resources in the host countries. But just as the case of Japan's FDI, their investment did not necessarily contribute to full-scale economic diversification in the host countries but neither did the vastly larger investments by and revenues from government owned oil companies.

Endnotes

1 A typical example was the first government economic delegation that visited Iran in 1968. It was reported that the information given to the delegation, on the existence of huge amounts of flared gas at the Iranian oil fields, was the origin of the IJPC project.

2 Khafji crude oil was 28 API gravity and sulfur content of 2.9 weight %

3 The lifting under the system continued until 1972.

4 The investment by JODCO ($780 million) in 1972 in the form of share acquisition of an affiliate company of BP was counted as investment in Europe, not in the Middle East. See page 10-11 about the JODCO investment.

5 A similar agreement was concluded with the government of Kuwait in July 1958 with profit sharing of 57% to Kuwait. In accordance with the agreement with Kuwait, the profit-sharing percentage was revised for the agreement with the Saudis.

6 Actually, the Saudi government increased the production of light and low sulfur grades, for example, Arabian Super Light and Arabian Light, at the cost of heavy and high sulfur grade such as Arabian Heavy in the 1990s when total crude oil production of the country remained at around 8 million b/d for most of the period. According to PIW [1999], production of Arabian Super Light increased from zero production in 1991 to 200,000 b/d in 1997. So too did the production of Arabian Light, increasing from 4.5 million b/d to 5.1 million b/d during this period. Meanwhile, Arabian Heavy production declined from two million b/d to one million b/d.

7 In reality, Arabian Gulf Operation Company, a subsidiary of Saudi Aramco took over the AOC operation in the Saudi side.

8 Mr. Wakasugi became the president of Mitsui in 1969.

9 It was later renamed as Bandar Imam Khomeini.

10 For example, gas for raw material of the project was offered at the very low cost of only two cents per 1,000 cubic feet.

11 As for the upstream project, the Iran Nihon Petroleum Exploration Company (INPECO), comprised of a Japanese consortium, Mobil and NIOC, was established in March 1972 to explore oil in Luristan with Mobil being an operator. Against Japanese expectations, however, the exploration did not find oil in Luristan. After drilling nine wells, exploration was finally given up in December 1976.

12 It was reported that Iranian President Rafsanjani himself had been involved in the Iranian decision, realizing that no large-scale Japanese investment could be expected unless the IJPC problem was settled.

13 The capital comprised of 5.6 billion yen from OODC, one billion yen each from Mitsui Oil Exploration Co, Mitsubishi Oil Exploration Co, Sumitomo Oil Exploration Co, Fuyo Oil Exploration Co, Toyo Oil Exploration Co and World Energy Development Co, and 200 million yen each from Teikoku Oil and Japan Petroleum Exploration.

14 Thereafter BPXAH was renamed as BP-JODCO

15 The Saudi government established the Royal Commission, an organization to promote construction of infrastructure in the Al Jubail area where the project was to be located. Re-examination on feedstock prices, taxes, etc. was also made as an incentive for the project.

16 Saudi Petrochemical Development Co Ltd, a research company, was reorganized by a change in the articles of association and was changed into SPDC Ltd.

17 The first phase aimed at construction of production capacity of polyethylene (130,000 metric tons) and ethylene glycol (150,000 metric tons).

18 In particular, the volume in 1985 was lower than a half of the scheduled volume.

19 However, it should be noted that not only FDI but also other initiatives such as ODA, economic assistance policy and foreign policy might affect oil flow from the Middle East as a whole and that it is difficult to segregate effect of FDI alone. Furthermore, an examination of Middle East response to the Japanese approach, which will be given in the next chapter, is essential to evaluate effectiveness of the Japanese approach.

20 However, judging from the attitude of the Saudi government towards AOC negotiation that finally resulted in failure, it is possible that the AOC performance was not highly appreciated by the Saudi government, contrary to the AOC expectation.

21 The Khafji base alone had about 1,800 Saudi, Kuwaiti and other Arab employees before the outbreak of the Iraq invasion of Kuwait.

22 The institute was nationalized in 1973.

23 The number of the hospital staff reached 213 in total in 1989 including 36 doctors, 91 nurses and 15 technical engineers.

24 A total of 40 Saudi and six Kuwaiti students graduated, and 20 Saudi students were studying under the system by April 1993.

25 The breakdown is 453.5 million kl (2.85 billion barrels) for AOC and 286.9 million kl for JODCO (1.81 billion barrels).

26 It should be noted that the AOC negotiation to renew the concession right with the Saudi government was also an important factor as a background of promotion of FDI by the Japanese government.