(2) Realizing Japan's Domestic Demand and Overseas Demand cycles

(A) Facilitation of Human Resources, Equipment, Money and Knowledge flow

Chapter 1 described the importance of Japan's globalization for its economic growth. Facilitation of Human Resources, Equipment, Money and Knowledge closely relates to globalization, but Japan is neither always in the flow nor being in a position that creates its flow. It is necessary for Japan to maintain and strengthen the value added position by facilitating the Human Resources, Equipment, Money and Knowledge flow in order to realize Japan's domestic and overseas demands, sharing the sense of urgency towards the current climate of declining competitiveness in Japan's positioning.

It is inevitable to improve Japan's business environment by strategically and intensely encouraging overseas' investment, and maintain and strengthen domestic hubs accumulating value added functions conforming to Japan's strength as well as drastically reforming systems regarding Human Resources, Equipment, Money and Knowledge.

(a) Promoting Japan as Asian hub

As described in Section 1, Japan's appeal is rapidly declining. In this section, each item in the environment to invest is reviewed and Japan's strength and weakness is analyzed as a country that has been established as an Asian hub in early years.

In the views of foreign businesses, Japan is evaluated worst in Project activity cost, Tax rate imposed to private businesses, and Incentives to become exempt. And for the foreign companies that had already been established, the expensive business cost including tax and the cumbersome visa issuing process are hindrance to have business in Japan. On the other hand what positively evaluated are; Research and Development environment, Reliable legal system such as protecting Intellectual Property, High living standard of foreign personnel, thus Japan topped other Asian countries such as Singapore and Hong Kong in these categories. (see Graphs 3-2-2-1, 3-2-2-2)

Foreign countries including other Asian countries are posing aggressive strategies to acquire companies and human resources to their countries, in addition to low corporate income tax rate, tax, subsidy, easy immigration procedure and various incentives are presented. Especially South Korea and Singapore provide bold incentives to selected candidates, while strengthening the role of organization that eagerly invites foreign companies. (see Graph 3-2-2-3)

As setting up the hub function as a part of global companies, Japan can demonstrate itself as an ideal location to establish Asian headquarter, showing geographical advantage to growing Chinese market, massing excellent human resources in management and engineering that are indispensable to global economic society, and Research and Development function aiming to turn project into business opportunities supported by extensive manufacturing knowledge. It mandates to newly establish the bold incentives in order to compete with other Asian countries to attract foreign businesses.

Table 3-2-2-1 Countries and regions in Asian region which is most attractive in terms of investment environment

	Japan	China	India	Korea	Hong Kong	Singapore
1. The size of the market	9	120	13	0	1	4
2. Growth potential as a market	2	114	22	1	2	2
3. Integrated function of hubs	15	78	13	1	8	13
4. Quality and competence of R&D environment	27	27	21	6	4	12
5. Geographic factor	13	45	16	3	15	26
6. Enrichment of funding and financial environment	21	28	13	4	27	14
7. Talented human resources acquisition	26	29	28	6	9	23
8. Business activity cost	0	74	32	3	4	3
9. The corporate tax rate	1	25	6	1	18	16
10. Incentives such as preferential treatment	3	28	8	3	6	17
11. Improvement of legislation on intellectual property	16	16	15	9	11	16
12. Openness of business regulation	16	24	11	5	19	17
13. Infrastructure	43	36	7	3	6	23
14. Foreigners living environment	28	20	6	2	22	23

Note: Questionnaires which selected the major 6 countries were extracted. The top ranking hub function is indicated in red, 2nd ranking is indicated in yellow.

One country/region was selected for each investment environment.

180 companies were responded (Including 30 companies which had made their advancement into Japan).

Source: Survey on the measures for promoting foreign direct investment in Japan (The Ministry of Industry, Trade and Economy)

（Survey on interest level in investment in Japan with foreign companies in Europe/USA/Asia).

Also due to the high business expense in Japan that includes various governmental fees, some Global companies are moving out to other Asian countries, and it is becoming more apparent that existing highly valuable hubs are even moving out to other countries. (see Graph 3-2-2-4, 3-2-2-5) These highly valuable facilities include not only Research and Development hubs, but also manufacturing hubs which have been very important in terms of retaining employment opportunities within Japan.

Table 3-2-2-2 Voices of foreign companies located in Japan

Voices of Foreign companies located in Japan	
1) Business cost including taxes	**2) Immigration procedure such as visa**
○ Costs including **corporate tax** are significantly higher than that of Asian countries (USA/Internet service) ○ Japan is deprived of opportunity of getting excellent human resources by Hong Kong or Singapore because of the high tax burden (USA/Finance) ○ One of the major reasons to invest in Japan was the Low Carbon location subsidiary (Belgium/Environment related)	○ It is troublesome that even though an applicant is considered an important manpower to install a new business hub, he/she is required to have papers ready to prove that the applicant meets standards or requirement related to the law and regulations. An examination takes time if the company hasn't entered in Japan yet. (Agency of immigration application paperwork) ○ It takes time for an executive from the headquarter in China to obtain visa. He has been waiting for more than one month and a half, which may affect the business. (China/New energy) ○ Immigration procedure took 5 hours, as an immigration officer doesn't speak English. At least the application procedure must be disseminated among officers. (Europe/Retail) ○ There are some restraints for housemaids to obtain visa, which makes me think of moving out of Japan. In addition, limited opportunity to meet far-away-families is derived due to the immigration procedure issues. (South America/Energy) (Europe/Major apparel)

Source:The Ministry of Industry, Trade and Economy

On the other hand, European and Asian countries, in addition to reduced corporate tax described in this chapter, Section 1, there is a movement to extend the tax regulation of Research and Development. Thus the movements preventing Research and Development hubs from moving out of country as well as acquiring highly valuable hubs, encourages to further invite the research and development

investment and the advanced field, through differentiating tax for the profit created by Intellectual Property; Patent, as an example in United Kingdom. (see Figure 3-2-2-6)

Table 3-2-2-3 Investment incentives in each country

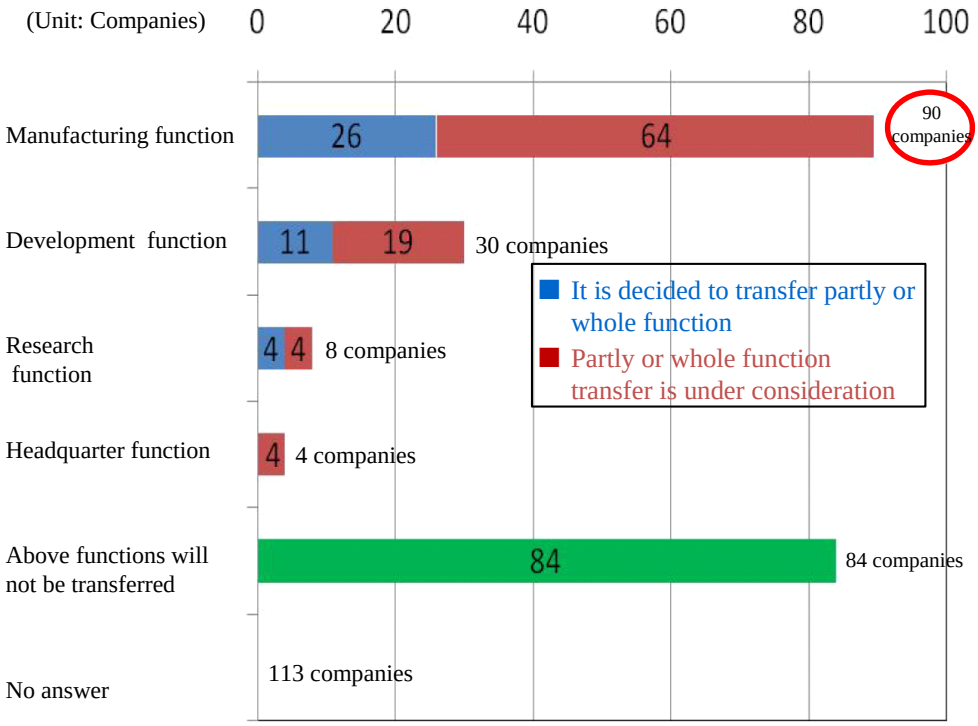
	Korea	Singapore	Japan
Corporate tax	24.2% (22% from FY2012)	17%	40.69%
Tax incentive (Other than R&D)	○ Reduction and exemption of corporate tax for foreign affiliated companies in strategic sectors (5 years after income was received:100%, 2 years after:50%) : This case applies to investments by foreign affiliated companies, and regions which input foreign workers equipped with advanced technologies. ○ Reduction and exemption of income tax on foreign engineers (50% for 2 years) * until FY2009, it was 100% exempted for 5 years	○ Exemption of corporate tax for maximum 15 years for technology innovation companies (Pioneer status) ○ Exemption of corporate tax for head offices <Regional head office>:15% corporate tax is applied for 3 years <World head office>:Through an individual negotiation with EDB (Economic development board), 0~10% corporate tax is applied. ○ For special residences, only income tax on the salary during the stay in the country is taxed.	○ No tax incentive is installed aiming at attracting foreign investment
Subsidiaries	○ Subsidiary to attract investments (Monetary aids) : it was granted to foreign affiliated companies which satisfy certain criteria. The investment authority negotiate with companies which invest a large sum of money with greater economic effect..	○ Subsidiaries on human development of relevant companies : Subsidiaries are granted to companies which conduct R&D and those headquartered in Singapore, with the condition that those companies enhance employment of more engineers.	○ 2009 amendment: Low carbon location subsidiary.
Immigration procedure such as visa application	○ Permanent residence status is granted to engineers with advanced technologies within 3 years. ○ Visa online application (Within one week)	○ Intake of foreign nannies ○ Company management is allowed to accompany his/her parents.	○ Permanent residence status is granted in 10 years. ○ Requirement of housemaids intake is strict. ○ Accompanied family member is limited to dependent spouse, children and siblings.

Source: The Ministry of Industry, Trade and Economy

Therefore it is necessary to discuss system reform, including taxes, which strengthen company's international competitiveness from hereon, preventing highly valuable domestic hubs moving out to overseas.

Figure 3-2-2-4 Off-shoring high value-added hubs by Japanese companies

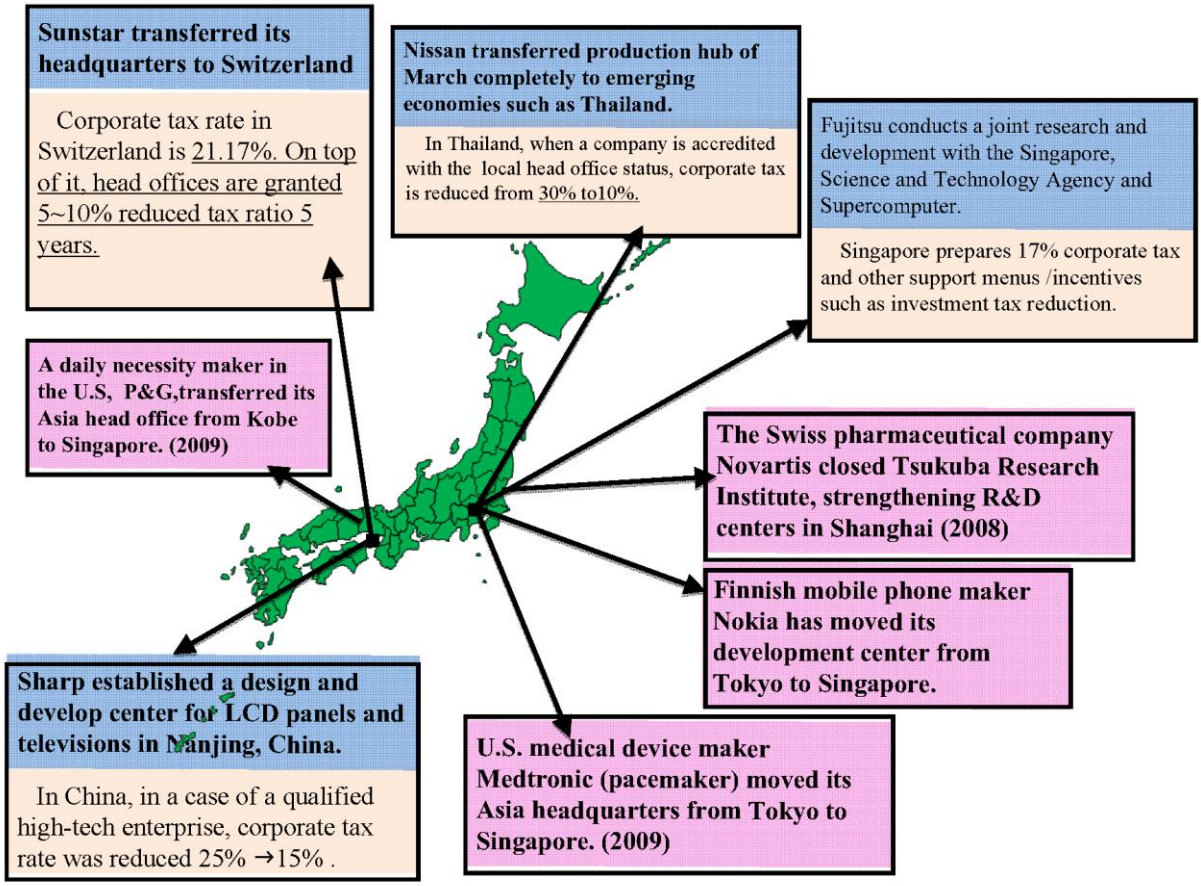
Question: Are you considering to transfer domestic manufacturing function, development function, research function or headquarter function in the future?



Note: Some of the replies by responded companies are overlapped. n=283 companies.

Source: Questionnaires on Japan's industry competitiveness (The Ministry of Industry, Trade and Economy)

Figure 3-2-2-5 Off-shoring domestic high value-added hubs



Sources: Compiled by the Ministry of Industry, trade and economy from press release by various media and newspaper articles

(b) Facilitation of Excellent Human Resources flow

It is necessary to make efforts in facilitating flow of Excellent Human Resources, focusing on Human Resource issues confirmed in Section 1. Heightening the Japan's productivity by bringing in various human resources from abroad, Japan must improve its own human resources by positively supporting globalization, and has to improve international competitiveness.

Figure 3-2-2-6 World trend of expansion of R&D tax system and image of patent box tax system

<Worldwide trend of expansion of R&D tax system>

	Latest movement	Latest revision
China	2008Expanded	Expansion of additional deduction rate of research and development expenses
Korea	2007 Expanded 2010 Expanded	Expansion of tax credit rate of R&D expenses in a specific field
France	2008 Expanded 2009 Expanded	Immediately refund the carried -over- amount of extra tax credits (2009 /2010)
England	2008 Expanded	Expansion of additional deduction rate of research and development expenses
Japan	2008 Expanded 2009 Expanded	Increase the maximum amount of tax credit deduction. Extended carry-forward period.

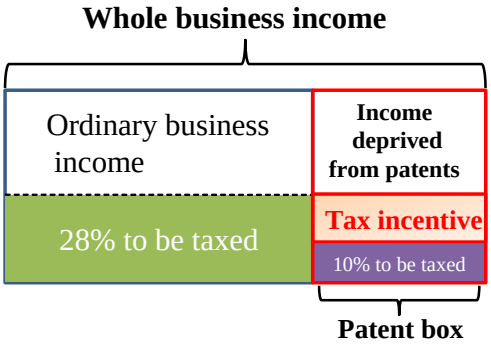
(Original Source) Working party of National Experts on Science and Technology Indicators / R&D Tax incentive and R&D statistics: What Next (2007) (OECD), The data was created based on the material from tax authority of each country as in September 2009 (France: as in March 2010, Korea: as in May 2010).

Source: The Ministry of Industry, Trade and Economy

<Image of patent box tax system in England>

・The British government announced a study of the introduction of tax rate on patent income , which is lower than normal corporate tax ratio, and separated from other income (To be introduced from FY2013).

→In reply to the announcement, domestic pharmaceutical companies expressed their intention to reinforce employment of as many as 1,000 R&D workers within England.



(Reference) Nederland, France, Hungary, Ireland have introduced Patent box. Nederland expanded this system extensively from January 2010. France is under consideration of expansion of the system.

For an example, accepting outstanding international students from overseas, it is important to internationalize universities and graduate schools in Japan. In regards to nationally endorsed scholarships which is viewed as large factor by foreign students, eyeing up other overseas' schools, it is important if anxiety of student life is removed or able to positively draw out the life path by knowing if the notification of granted scholarship to be paid out comes sooner. It is also considered effective to create limited seats for high priority grant scholarships for outstanding international students in order to retain who are in the top level, in additions to who may want to seek employment in Japan and also who may want to return home to continue studying.

On the other hand it is necessary to globalize Japanese students. Further enhancing Scholarship programs for outgoing Japanese students and newly reserving the seats dedicated to the industry's human resources, fulfilling class experience with foreign students who are sponsored by both industry and school, exchanging credit hours with college overseas, promoting internship overseas, accepting Japanese students returning from overseas or had experienced high school abroad.

Also it is necessary to make efforts for companies to increase opportunities for human resources to work globally by training such human resources. It can be considered, for an example, the Global Leader Training National Project, incorporation with overseas NPO and Japanese companies abroad to largely implement joint international training as the Model Business,

Also the system to reward Excellent Human Resources, who can be exempt from cumbersome immigration processes by using the points. In details, for an example, such as academic background or

annual salary converted to points and when the points reach certain level, consider simplified immigration entry processes and guaranteed stable stay while they are in Japan.

Further more, in order to accept Excellent Human Resources, there have to be an attractive hiring process and working environment, as well as organized society and social environment It'd be better to discuss approving each other's qualifications within a reasonable range.

(c) Facilitation of Logistics flow

Shown in this chapter, Section 1, organizing the Logistics infrastructure will lead to improving the company's geographical environment, contributing to Japan's healthy cycles of domestic and international demands. In order to increase attractiveness of Japan as a location hub must connect local cities in Japan and world's manufacturing hubs and large consumption bases in Asia and EU with inexpensive and frequent logistic system.

In the airline industry, the Open Sky has been sought after, removing restriction of routes and number of flight to and from Asia started in 2007. Though Open Sky which Japan had promoted, due to the lack of capacity in the capital region (Haneda and Narita) has been removed from applicable airports, also removed from the 5th freedom rule which allows the partner country to be transit airport for the 3rd country. And various regulations still exist as Forwarder Charter is fundamentally prohibited as controlling charter flights operations.

From hereon, for the capital region airports, listing them as applicable airports by placing measures to fundamentally expand the capacities, and regions with possible participation and increased flights as priority, considering permitting 5th freedom rule, it is necessary to promote strategic Open Sky policy. Also it is important to remove various regulations for the charter flights operations.

For the port and maritime transportation business, strengthen competitiveness of Japan's international strategic ports and authorities, to invite vessels from all over the world, intense investment for gigantic container ship and bulk ship business, improving Japan's collecting cargo ability utilizing convenient domestic transporting system and cost down measures are necessary.

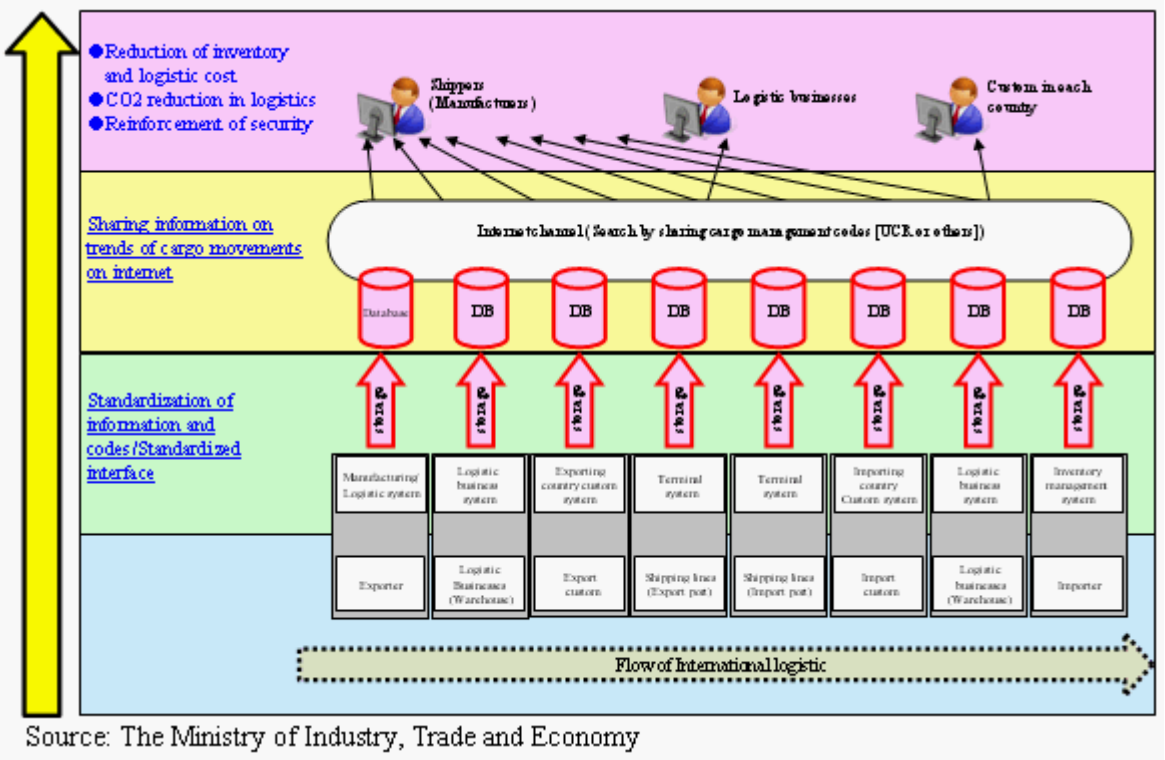
Also utilizing IT to the logistics largely improves efficiency of supply chain. For an example, it is aimed to build up network structure that is shared in real time among companies who owns each different system, through the subject that is related to International Logistics, locating Container cargo's transit information obtained from the electronic tag's automated recognition system. If this is coming in to effect, improving the international logistics' traceability from the bottom, manufacturing's world ultimate best production, easier control of logistics, property's collateral finance, Green movement of international integrated transportation, improving cargo's security can be achieved. (see Figure 3-2-2-7)

In all it is at most important to further facilitating trading business' overall processes.

(d) Facilitation of Investment flow

Being under the global economy, activating investment to beyond borders will contribute our nation's growth of businesses and increase the international competitiveness. Japan's companies expand to overseas and turning profits to Japan, benefited from healthy cycle of promoting innovation, it is urgent now to organize the environment to "Earn globally and return globally".

Figure 3-2-2-7 Conceptual diagram of supply chain



Source: The Ministry of Industry, Trade and Economy

Starting 2009, Japan's revision of taxation policies, with respect to the revenue earned by a foreign subsidiary owned by a Japanese company, 95% of dividend was made exempt. As a result in FY2009, the transferred dividend was 3,143.2 billion yens, and was increased by 500 billion yens in comparison to that of previous fiscal year, and that was the highest number since the data taking had started in 1995.

From the viewpoint of promoting investment exchange, Taxation Policy's conclusion and revisions lowered the tax rate against invested revenues, makes it more important to further reducing the taxation amount at the country incurring invested revenues.

Furthermore in order to support companies developing business overseas facing the dividends and transferring currency regulated in developed countries, it is increasingly becoming important to improve business environment and utilizing investment agreements and bilateral frameworks.

And one of the Japan APEC's Growth Strategy (refer to this chapter, section 4, sub-number 3, described later in Establishing APEC region's Growth Strategy), it should grow based on Innovation and Knowledge Economy, organizing Intellectual Property such as Patent screening cooperation, actualizing intelligent social economic activities utilizing IT, promoting Excellent Human Resources. It is important to promote Japan as "Knowledge Economy Hub" by facilitating flow of Human Resources, Equipment, and Money.

Column 40 Providing Domestic Human Resources as Global Human Resources

Reutilization of Female workforce and Japanese Baby Boomers

In expanding presence of overseas market including emerging countries, not only utilizing the

foreign excellent human resources, but also Japan's globalization is matter fact big issue as described above. In this column, possibility of Female and Japanese Baby Boomers as Global Human Resources is observed.

- Utilizing Female workforce

According to Non-profit organization; International Economy Exchange Foundation (2010), approximately 30% of companies responded that they are strategically utilizing female workforces for expanding overseas markets. Looking at this more closely by dividing into typical three different manufacturing types, 39.5% is in category of life related areas, showing considerably higher interest of hiring (see column Figure 40-1). This seems to be coming from perception of who makes majority decisions on Product Purchases is female[87]. And in the future how to utilize female workforces sorted by company's performance (Sales Profit Rate) was asked, the companies expecting higher sales profit rate, and they are willing to positively intend to utilize females. (see column Figure 40-2)

Today's 60% or more of world consumption of any products owes either to female or influenced by females[88]. While emerging countries are growing as attractive markets, positioning of overseas' local hub, is shifting from manufacturing hubs to sales hubs, it is important to promote female's viewpoints to strengthen products and services development systems that caters to specific local consumers' needs and tastes.

On the other hand the ratio of female workforce by age groups is still low comparing to Western countries despite 30 to 44 year old valley is raising (M-curve, so to speak). (see column Figure 40-3) Also, Japan in comparison to other western countries, female employment rate is still low, female with university, graduate school, or high school diploma, is below the OECD average, female utilization in the work place is insufficient. (see column Figure 40-4)

In order to win the share in the global market including the emerging countries, it is apparent that female needs to be utilized more. The reasons that Japan is internationally behind in male and female participating life's tasks together is; "Lack or insufficient in support system for Work and Housework, Raising children, Looking after elderly" are the most (see column Figure 40-5), supporting continuous employment or promoting re-hiring of who is willing to work, promotes positive balance of work and life, providing the adequate child care, most importantly supporting continuous work.

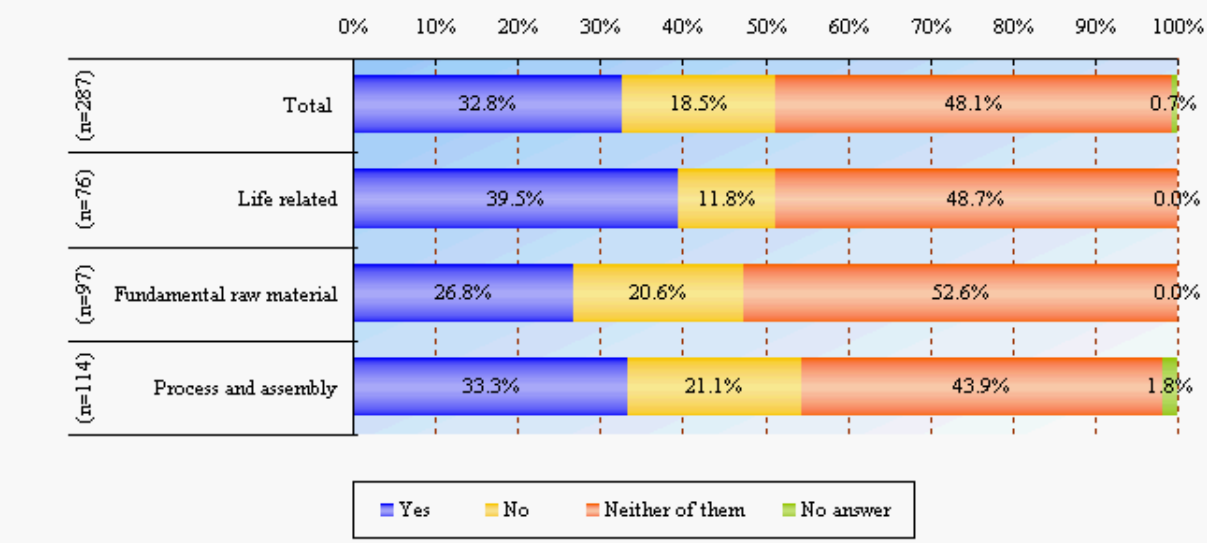
- Japanese Baby Boomers

Generally known Japanese Baby Boomers, started to reach 60-year old of age after 2007[89], and large number of them had retired. Although the employment opportunity to 65 year old provided, increased opportunity, thanks to the Elderly Employment Stability Law that became effective in April 2006, in 2012, majority of Japanese Baby Boomers again expected to be removed from work places; so-called "Concerns of 2012". Thus Japanese Baby Boomers' retirement raises a big concern, not only

[87] Michael J. Silverstein and Kate Thayer, December 10, 2010, "Women, Economy", by Diamond, Inc.
[88] Michael J. Silverstein and Kate Thayer, December 10, 2010, "Women, Economy", by Diamond, Inc.
[89] Who was born in between 1947 (Showa 22nd) and 1949 (Showa 24th), the number of births is about 806 million people. (White Paper on Aging Society, 2008 edition)

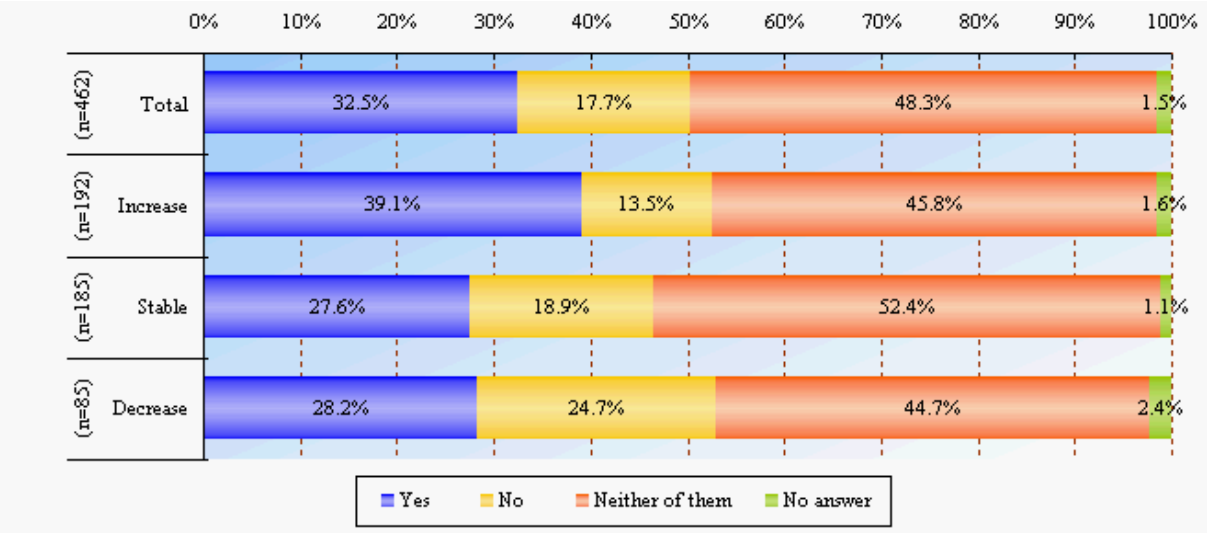
macro-impact of reduced labor population, but also the viewpoint of preventing the technology and skills transfer.

Column 40-1　Intentions to Further Strategically Utilize Women as Foreign Markets Expand (for 3 manufacturing industries)



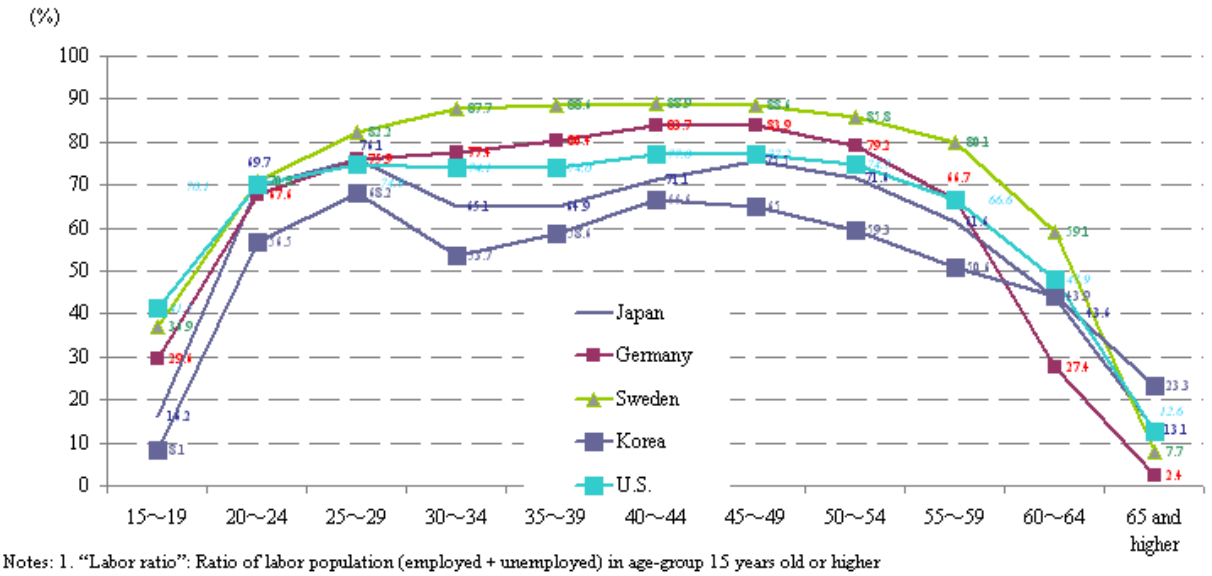
Source: Japan Economic Foundation (2010) "KONGONO TAKAKUTSUSHO RUURUNO ARIKATANIKANSURU CHOUSAKENKYUU(Survey on How Multidirectional Trade Rules should be in the Future)"

Column 40-2　Intentions to Further Strategically Utilize Women as Foreign Markets Expand (for all industries, by forecast operating profits)



Source: Japan Economic Foundation (2010) "KONGONO TAKAKUTSUSHO RUURUNO ARIKATANIKANSURU CHOUSAKENKYUU(Survey on How Multidirectional Trade Rules should be in the Future)"

Colum 40-3　Age Distribution of Female Labor Force Participation Rate



Notes: 1. "Labor ratio": Ratio of labor population (employed + unemployed) in age-group 15 years old or higher
2. "15-19 years old" in the U.S. means "16-19 years old".
3. Data for Japan is as of 2008 and others are as of 2007.

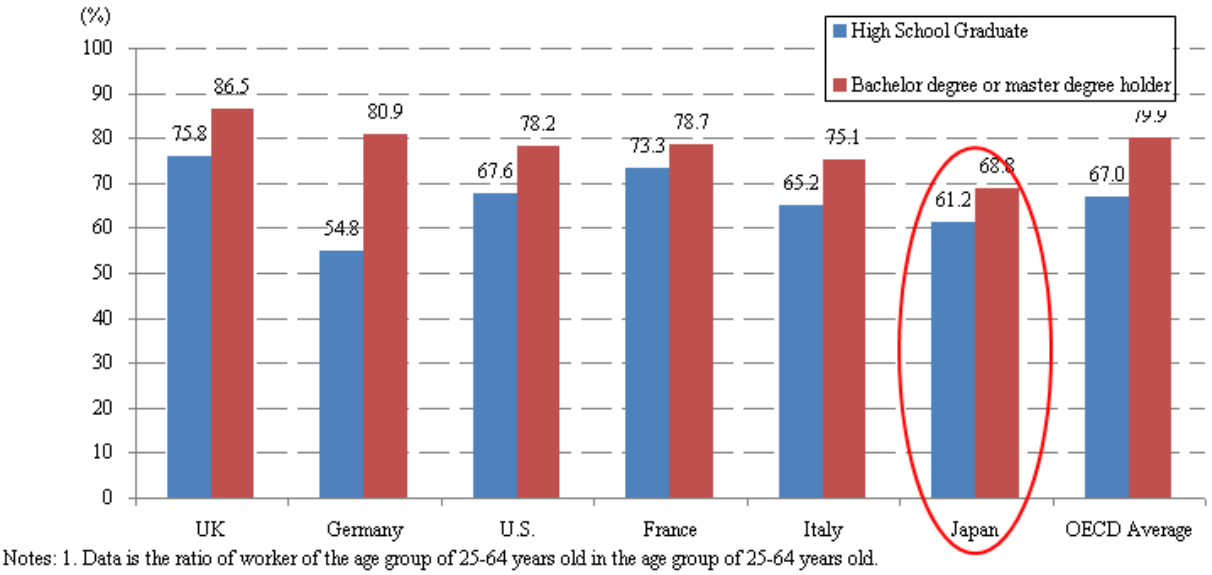
Source: Cabinet Office, Government of Japan *White Paper on Gender Equality 2009*

Japan Economic Foundation (2010), according to about 50% of the companies, the retirement of Japanese Baby Boomers are not particularly affecting the transfer of expertise in overseas business, but smaller companies who responded the same is about 40%, especially in smaller sized companies have concerns in Japanese Baby Boomers' retirement affecting overseas business know-how transfers. The areas of concern are; "responsible for managing overseas" (19.9%), "site supervision" (19.0%), "Production controlt and quality control" (15.5 %), cited the relatively high percentage. (see column in Figure 40-6)

On the other hand, it can be perceived that now the small businesses' opportunity to take in those who possess wealth of experience and know-how in overseas businesses, released by large companies. At overseas bases, "Production Control, Quality Control", "responsible for managing overseas", "site supervision" as Japanese Baby Boomers are people with valuable experience and expertise in the field site locations.

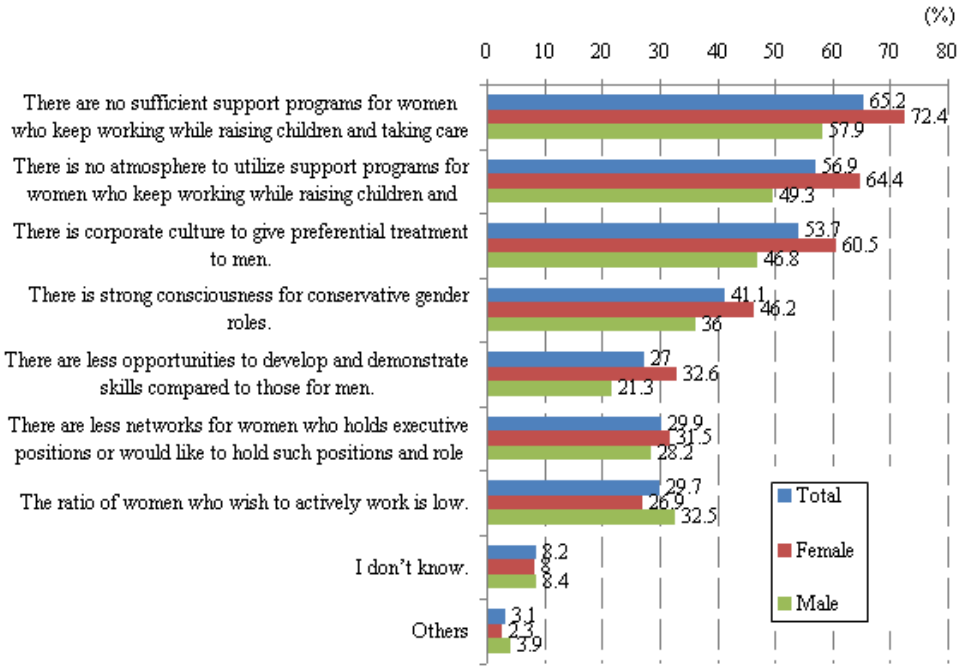
Japanese Baby Boomers had been in their prime at work places from end of 1980's to beginning of 1990's, providing the new opportunities to Japanese Baby Boomers who are willing to work, small businesses and new businesses are expected to expand into overseas and businesses.

Column 40-4　International Comparison of Female Employment Rates (by Education Level)



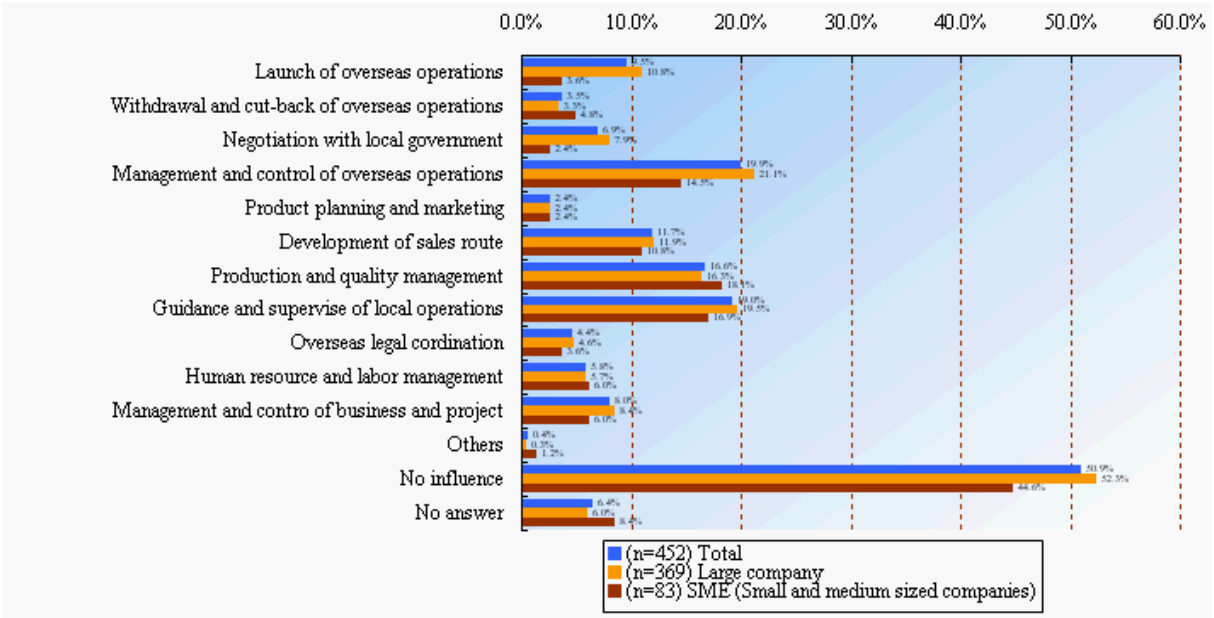
Notes: 1. Data is the ratio of worker of the age group of 25-64 years old in the age group of 25-64 years old.
2. High school graduate data was taken from the original source, "ISCED3A"
Source: OECD "Education at a glance 2009"

Column 40-5 Reasons for Japan Falling Behind International Community in Male/Female Participation Equality



Note: Multiple answer
Source: Cabinet Office, Government of Japan *White Paper on Gender Equality 2009*

Column 40-6 Fields Affected by the Know-How of Overseas Operations (by Large Companies, SMEs)



Notes: Definition of SME by the number of employees: manufacturing and other industry: 300 or less, wholesale: 100 or less, retail: 50 or less and service: 100 or less

Source: Japan Economic Foundation (2010) "KONGONO TAKAKUTEKI TSUUSHOU RUURUNO ARIKATANI KANSURU CHOUSA KENKYUU (Survey on How Multidirectional Trade Rules Should be in the Future)"

(B) All Japan systems implemented to strengthen multilayered ties with resource-rich countries

In the increased demand for resources in particularly by the emerging countries, Japan, who has limited resources, is in critical infrastructure to secure a stable supply of resources. Meanwhile the countries with their own resources, with background of increasing financial power due to soaring resource prices and population growth, are positioned as emerging countries with a high economic growth expectation. Capturing the resource-rich countries' vitalities supported by oil dollars, expanding business opportunities for Japanese companies to explore new markets, boost the competitiveness of the Japanese economy. Also deepening business relationships through the development of industrial cooperation between resource-rich countries ultimately lead to securing a stable supply of resources. In other words, intertwined with each other by two of the cornerstone of securing a stable supply of resources and business expansion, in terms of contributing to the development of Japanese economy, importance of strengthening ties with resource-rich countries have been raising.

In general, in resource-rich countries, industries have greater involvement with the government. Japan's role is considered to be significant, the need to build long-term relationships, and risks associated with economic conditions in partner countries. Especially China, Korea and countries, various ministerial visits by the leaders and promotion of economy-related agreements, are moving forward with economic exchanges with resource-rich countries. Japan also, in order to build a multi-layered and interactive win-win relationship with resource-rich countries, understanding their economic and social needs, public-private in cooperation must strengthen such extensive and detailed efforts in industrial co-operation, educational and cultural exchanges and contributions.

(a) Cabinet-level Energy Diplomacy; Matching the various countries' needs with our superior technology

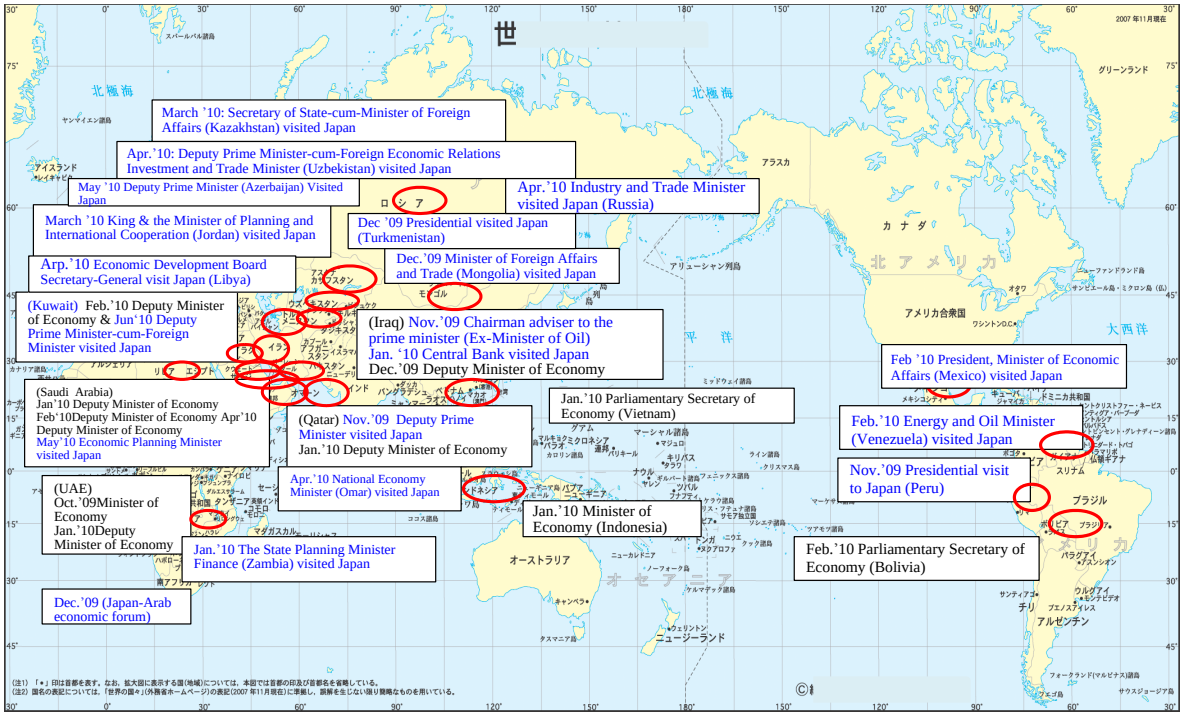
In recent years, countries in the world from the stable resource supply and expanding market viewpoints, their government take on diplomacy actively came to the front in negotiating over the resources. Japan also integrated ministerial-level leaders with private business, promotes diplomacy over resources. (see Figure 3-2-2-9)

Table 3-2-2-8 Major resources top 10 producing countries

	Petroleum(2008)		Natural gas(2008)		Coal(2008)		Iron Ore(2008)	
Ranking	Country name	Share (%)	Country name	Share (%)	Country name	Share (%)	Country name	Share (%)
1	Saudi Arabia	13.1	Russia	19.6	China	42.5	China	38.4
2	Russia	12.4	United States	19.3	United States	18.0	Brazil	19.3
3	United States	7.8	Canada	5.7	Australia	6.6	Australia	16.2
4	Iran	5.3	Iran	3.8	India	5.8	India	9.8
5	China	4.8	Norway	3.2	Russia	4.6	Russia	5.7
6	Canada	4.0	Algeria	2.8	South Africa	4.2	South Africa	2.3
7	Mexico	4.0	Saudi Arabia	2.5	Indonesia	4.2	Canada	1.8
8	UAE	3.6	Qatar	2.5	Poland	1.8	Iran	1.7
9	Kuwait	3.5	China	2.5	Kazakhstan	1.8	Kazakhstan	1.3
10	Venezuela	3.4	Indonesia	2.3	Venezuela	1.4	Mexico	0.7
	Tin(2008)		Copper(2007)		Zink(2007)		Lead(2008)	
Ranking	Country name	Share (%)	Country name	Share (%)	Country name	Share (%)	Country name	Share (%)
1	China	41.4	Chile	36.1	China	26.6	China	39.1
2	Indonesia	31.3	Peru	7.7	Australia	13.9	Australia	16.8
3	Peru	12.0	United States	7.6	Peru	13.3	USA	10.7
4	Bolivia	5.4	China	6.1	United States	7.4	Peru	9.0
5	Brazil	2.9	Australia	5.7	Canada	5.7	Mexico	2.6
6	Congo	1.1	Indonesia	5.0	India	5.3	Canada	2.6
7	Vietnam	1.1	Russia	4.8	Mexico	3.9	India	2.3
8	Niger	1.0	Canada	3.8	Ireland	3.7	Bolivia	2.1
9	Rwanda	0.8	Zambia	3.4	Kazakhstan	3.5	Poland	1.6
10	Malaysia	0.8	Poland	2.9	Sweden	2.0	Russia	1.6
	Molybdenum(2008)		Nickel(2007)		Rare earth(2009)		Platinum(2009)	
Ranking	Country name	Share (%)	Country name	Share (%)	Country name	Share (%)	Country name	Share (%)
1	China	37.2	Russia	16.9	China	97.0	South Africa	78.7
2	United States	25.6	Canada	15.3	India	2.2	Russia	11.2
3	Chile	15.5	Indonesia	13.8	Brazil	0.5	Zimbabwe	3.4
4	Peru	7.7	Australia	9.7	Malaysia	0.3	Canada	2.8
5	Mexico	3.6	New Caledonia	7.5			USA	2.1
6	Canada	3.5	Columbia	6.1			Columbia	0.7
7	Armenia	1.9	China	5.1			Others	1.1
8	Iran	1.7	Philippines	4.7				
9	Russia	1.7	Cuba	4.5				
10	Mongolia	0.9	Brazil	3.5				

Source: US Geological Survey, Minerals Yearbook 2007,2008(Iron ore, copper, lead, zinc, tin, nickel, molybdenum),
BP Statistical Review 2009(Petroleum, natural gas, coal) and Mineral Commodity Summaries 2009(Rare earth, platinum)

Figure 3-2-2-9 Development of major resource diplomacies to the world (After the summer of 2009)



Note: Visits by Japan are indicated in black, while visits by counterparty countries are indicated in blue.
Source: The Ministry of Industry, Trade and Economy

Resource-rich countries, and risks against the future depletion of resources, technology is an urgent need for industrial advances. Through the recent economic growth, not only as a mere supplier of the resources, are rapidly growing presence as a viable market. In resource-rich countries, hoping to expand infrastructure development to even grow areas outside resources, as well as export of goods as before, they are carefully watching foreign firms and foreign governments to improve their technological capabilities and the Industrial Development.

Under these circumstances, resource-rich countries, backed by superior technology and high professional ethics, are interested in strengthening ties with Japan who achieved successful economic development. Company as a business, offers products and services, understanding what is required, utilizing personnel training and such, packaged as complete products, Japan is seen as a partner who can support their long-term economic development.

As already noted, in the infrastructure business, Japanese companies have, in the past, often simply provided the products. The resource-rich countries are demanding the support after the delivery, now the public and private sectors in cooperation; it is becoming increasingly more important to provide the system that is including the maintenance and operation after the delivery.

(i) Middle East and Africa regions

- 1st Japan-Arab Economic Forum

December 2009, in Tokyo, the Japanese Government, under the co-hosting Arab League, first Japan-Arab Economic Forum was held with 1,200 participants of economic relations officials and business organizations from 21 countries, Japan and the Arab League, and 1 organization, among those

attendees included Minister Nakashima from Japanese Ministry of Economy, Trade and Industry, Minister Okada from Ministry of Foreign Relations of Japan, Arab League Secretary General Moussa, Nippon Keidanren Chairman Mitarai. (see Diagram 3-2-2-10)

This forum, between Japan and Arab countries, many of who are also resource-rich countries, was the first economic conference to be held in the joint Public-Private attendees, discussed not only economic issues such as trade and investment, but also other fields such as education, science and technology, and culture, was remarkable as the foundation of Japan's multilayered relationships with Arab countries.

Figure 3-2-2-10 The 1st Japan-Arab economic forum

The Minister Naoshima, in the ministerial-level meeting, for the deepening of economic relations between Japan and Arab, as part of implementing a variety of dialogue and cooperation with Arab countries, suggested to hold "Water Policy Dialogue," proposed to hold new energy in this forum, showed that expectations of activating businesses with new energy, environment, finance and many other fields, and further strengthening cooperation between the two regions in this forum. The discussion in this forum became foundation, is going into specific and concrete measures in relation with each countries already.

- **Win-Win relationship building in Saudi Arabia**

  (Saudi Arabia's position for Japan)

Saudi Arabia, the world's largest oil reserves, which boasts a powerhouse of energy production and exports, the largest oil supplier accounts over a quarter of oil provided to Japan. As the leader country of OPEC (Organization of the Petroleum Exporting: OPEC), has international influence, in recent years after a global economic crisis, held G20 summit which started in 2008, as the only member from

Arab countries, showed the international presence.

On the other hand, Saudi Arabia, in order to break away from excessive economic dependence on oil, and from issues such as employment for the growing youth population, and emphasizes the urgent human resource development as industry diversification, more focused on naturalizing labors to Saudi citizen (Saudaization) and non-oil sector development, human resources development, privatization of businesses, attracting foreign investment, opening market, has been committed to reform. In this situation, so far it has been focusing mainly on the relationship in traditional oil and gas fields with Japan, in order to deepen bilateral relations in various fields, increasingly need to plan promoting multilayered and multi-layered cooperation.

(Japan-Saudi Industrial Cooperation Joint Task Force)

In May 2007 based on an agreement between the leaders of Japan and Saudi Arabia, "Japan-Saudi Industrial Cooperation Joint Task Force" was launched. Starting with three pillars (support for Japanese companies to consider investment in Saudi Arabia, human resources development assistance, political cooperation for small businesses) focused on industrial cooperation, it has been promoted as public-private joint efforts of all Japan for all-Saudi

Doing business with the help of Saudi Arabia through our task force, as of April 2010, 4 projects reached the investment phase, 33 projects have been investigated further. In order to support human resource development in Saudi Arabia, Saudi Japanese Automobile Institute for Advanced Technology (SJAHI), Higher Institute for Plastics Processing (HIPF), followed by third training center in cooperation with Japan, Saudi Arabia and Electronic Appliances Training (SEHAI) opened in Riyadh in September 2009.

Entering 2010, along with the activities of this Task Force, traveling between the two countries officials have increased. In January, Deputy Minister of Economy, Trade and Industry, Matsushita led the joint public-private team of Ministry of Port Energy and New Energy Mission visited UAE, Qatar, and Saudi Arabia, introduced advanced technology in Japan, to contribute to the promotion of renewable energy in the Middle East. In February, a private Japan-Kuwaiti joint committee, Japan-Saudi Arabia Business Council was held, many Japanese companies participated. From the government, Deputy Minister of Economy, Trade and Industry, Masuko participated, and exchanged views on cooperation in areas such as renewable energy, energy, conserving energy and nuclear power. In April, Deputy Minister, Masuko revisited the Saudi Arabia, exchanged views with Naimi Minister of Petroleum and Mineral Resources, and other ministers. At that time, immediately after Royal edict of the creation of a Renewable Energy Nuclear Cities was ordered, began to cooperate on nuclear power renewable energy ahead of other countries, Water Policy Dialogue, Small Business Policy Workshop were carried out. Meanwhile, from Saudi Arabia, the Minister of Economic Planning Gosaibi (10^{th} Japan-Saudi Arabia Joint Commission in May), visited Japan, bilateral relations have become even closer.

(Transition to a new stage)

As described above, Water Policy Dialogue and cooperation in nuclear energy field have been confirmed between the two countries, cooperation between Japan and Saudi Arabia's industrial sector has grown wider, shifting to a new stage.

In addition, the rising global demand for petrochemicals, Petro Rabigh project is realized that a joint venture with Sumitomo Chemical Co. and state oil firm Saudi Aramco. This project is the largest-ever investment in the Middle East and Africa for Japan, symbolizing the cooperation between Japan and Saudi Arabia, in November 2009, in the opening of this project is Prime Minister delegated attendance of Tetsundo Iwakuni.

This project has become a national project in Saudi Arabia, which leads to more stable supply of energy. Even our government, institutional and financial leverage has been actively supporting the project.

- **Win-Win relationships in Iraq**

(Possibility of business with Iraq and Iraq's expectation)

Iraq, third largest proven reserves of crude oil (1,150 billion barrels: the world's 9.3%) in the world following Saudi Arabia and Iran, is the emerging markets that has a population of 3,100 million people. Iraq, in 2009, twice setting up the oil and gas fields to international bidding, when conditions are right - 2016 to 2017 the production capacity of 1,000 to 1,200 million barrels / day (b / d) could be reached.

Iraqi's expectation to International governments and companies, has been shifted from supporting its reconstruction efforts to the investment for their diversification of industries and support industrial development, attracting foreign companies and infrastructure resolving bottlenecks to moving in to the fields of electric power, petrochemical, agriculture, and so forth.

(Japan's efforts)

Japan, established the Iraq desk in the Japan Cooperation Center for the Middle East in February 2009, other business-related information has been provided, following Jordan in July 2008 and in Tokyo in July 2009, in December 2009, 2nd Japan-Iraq Economic Forum was held in the Baghdad International Airport. The Japanese side, Deputy Minister of Economy, Trade and Industry's Minister Matsushita and Vice Minister of Foreign Relations, Takemasa, and approximately 100 Japanese companies' representatives participated. From Iraq, the Prime Minister Maliki and 10 other members were joined by 200 Iraqi public and private sectors, as largest bilateral economic forum held in Iraq since 2003. In addition, this forum, the group agreed on the establishment of Japan-Iraq Investment and setting up the Business Group, investment and business information was to be provided to Japanese companies and through this group.

Japan, building the infrastructure utilizing grant aid and yen loans in addition to human resource development, investment promotion, and industrial development (Exhibition in Jordan, Iraq and Palestine, November 2009) through JICA, JOGMEC have been implemented.

Petroleum Exploration Co. with Malaysian company Petronas completed successful bids for oil

fields Garafu[90], Toyota Tsusho Corporation received the order of mobile substation equipment[91], Toyota Tsusho Corporation and Sumitomo Corporation started Toyota vehicle maintenance[92] in Iraq, and Marubeni Corporation, is starting to help renovating the dilapidated cement and fertilizer plant[93], the business has taken off.

(Future of Business with Iraq)

After 2nd Japan-Iraq Economic Forum was held in December 2009, another economic forum with public and private sectors together from Britain, France, and South Korea was held in Iraq, individual businesses from Western countries, South Korea, and China are moving in to Iraq. From Iraq, the overall security situation has improved and Iraq is urging Japanese companies to advance the business in Iraq as soon as possible. With caution in security situation, it is necessary for Japanese government to address public and private sectors supporting Japanese companies moving in to Iraq and develop infrastructure, power, petrochemical, and agriculture fields.

- **Win-Win relationships with Southern Africa countries**

For many years, African economies had been a stagnant, since 2000, continuing to grow more than 5 percent each year. As a result, middle class population has been growing, attractive consumer market is also expanding.

Against this backdrop, Okada Minister of Foreign Affairs visited the Republic of South Africa (South Africa) and Federal Republic and Tanzania. In South Africa, in the foreign ministers meeting, he agreed to start negotiations with the nuclear deal, and also attended 10th South Africa Partnership Forum (April 29 to 30, 2010), exchanged discussion over strengthening relationship in trading and economic cooperation. Also in Tanzania, he attended in 2nd TICAD Ministerial Conference Follow-up (May 2 to 3, 2010) promised to continue making efforts to double ODA announced in TICAD Ⅳ (2008), expressed sending the joint mission with high level personnel in the fall of 2010 to encourage Japanese companies moving in to the area.

Sub-Saharan-rich rare earth resources such as rare metals, especially southern Africa, the most likely in potential development, leveraging Japan's strengths and technology, contributing to economic development in the region and ensuring a stable supply of resources to Japan, Oil, Natural Gas and Metals National Corporation (JOGMEC) established the Botswana Centre for Remote Sensing. In this region, the aim is to ensure the platinum supply which is used as catalysts for automobile emissions, and to explore satellite advanced technology analysis, extracting prospective areas, providing Remote Sensing (satellite image analysis for mineral exploration) for member states engineers of Southern African Development Community (SADC) resource exploration.

In addition, Madagascar where Japanese company is involved in development is scheduled to implement through economic cooperation placing surrounding infrastructure for the port and power lines.

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90 JAPEX (Japan Petroleum Co., Ltd.) Web site: http://www.japex.co.jp/pdf/2009/JAPEX_Press_20100119_Garraf_al.pdf
91 Toyota Tsusho Corporation Web Site: http://www.toyota-tsusho.com/press/20100301_1.cfm
92 Nikkei (March 22, 2010), Kyodo News (May 17, 2010)
93 The Nikkei (November 8, 2009, December 21, 2009)

(ii) **Latin America**

- **Promoting Energy Cooperation in Venezuela**

Venezuela, given the extra heavy oil in the Orinoco oil region, surpasses the world's leading oil power Saudi Arabia's oil reserves. The Ministry of Economy, Trade and Industry and Venezuela's Ministry of Petroleum signed a memorandum on energy cooperation in March 2009. Japan and Venezuela promote energy cooperation with public and private sectors, held a meeting to discuss matters of cooperation in areas such as oil and natural gas. (July 2009, Caracas (Venezuela) March and April 2010 Tokyo)

During these events taking place, in February 2010, INPEX Corporation and Mitsubishi Corporation Imperial Oil Development International were appointed to the developer of the Orinoco oil block Carabobo fields, have been as the first companies in Japan involved with Venezuela's oil fields development.

- **Win-Win relationship in Bolivia**

In February 2010, Vice Minister of Economy, Trade and Industry, Takahashi lead the representatives (Ministry of Economy, Trade and Industry, Ministry of Internal Affairs, Embassy of Japan at Bolivia, JOGMEC, All-Japan team from all private companies) to visit Bolivia's La Paz city, in order to strengthen relations between Japan and Bolivia who has a wealth of lithium resources required for next-generation automobile and to promote resource diplomacy. In the "Regional Economic Development Seminar in the southern Bolivian Altiplano", he made the keynote speech as parliamentary secretaries, agreed with "Bolivia needs partners rather than more sponsors", claimed by Bolivia, presented a broad range of ideas such as geothermal, lithium resources development, digital terrestrial television broadcasting system in Japan, cooperative measures, and fur industry. At that time, as all-Japan team with companies that handle upstream resources as well as auto manufacturers and researchers, Japan was highly acclaimed of lithium recovery technology from Bolivia. In addition, JOGMEC and our delegation, including private companies and concerned ministers (Minister of Development Planning Caro, Minister of Mining and Metallurgical Pimentel, Minister of Presidential Coca) actively discussed in terms of strengthening bilateral economic relations.

- **Expanding Broadcasting in Digital Terrestrial Television (ISDB-T system)**

In 2006 in Brazil, Broadcasting in Digital terrestrial Television (ISDB-T system)[94] was adopted, since then, the government and the central ministry cooperation with related ministries, ISDB-T for the Latin American countries are actively working on public-private partnership scheme to extend the service. As a result, Peru (April 2009) and Argentina (August 2006), Chile (September 2005), Venezuela (October 2002), Ecuador (March 2010), Costa Rica (May 2010) decided to adopt the

[94] Global Digital Terrestrial Television is divided in to three different types; Japan method (ISDB-T), European method (DVB-T), and U.S. method. As of May 2010, the countries incorporating the systems as follow; Japan as well as 7 countries in Central and South American regions are using Japan method, mainly European countries altogether 40 countries using European method, and U.S., Canada, Mexico, and South Korea are using U.S. method.

currently proposed system, currently 7 Latin American countries have adopted the system.

Table 3-2-2-11 Recent major activities in Iraq by Japanese government

Apr-07	Prime Minister Maliki visited Japan	Tokyo	
Jun-08	METI Minister visits Iraq	Baghdad	
Jul-08	The 1st Japan-Iraq Economic Forum	Jordan	About 250 participants
May to September 2008	Workshops on trade policy	Tokyo	4 times
Dec-08	Senior vice Foreign Minister visited Iraq	Baghdad, Samawah	
Jan-09	Prime envoy visits Iraq	Baghdad	
Mar-09	Economic missions visited Iraq	Baghdad	12 participating companies
Apr-09	Oil minister al-Shahristani visited Japan	Tokyo	
Jun-09	Foreign minister Zuibari visited Japan	Tokyo	
Jul-09	Iraq Investment Seminar	Tokyo	Approximately 300 participants
Nov-09	Iraq, Jordan, Palestine exhibition (Organizer: JETRO) ● Senior Vice Minister of Economy Matsushita and Parliamentary Secretary for Foreign Affairs Kira attended	Tokyo	
Nov-09	Adviser to the prime minister/Chairman Gadoban visited Japan ● Senior Vice Minister of Economy Matsushita and Senior Vice Foreign Minister Takemasa held a meeting with Gadoban	Tokyo	
Nov-09	Iraq Business Seminar (Organizer: Middle East Cooperation Center)	Tokyo	Approximately 240 participants
Dec-09	1st Japan-Arab Economic Forum: Join the Acting Minister for Trade Safi ● MITE Minister Naoshima and Foreign Minister Okada	Tokyo	Approximately 1,200 participants
Dec-09	Japan-Iraq Second Economic Forum ● Senior Vice Minister of Economy Matsushita, Senior Vice Foreign Minister Takemasa, Keidanren Vice Chairman Watanabe	Baghdad and Basra	Approximately 300 participants
Jan-10	Central Bank Governor visited Shibibivisited Japan ● Senior Vice Minister of Economy Matsushita, Senior Vice Foreign Minister Takemasa	Tokyo	
Mar-10	2nd Japan-Iraq Economic Forum , briefing ● MITE Minister Naoshima, Senior Voce Minister of Economy Matsushita, Senior Vice Foreign Minister Takemasa	Tokyo	Approximately 100 participants
Mar-10	Iraq Seminar (Organizer: JETRO)	Dubai	Approximately 120 participants

Source: The Ministry of Industry, Trade and Economy

(iii) Central Asia region

- Win-Win relationship in Central Asia

Relationship with Central Asia that has the world's leading energy resource must be placed beyond mere resource trade, and recognizing the need of expanding mutually beneficial trade and investment relations to build a balanced relationship, for Small Businesses Development in Central Asia has to come with public and private sectors together helping to diversify the industry and advanced technology transfer. In particular, teaching and consulting with industry experts were dispatched to meet with target countries, conducting business, training and supporting corporate executives invited to Japan. (see Figure 3-2-2-12)

Figure 3-2-2-12 Photo image of consultation by dispatched industrial experts

- **Promoting Diplomacy for Resources in Kazakhstan**

Kazakhstan has abundant resources such as natural gas, uranium, and rare metals, and Ministry of Economy, Trade and Industry headed the public-private mission in April 2007, as a result power companies in Japan has won the 40% of domestic demands equivalent in uranium mining. March 2010 a nuclear cooperation agreement was signed between Foreign Minister of Japan and the Ambassador of Kazakhstan, is expected to further strengthen cooperation in the nuclear field.

During the visit of President Nursultan Nazarbayev in June 2008, and Foreign Minister and Secretary of State Saudabaefu in March 2010, each Minister exchanged of views for active bilateral economic relations, including resources subject, promoting high level discussion with Japan’s Minister of Economy, Trade and Industry.

In October 2009, 1st Japan-Kazakhstan Economy Public-Private Joint Meeting was held, with regard to business recovery rare earth, Japan and Kazatomprom agreed on cooperation, signed on forming the joint company in March 2010.

- **Strengthening economic relationship with Resource-rich countries**

The resource-rich countries have developed rapidly in recent years, has become a promising trade and investment partner for Japanese companies. Other countries are actively promoting efforts to secure the markets for resources, and trying to conclude with Bilateral Investment Treaty (BIT), Economic Partnership Agreements (EPA), and a free trade agreement (FTA). Japan's business environment is competitive, and not to be behind other countries’ companies, it is necessary to tackle

even closer economic partnership between two governments and national resources.

Recent moves in Japan, Peru (effective December 2009), Uzbekistan (September 2009) signed an investment agreements, with Saudi Arabia has reached agreement in effect in 2008, working towards signing are, Kuwait, Angola, Colombia, and Kazakhstan. Also, Peru is negotiating the Economic Partnership Agreements, GCC6 countries have started the FTA negotiations. These developments with resource-rich countries, compared to the developed countries will be difficult and will contribute to improving the investment climate and resources of the country.

Column 41　Mozambique Agricultural Development

The agreement to promote Tropical Savanna Farm Development in Mozambique was signed by representatives from Japan, Brazil and Mozambique in capital city of Mozambique, Maputo in September 2009.

Fundamental outline of this agreement at this time of Mozambique Tropical Agriculture Development cooperation is to incorporate the valued experience from Tropical Agriculture Development, which took place in Cerrado region in Brazil with Japan and Brazil's joint efforts, to Mozambique, then further plan of throughout African savanna's agriculture development.

Cerrado Development faced the highly acidic soil and "semi-desert area sterile," the land was once called, transformed into an agricultural area by cooperation of Japan and Brazil over the 20 years period since 1970s, not only developed the Brazil's inland, but also the development greatly contributed to easing the world food supply. Taking this success to Mozambique, the cooperation agreement was signed between Japan and Brazil in April 2009 to develop African Tropical Savanna jointly, and the initial targeted country, Mozambique was chosen as the official language being Portuguese same as Brazil, the triangle cooperation was formed.

Some other countries, there is a movement in Africa for the enclosure of land for the future food security, the development cooperation is to leverage technology and experience heightening the local agricultural productivities, and is expected to build a win-win relationship between the local countries.

Column 42　Deepening Japan's relationship with the Abu Dhabi

Since November 2009's Dubai shock, November and December 2009, the Emirate of Abu Dhabi and the UAE Central Bank supported the Emirate of Dubai, the large development project funded by rich oil revenue, the Emirate of Abu Dhabi has attracted the international attention.

UAE government controls, diplomacy, military, responsible for financial and currency, and part of the education, and the oil and economic development have separate authority by each emirates. With more than 90% of UAE's oil reserves and the production, Emirate of Abu Dhabi as the leader, most of the federal budget has been Abu Dhabi's contribution and supported other members of Emirates, only a little has been reported by media behind clever advertisement by Dubai.

Emirate of Abu Dhabi, the world's largest fund's surplus from the huge oil revenue, since 70s SWF

(Sovereign Wealth Fund) including Abu Dhabi Investment Authority (ADIA), Abu Dhabi Investment Council (ADIC), and developing Mubadara, has invested in national and international debt, equity, and in real estate market. In 2007 one of SWF, Abu Dhabi International Petroleum Investment Company (IPIC), became the largest shareholder of Japan's Cosmo Oil in recent memory. Japan aims to further cooperation with the Abu Dhabi's SWF, in June 2009, gathering Abu Dhabi's main SWF, the Abu Dhabi Investment Forum was held in Tokyo.

After the global financial crisis, under Abu Dhabi Crown Prince Mohammed's initiative, the basic development plan was announced in Abu Dhabi in 2008, "Plan Abu Dhabi 2030", and published in 2006, goal to build the cities with CO2 emissions control, the society that ever last to exist, "Masdar Initiative". Regarding Masdar, he decided to invite the office of International Renewable Energy Agency Abu Dhabi (IRENA) in 2009 in Abu Dhabi, Japanese companies and banks are on board with solar heating research and main institute, Abu Dhabi Future Energy Implementation (known as: Masdar) to establish a fund and is also actively participating.

In 2009, tourism and cultural organizations in cooperation with foreign governments, F1 races "Abu Dhabi GP" in October 2009, FIFA Club World Cup was held in December 2009, our architect: Tadao Ando designed Maritime Museum, in addition to the Louvre, the Guggenheim Museum, branch of the Sorbonne and other construction projects are still booming.

Population growth, and diversified with industry to support strong growth in electricity and water demands, Abu Dhabi Water and Electricity Authority (ADWEA) continues to power desalination project (IWPP), Japan is actively involved in 5 of 8 developments.

Abu Dhabi expects education, human resource development to take priorities, at the request of Abu Dhabi Crown Prince Mohammed, local students have been accepted to Japanese school in Abu Dhabi, experiencing the Japanese-style education, various projects are progressing with Khalifa University of Science and Technology (KUSTAR) in cooperation of other universities. In addition, from March this year, with Dubai's Emirates Airlines, Abu Dhabi's Etihad Airways established the flight service to and from Narita Airport, it is expected to further activate human interaction between two countries.

And Japan and Abu Dhabi, oil concession agreement between Abu Dhabi and our companies was concluded in 1968 before UAE was formed, 40% of our oil self-sufficiency concentrated, thus, relationship through the conventional oil, Abu Dhabi expects for a break from the industrial structure centered around oil and gas, and our relationship has deepened.

Column 43　Efforts to obtain Rare Metals

In the world, rare metals are used in electric cars and mobile phones, and essential for LCD TVs and competition for rare metals is intensifying. In such circumstances, Japan has to secure a stable supply of rare metals, the cooperation of the government system and All Japan, good infrastructure though ODA and training human resources, are offering supports in the area that Japan has the strengths, to the resource-rich countries.

As our efforts, first a one-stop system was established. This tool and support across government ministries, Japan Oil, Gas and Metals National Corporation (JOGMEC), Bank for International Cooperation (JBIC), Nippon Export and Investment Insurance Agency (NEXI), Japan International Cooperation Agency Organization (JICA) as a support tool for government agencies, which were organized by stages of development resources. By eliminating the vertical structure made possible for government to work as a whole, having one window for the private sector, made possible by the efforts to unifying the public and private. In addition, to strengthen cooperation including resource companies as well as business user companies, to secure resources with supply chain from upstream to downstream, are moving forward to ensure all resources in the all-Japan system.

On strengthening relations with resource-rich countries, it is necessary to help capture the needs of resource-rich countries. Specifically, technical assistance and infrastructure around the mine, those require the human resource development. While promoting national industry of resource-rich countries, ensuring our resources as it is important to build Win-Win relationships.

As Japan making efforts to new projects, Ministry of Economy, Trade and Industry established the Rare Metal Obtaining Strategy in July 2009, as not only obtaining resources from overseas, but also creating total strategic efforts such as recycling, development for replacement material, and storage.

For Vietnam, the successful overall efforts made to secure rare earth resources. Rare earths are essential for the production of next generation motor vehicles using rare metal high performance magnet, now 90% of its supply relies on China, diversification of the country is required.

In Vietnam, JOGMEC discovered the rare earth resource in Dong Pao region in the early stage exploration. January 2009, in Coal and Mineral Resources policy dialogue with Vietnam, the Japanese side agreed to start of the infrastructure investigation surrounding the mine, the Vietnamese side agreed to joint development of Dong Pao rare earth mine with Japanese companies which led to securing the rare earth resource. In October 2009, the loan exchange notes were signed for the development of road and water infrastructure as well as improvement of living standard near the mine. Furthermore, in January 2010, visiting Vietnam the Vice Minister of Economy, Trade and Industry's Takahashi, agreed to continuously support the Japan-Vietnam rare earth joint development. At the same time, the Vietnamese side announced that Japan can work together in the development of new rare earth mine. Also, the downstream processing sector, is planning to establish a joint venture of the rare earth alloy manufacturing plant in Vietnam by Japanese company.

These efforts in Vietnam, deposits discovered by JOGMEC, government diplomacy over resources, JOGMEC's survey of infrastructure around the mine, a loan through JICA to build infrastructure, and these are the examples of successfully secured the rights to the resources. In addition to the rights of upstream resources, and promoting industry initiatives, including a middle-class supply chain has also built an extensive economic ties.

Column 44　Impact of US's shale gas

Shale gas is different from conventional gas, and that is the gas contained in particularly hard (shale) and thin layer; neither in sandstone nor sedimentary rock layer[95]. It was always being recognized in the past but left aside due to relatively difficult mining, the development has been rapidly progressing in the US (Shale gas revolution) owing recent year's mining technology advancement. (Column diagram 44-1)

This revolution brought the dramatic changes to the US's supply and demand forecast. The latest 2009 forecast indicating the large reduction of 2030 reliability on imported liquefied natural gas (LNG) of 3% whereas 2004 forecast showed 28% of domestic gas consumption would have been relied on imported gas.

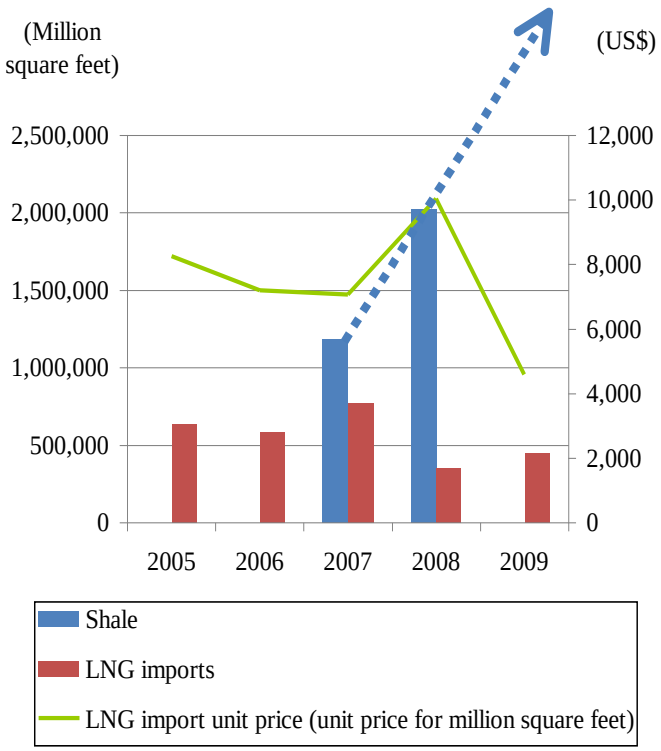
According to the United States Department of Energy's data, the US's shale gas production increased from 118.40 million cubic feet (approximately 3.400 million cubic meters) in 2008 to 200 million cubic feet (approximately 5.700 million cubic meters) in 2009. The inverse proportion to Shale gas' increased production, the imported US's LNG volume which had been gradually increasing after 2000, was peaked in 2007, then took nose dive; the price followed the trend, that dropped to below half in 2009 from that of in 2008. (Column diagram 44-2) (If assuming that the equal volume of 2008 production of Shale gas LNG is imported, the imported price would have been 20 million dollars.)

Column 44-1 Shale Gas Distribution in Lower 48 US States

Source: United States Department of Energy "Distribution of Shale Gas by 48 States in the U.S."

Column 44-2 US Shale Gas Production Volume and Volume/Price of LNG Imports

[95] Although Shale Gas is natural and produces fewer CO_2 than Coal and Oil. It is preferred from the slowing down on Global Warming viewpoint, the Shale Gas mining requires active ingredient to be injected into the ground when it is crushed, the effect of polluting environment such as ground water and water in surrounding rivers are concerned.



Source: United States Department of Energy

The global economic slowdown reduced demand for gas and there was a decrease in imports of liquefied natural gas in the United States. Liquefied natural gas prices significantly lowered for the European market.

Russian gas exports to Europe have been in long-term contracts, but the inflow of liquefied natural gas exports to Western Europe in 2009 Russia's Gazprom has decreased by 30%.

Outside the U.S., the development of Shale Gas has already begun in Canada. In addition, China has gained the cooperation of the United States and has already started exploration projects. Also, in Europe, Germany, France and the Netherlands research institutes began joint research projects. The U.S. private sector has gained the exploration rights from Poland, thus countries' interests over Shale Gas have been growing. Mitsui and Co. as well as Sumitomo Corporation from Japan are participating in development projects in major U.S. mining.

Thus, while Shale Gas development is expanding globally, the increased production of Shale Gas' effect will be focused on the future of global energy supply and demand.