

## **Future Prospects of Supporting Industries in Thailand and Malaysia**

Ryuichiro Inoue

The principal object of our field surveys in Thailand (August 24th ~ 29th,1998) and Malaysia (August 30th ~ September 4th) was to determine the actual situation in the supporting industries in both countries. We have supposed, they are in a grave situation because of the economic crisis that has been continuing since 1997, and they are taking various countermeasures in an attempt to maintain the level of production and technology as much as possible.

### ***1 . Field Survey in Thailand***

#### ***1.1. Introduction***

We interviewed the following Japanese affiliated companies in the supporting industries.

- Thai International Die Making Co.
- Thai Yanagawa Co.
- Thai Moritech Co.
- Ogihara (Thailand) Co.

- SV Nittan Precision Co.

We also interviewed one wholly local company.

- FASE Mold Co.

We also visited Thai government offices, JETRO staff and some academics.

Recently, the Thai government has set the direction for adjusting industrial structure in reaction to the economic stagnation caused by the financial crisis. One of the important targets is to strengthen the supporting industries for the automobile, electrical and electronics industries, as well as upgrading technology and the development of human resources.

Most Japanese companies operating in Thailand have followed or rather cooperated with the direction of Thai government policy. Firstly, the big companies have decided to maintain their production activities as much as possible by shifting their domestic sales to exports including export to Japan, and also by transferring some production lines from Japan to Thailand. Furthermore, most Japanese affiliated SMEs in the supporting industries have decided to follow the same path as the big companies. Both Thai and Japanese governments have welcomed their attitude and have started to support their efforts. (Table1, 2)

Essentially, most of the Japanese affiliated SMEs in the supporting industries operating in Thailand are, even today, standing firm against economic crisis. They are maintaining their production capacity as much as possible. Both Thai and Japanese governments as well as many large Japanese companies, are supporting the SMEs and look forward to a bright future for Asian Production Network.

## ***1.2. Interviews with the Factories***

(1) Thai International Die Making Co., Ltd (TID)

TID was established in 1987 and started production in 1989. The company maintains close relations with MIYAZU, one of the leading molding manufacturers for automobile industry. Although the most important customer in Thailand is the ISUZU group, the company has business relations with all the automobile manufacturers in Thailand.

Because of the economic crisis and resultant slump in the automobile market, orders from customers have drastically decreased since last year. The amount of debt has been doubled because of the rapid depreciation of Thai bahts. But the company is keeping up production activities through the order arranged from MIYAZU, which contains the order from Japan. Actually, more than half of their deliveries are exports from Thailand.

For the mold manufacturing industries, one of the important elements is to train skilled laborers and technicians. The company has sent many workers and technicians to Japan to receive good training. About 60 percent of these trained employees are still working in TID. The company has 250 employees, and is keeping up production to try ensure continued employment for these trained employees.

However, the company holds concerns for the future. If the economic crisis continues and orders decrease even further, the company would need to reduce its workforce. In other words, this would mean having to lay off the employees that the company has trained.

(2) Thai Yanagawa Co., Ltd. (TYC)

The company started operations in 1992. Its main products are aluminum die-cast parts for the automobile industry, including molds and dies, heat treatment and other related products. More than 90% of production goes to Honda Motor group, with smaller portions to Nissan and Mitsubishi.

In the economic crisis in Thailand, demand from the automobile industry has decreased drastically. The company has been heavily affected because of a large drop in the number of orders received.

To maintain production levels, the company has started to supply some products to the Honda group in Japan. Moreover, the company is looking for the chance to expand its product line into other fields such as the electrical and electronics industry, and also the machinery industry. Many Japanese affiliated companies in Thailand in these fields have shown an interest in using aluminum die-cast products; however, the company still awaits the results.

Yanagawa has 80 employees, and their rate of operation is around 60%. The company expects to raise it to 80%, but the prospect is still not clear. The depreciation of invested capital is also a heavy burden, since the depreciation of Thai baht has caused big currency exchange losses.

However, since Honda stands firm in their commitment to the operation in Thailand, the company will not withdraw from Thai. Rather, the company will foreseeably continue the training of local employees and improve the level of technology. To achieve these tasks, the company needs orders more so than money.

### (3) FASE Mold Co., Ltd.

Established in 1993 by the owner and managing director Mr. Fa Lohfaw, who was an employee for 15 years at Union Metal Works, a member company in Saha Union group. He had Mr. Ogawa, a Japanese engineer who was an expert in teaching the techniques to produce mold and die in Thailand as his teacher. After leaving Union Metal, he joined his brother's works, which produce precision tools. He worked there for 6.5 years before breaking off to establish his own company FASE.

Actually, the company has about 30 employees and produces plastic injection molds, die-casting molds and progressive dies. The main customers are Japanese companies such as Hitachi, Mitsubishi and Toshiba, as well as several European and local companies.

Because of the economic crisis, the actual number of orders from customers is less than 50% of that in peak period. The company is trying to find new fields to expand into to attract more orders, however this is not easy. Although the company recently laid off 5 workers and kept only 25 on, the quantity of work is still too small. The company employs 6 young Thai engineers, all of whom Mr. Fa has trained. However, it seems the technology level is still not high enough for many customers, something which may be one of the main reasons for the drop in the number of orders.

### (4) Thai Moritech Co., Ltd.

Thai Moritech was established in 1991 and started the production of mold and die for plastic injection the same year. 70% of production is for automobiles and the

remainder is for electronics. The company has approximately 300 employees, 200 of whom are employed in plastic injection molding.

The economic crisis and depreciation of the baht had had varied effects on the company. For example, the recession in the automobile industry has caused a reduction in the number of orders for molds. However, electronics manufacturers have increased production and export, so they have increased their order for molds and dies.

The company is investing a lot of effort in training local workers. From the initial stages, the company has sent many engineers to Japan for a half a year training. Actually, the company has 45 engineers who are capable of designing molds and dies. They have good reputation for keeping delivery dates and for good quality workmanship. Japanese automobile and electronics manufacturers much prefer giving their orders to Japanese affiliated mold and die manufacturers, because of the high level of importance placed on delivery and quality.

The company's biggest customers are the Toyota group companies. Although the company has many other customers, they want to keep in close cooperation with the Toyota group.

There are some local companies who have a similar level of technology for mold and die manufacturing; however, they have not yet same sense of responsibility as the Japanese affiliated companies.

(5) Ogihara (Thailand) Co., Ltd.

Ogihara started production in 1988 when Japanese affiliated automobile

manufacturers were moving to increase local procurement of large-sized body moldings. The molds are delivered not only to many automobile manufacturers in Thailand but also are exported to several ASEAN countries, China and India.

Since the beginning of the economic crisis in 1987, the company has been receiving more orders from overseas customers, including Japanese and American manufacturers. Actually, more than 40% of products are for export, which is keeping the level of operations at around 80% capacity.

The technical level of local workers is about 70 to 80 percent that of factory workers in Japan. At an early stage the company sent 75 workers to Japan for technical training; however, 50 of them left soon after. At present, most technical training is performed in Thailand.

The company has tried to find local subcontractors to supply some of the parts; however, many of them failed due to defects in quality and late delivery.

The company is expecting that Thailand will become an important base for mold and die manufacturing in the future. In light of this, it also expects that the technical level of more than 200 local workers will need to improve even further. The average length of employment at Ogihara is around 4 years.

#### (6) SV Nittan Precision Co., Ltd.

SV Nittan Precision was established in 1996 and produces tungsten carbide precision parts. Two main shareholders are Sahaviriya, a local large-scale steel producer and Nippon Tungsten, Japanese specialty steel products manufacturer. The main customers of SV Nittan are Japanese affiliated electrical and electronics

manufacturers operating in Thailand.

Since the start of production, turnover has increased by more than 30% annually. Turnover in Thailand itself has decreased since the beginning of the economic crisis, but overall turnover continues to increase due to the company's push to change its focus to exports.

The company employs 150 local workers, all of whom have been well trained by the experts from Japan. Many foremen have also been sent to Japan for a 3-month training course. The average length of employment at the company is 8 to 10 years, longer than that of many of its rivals. Because of its skilled laborers, the company is achieving a good technical level and higher value-added.

The company has one local sub-contractor, which was established by a former employee. In the near future, it expects to contract more local sub-contracting firms to keep their production capacity flexible.

Japanese experts who come to Thailand to teach local workers are sometimes surprised at the technical level of certain local workers. They find some workers who have better technical level than their average Japanese counterpart.

### ***1.3. Interviews with Government Offices and JETRO***

#### **(1) BSID (Bureau of Supporting Industries Development)**

This office has established in 1987 as MIDI (Metal-working and Machinery Industrial Development) in the Department of Industrial Promotion (DIP) under the Ministry of Industry. The construction fee, equipment fee and the set up process, including dispatching of experts, was fully supported by the Japanese government.

In 1997, the office changed its name, and the expansion process started. The main subject of expansion is to add training facilities for plastic processing and to establish total policy planning functions for supporting industries. The Japanese government is intending to give the BSID their full support in this process as well.

The main target of the BSID's activities is to promote local SMEs (small and medium enterprises) in the support industries. However, the BSID itself has neither the technical level nor enough qualified engineers to do this alone. Therefore, full support in the form of Japanese economic and technical cooperation will be indispensable to its success.

Although many Japanese firms in assembly industries and the supporting industries in Thailand are managing to maintain the level of their operations even in the face of the economic crisis, many local SMEs are suffering because of a drastic decrease in orders. Many of them need to reduce the size of their workforce. Although necessary under the current economic conditions, this will severely damage the prospects for the future development of this industry.

The BSID and Japanese support play an important role in sustaining the development prospects of this industry.

## (2) The Office of Industrial Economics, Ministry of Industry

Ministry of Industry developed the Industrial Restructuring Plan (IRP) in 1997 to assure sustainable industrial development in Thailand. The target of this plan is to overcome the many weaknesses within this important industrial sector. (See Table 3) The Ministry has identified weaknesses as such as low technological level, unskilled

workforce, lack of supporting industries, lack of brand names, insufficient managerial skills and that the industry is overly concentrated in the Bangkok Area. The Ministry has stated that Thailand should conquer these weakness to improve their global competitiveness to enhance the industry's contribution to social adjustment.

The Ministry also proposed a series of measures to conquer these weaknesses. The principle measures are to improve productivity, to upgrade technological level within the industry, to enhance product design and development, to promote direct foreign investment, to upgrade labor skills, to promote SMEs, and to disperse companies to rural locations etc.

Ministry has already requested the Japanese government for its full support to implement these programs and the Japanese government has agreed in principle. The principal measures which will be offered by the Japanese side could be (a) long-term soft loans, (b) dispatching of experts, (c) incentives for direct foreign investment, and (d) training of workers, technicians, engineers and managers.

### (3) JETRO Bangkok Center

The operation levels within the electrical and electronics industries have not decreased to any large extent. Although the domestic sales have decreased, the manufacturers have been able to cover this with exports. Many manufacturers of electronics parts have increased their exports to Japan, the USA and other countries.

There are some local electrical assemblers who are increasing their production of OEM through orders from foreign companies. The increase in OEM production is a common tendency within the electrical and electronics industries in Thailand.

This tendency is slower in the automobile related industries because it relates directly to safety; however, a similar trend is becoming evident.

Japanese manufacturers have a strong attachment to produce the products which has a form and they have transferred their way to Thailand. Local Thai manufacturers have a similar attachment to production. These are not the same for American and European manufacturers who are pushing their OEM activities via production by Asian manufacturers.

Japanese manufacturers continue to maintain their superiority in cost and quality, and in their strong level of competitiveness. Production facilities in Thailand form an important element of that superiority. Maintaining and raising the level of production facilities of local supporting industries will become increasingly important in ensuring the competitiveness of Japanese manufacturers in the future.

**Table 1. Export by Japanese Affiliated Companies in Thailand** (Billion baht)

Commodity	1997		1998 forecast	
	Export	(to Japan)	Export	(to Japan)
Foodstuff	4.1	(2.5)	4.8	(3.2)
Textiles	9.8	(2.1)	13.6	(1.8)
Chemicals	3.8	(0.7)	5.0	(0.9)
Metals	14.2	(11.6)	16.4	(12.8)
Machinery	0.6	(0.2)	0.9	(0.1)
Electric & Electronic Products	122.4	(38.9)	135.4	(45.4)
Transport machinery	5.8	(1.8)	14.3	(4.7)
Precision machinery	55.2	(0.8)	61.3	(0.8)
Others	16.7	(0.8)	17.4	(3.4)
<b>Total</b>	<b>222.7</b>	<b>(62.7)</b>	<b>269.1</b>	<b>(73.1)</b>

Source: Japanese Chamber of Commerce in Thailand, July 1998

**Table 2. Investment by Japanese Affiliated Companies in Thailand** (million baht)

Sector	1997	1998 (est.)	Growth Rate (%)
Foodstuff	1,491	970	34.9
Textiles	2,047	1,279	37.5
Chemicals	3,722	1,767	52.5
Metals	1,074	970	9.7
Machinery	57	23	59.6
Electric & electronic products	9,610	10,056	4.6
Transport machinery	14,711	6,087	58.6
Precision machinery	2,780	3,459	24.4
Others	2,025	2,027	0.1
<b>Total</b>	<b>37,517</b>	<b>26,638</b>	<b>29.0</b>

Source: ibid

**Table 3. Industrial Restructuring Plan in Thailand**

1. Objectives

- 1) Improving global competitiveness
- 2) Enhancing the industry's contribution to social adjustment

2. Principal programs

- 1) Improving industrial productivity and upgrading production processes to enhance competitiveness in production cost and product delivery
- 2) Upgrading technological capabilities and modernizing target industries
- 3) Enhancing product design & development and global marketing channels
- 4) Inducing foreign direct investment in strategic industries with the technology for the future
- 5) Improving labor skills in target industries
- 6) Incubation & strengthening of small & medium support industries
- 7) Dispersion of labor-intensive, low pollution industries to rural locations
- 8) Management & containment of industrial pollution and promotion of clean technology

3. How the Japanese can contribute

There are four key factors which must be employed as the driving force in order to effectively implement the plan and ensure the participation of committed players—areas in which the Japanese government and private agencies can contribute to Thailand's IRP. These factors are :-

- 1) Long-term soft loans to private firms for investments in new machinery, in the improvement of processes, in factory relocation, and in retaining consultants.
- 2) Experts to disseminate essential knowledge to Thai industrial personnel and to provide assurance to finance institutions regarding the private firms' request for loans.
- 3) Incentives in the form of tax allowances to support direct foreign investment and dispersion of production units to rural locations.
- 4) Training to ensure that workers, technicians and entrepreneurs are able to make effective use of new technologies, machinery, processes and management practices.

Source: Office of Industrial Economics, Ministry of Industry

## ***2 . Field Survey in Malaysia***

### ***2.1. Introduction***

We interviewed the following institutes and companies and met with the leaders of the Japanese Chamber of Commerce in Malaysia.

In Penang:

- Institute of Precision Molds (IPM)
- Pensanko (Toray Pen group)

In Kuala Lumpur:

- Denso (Malaysia) SDN
- Matsushita Electric Co. (M) BHD
- PME Molds and Dies
- USRA Industries SDN BHD

Since many big Japanese electrical and electronic companies have important production bases in Malaysia, there are also many Japanese companies in the supporting industries in the same field. Furthermore, because these industries are essentially export oriented, the effects caused by financial crisis are not as serious as those in automobile related industries.

Nevertheless, there are some negative effects from economic stagnation, from which many SMEs in supporting industries are suffering. If this stagnation extends over a long period, there will be many SMEs who will be forced to lay off many of their employees or close their factory.

The Malaysian government is quite anxious to re-stabilize the financial situation and to this end has decided to control foreign capital. This will, in all possibility, cause some negative effects on the operation of foreign affiliated companies, but the extent of this impact is not yet known. We should follow the effects of this on SMEs in the support industries in Malaysia very closely as this will also have an influence on many of the large Japanese companies operating there.

## ***2.2. Interviews with the Factories and Technical School***

### **(1) Pensanko Precision SDN. Berhad (PSP)**

PSP was established in 1989 as a company in Toray Pen group. Toray, the leading manufacturer of synthetic fiber in Japan started operations in textile production in Malaysia in the 1970s. Since then, it has gradually expanded operations into plastics, such as polyester film and ABS. Pensanko was been established in 1989 as a plastic-processing manufacturer, as Malaysia did not have an industry to consume the plastics supplied by Toray group at that time.

In Japan, plastic processing manufacturing is a field for SMEs and not for large companies such as Toray. Therefore, Pensanko was very first experience for Toray. PSP has extended its operations from molding and injection to assembly of electrical and electronic parts. Pensanko not only supplies these parts to Japanese affiliated assemblers, but also give technical support to the other plastic processing manufacturers, including local SMEs, who are also clients of Toray's plastic

materials.

PSP was initially established to supply the molds and dies for plastics for Pensanko and other clients. Recently however, PSP also started the production of parts and OEM semi-assembly production, such as mechanical chassis.

Since the ASEAN countries are becoming important for production and procurement of parts and accessories, the Toray group wants to obtain knowledge and experience in this field. PSP plays important role in this field for the Toray group worldwide.

## (2) Denso (Malaysia) SDN. Bhd.

Denso was established in 1983 to produce and supply the electrical equipment for Japanese affiliated automobile manufacturers operating in Malaysia. In the initial stages, its activities were totally import substitution, but as of some years ago, it transferred to export oriented activities.

Today, the company has more than 1,000 employees, and exporting is an important part of its operations. In the framework of AFTA and AICO, the companies operating in the automobile and related industries foresee the acceleration of the horizontal division of labor in the ASEAN countries and preparing for that situation. Denso has started also such preparations adapting to the strategic arrangements by the principal clients.

In the recent economic crisis, due to the drastic drop in automobile production, the number of new orders from clients has also dropped. Some existing orders have also been canceled. Denso has had to change its production schedule. However, as

many other Japanese affiliated automobile and related companies do, Denso is also standing firm on its commitment to keep its existing production base in Malaysia.

Concerning production technology in Malaysia, the reduction of poor quality products is quite easy; however, it is the commitment of Japanese workers to achieve better quality that Denso is trying to impress upon Malaysian workers.

### (3) Matsushita Electric Co (Malaysia) Bhd. (MELCOM)

Matsushita Electric Company was established in 1965 to produce and sell electrical home appliances in Malaysia. Currently, the company has 1,200 employees, and produces many kinds of electrical home appliances and is selling them in the Malaysian domestic market. People call it the “Mini-Matsushita”.

The Matsushita group has established many other affiliates in Malaysia, most of which are involved in export oriented production. Today, the Matsushita group has 16 group companies in Malaysia and the total number of employees has reached more than 30,000.

Even in this economic crisis, MELCOM is maintaining its quantity of orders to suppliers. However, because of the decrease from the other assemblers, orders to the suppliers have decreased 20-30% compared with the previous year.

Furthermore, as the banks are hesitating to continue issuing finance to the small suppliers, there are more and more suppliers who are suffering from a shortage of operating funds.

MELCOM is attentively monitoring the management performance of suppliers and making necessary arrangements of orders when they feel they are needed.

MELCOM has more than 250 local suppliers, 70 of whom are essential to production. Many of the local suppliers are also increasing their exports to keep up their rate of operations. Japanese affiliated suppliers have a good chance to get orders from the overseas market, but it is not easy for many fully local suppliers. To promote fully local suppliers, it is necessary to dispatch more Japanese experts through the JODC scheme.

Although MELCOM is providing support to the suppliers, it also encourages them to acquire more orders from outside of the group. The Matsushita group is expanding its procurement of parts in ASEAN countries. MELCOM expects that the increase of parts procurement by many Japanese companies will accelerate the horizontal division of labor and the desirable development of the supporting industries in ASEAN countries.

#### (4) P.M.E. Mold & Dies

As a local manufacturer, PME produces and supplies molds and dies mainly for American affiliated companies and the local companies. For example, Mattel, an American toy manufacturer, Tupperware, an American kitchenware manufacturer, and Proton, a local automobile manufacturer, are its principal clients.

Japanese companies are not positive about procuring molds and dies from local manufacturers. However, PME has been trying to export through participation in overseas trade fairs or export promotion activities by Matrade, a governmental institution for trade promotion.

Local manufacturers of molds and dies in Malaysia began the formation of an

association 5 or 6 years ago. It was started in Selangor, then expanded to other areas. Today, Malaysia has a national association of mold and die manufacturers which has more than 1,000 member companies.

To improve the level of technological know-how, the association is considering utilizing foreign technical experts who give guidance to local SMEs. Japanese experts dispatched by JODC are also an important resource of expertise, but their efforts are often hindered by language barriers.

#### (5) USRA Industries SDN Bhd.

USRA Industries was established as a local bumiputra company to produce mainly automobile parts and accessories. The company has been involved in mold and die manufacturing since 1997.

Because of the deep recession in the automobile industry, the company has some transactions in which the client has not yet paid. Also, many other payments are delayed.

To cover these falls, the company has started to export some automobile parts mainly to Japan, and has started to produce some electrical parts for Japanese affiliated electrical manufacturers. Japanese experts dispatched by JODC largely contribute to the receipt of the orders for electrical parts. In spite of these efforts, the USRA group has had to reduce its workforce by more than 50%.

In Malaysia, many local companies have Chinese managers for parts procurement who are often reluctant to give their order to the local bumiputra

companies. This is another leading cause in the reduction of orders.

The company also has problems with human resource development. Many workers leave the company once they become skilled. Some others, however, start new independent enterprises, which helps in the development of supporting industries.

USRA group has diversified its business into construction, property, housing etc. and the owner is eager to supply funds to the manufacturing industries from the diversified business.

#### (6) Institute of Precision Molds (Penang)

This institute was established in 1989 as a technical training school under the Penang Development Corporation (PDC). It is the organ for human resource development for the state of Penang. The state submits requests to Japanese companies, many of whom provide the support that is vital to the ongoing development of human resources.

Although the Malaysian government puts into effect many promotion policies that give priority to the bumiputra people, this institute is free from this policy. In fact, 70% of the 42 trainees are Chinese and 20% are bumiputra. The age of the trainees spreads from 18 years old to 45 years old.

Trainees get the training while continuing their job in a company. After 3 years of training, they receive a diploma. Many local and Japanese affiliated companies have employees who have a diploma from this institute.

The institute constantly has 2 Japanese experts as their lecturers. Other than

these lecturers, the institute needs to find some part-time or volunteer teachers.

As a result of the continuing recession, some American affiliated companies in the electronics industry have shut down their factories in the Penang Area, which has in turn created unemployment problems. However, some Japanese affiliated companies have taken on those skilled workers and engineers laid off from American companies.

### ***3 . Japanese Affiliated SMEs Under the Economic Crisis in ASEAN Countries***

Following parts are the reports based on the field surveys, desk surveys and the hearings or discussions in the study meetings.

#### ***3.1. Introduction***

Basically, the economic crisis in Asian countries has been caused partly from the economic systems in Asian countries, but a more significant contributing factor is the world monetary system, which is actually causing many serious problems in the world economy. Although there has been no good solution found for the problems caused by the world monetary system, each country is trying to reestablish their own economy.

The situation surrounding the small and medium enterprises, SMEs, in Asian countries is of course, very difficult. However, we must find the best possible way to support their activities, since the future of economic development in Asian

countries will largely depend on these SMEs.

In the latter part of the 80's, many Japanese companies including SMEs in the supporting industries, transferred their production bases to ASEAN countries. It was the diffusion of full-set type industrial structures, and also the beginning of formation of the "Asian Production Network".

Although the ASEAN have been suffering from an economic crisis since 1997, most Japanese companies, including SMEs, are maintaining their operations there. Some are utilizing the merits of export oriented industries, and some others are shifting their domestic demand industries to export. Many Japanese companies are also supplying capital to their local partners. ASEAN and Japanese governments, as well as many large Japanese companies are supporting these efforts. It is assumed that if many Japanese companies retain their perspectives for the development of the international horizontal division of labor in East Asia, that the production network in this region could be globally competitive.

To realize the bright future of the Asian economy, one of the most important tasks is to promote the supporting industries in developing countries. Many Japanese SMEs are receive the support of large Japanese companies and that of Japanese and local governments.

In the near future, we will have a strong and competitive production network, which will spread to East Asia as a whole. Furthermore, many big companies and SMEs in various Asian countries will take part and play important role in this network. It will be the most powerful production network in the global market.

### ***3.2. "ASEAN Shift" by Japanese SMEs***

Direct foreign investment by Japanese companies started at the beginning of the 1970's. One of the main stages of this investment trend began in South East Asia, namely ASEAN countries. The wave of investment in ASEAN has sharply risen in the second half of the 1980's, because of the rapid change in the dollar - yen exchange rate. That was also the beginning of a big opportunity for the rapid industrialization of ASEAN countries.

In the early stages, investments were made mainly by large companies. However, in the later stages, many Japanese SMEs followed because they needed to reduce their production costs by utilizing cheaper labor and also in order to have their production base near the overseas factories of large companies.

The importance of Japanese companies in ASEAN countries has been made clear in the machinery assembly industries, namely the electrical, electronics, precision machinery and automobile industries. These industries require many suppliers of parts, accessories and materials. These suppliers, who mainly consist of SMEs, are referred to as "supporting industries". Thus, many Japanese SMEs in the supporting industries have followed after the large companies in order to transfer their production base to ASEAN countries.

In this movement, there are also many cases of joint-ventures or technical tie-ups with local SMEs. Subsequently, many local SMEs have developed and participate in supplying parts and materials to Japanese companies. Also, the relations between assemblers and suppliers of parts have gradually changed from hierarchical type relationships to equal or interdependence type relationships. This means that the SMEs are able to operate more independently.

All of these movements are termed “the diffusion of full-set industrial structures to East Asia”. In other words, Japanese assembler and supporting industries spread their operations to many Asian countries. Furthermore, the most important of them have moved to ASEAN countries.

We also call this movement the “formation of the Asian Production Network” which contains not only many Japanese, American, European, local companies and SMEs, but also includes many companies from other Asian countries such as Korea and Taiwan. The relations between the companies in the network are not of a hierarchical type, but rather an interdependent type relationship or network type relationship.

### ***3.3. Continuing to form the Asian Production Network***

Many Japanese companies, including SMEs, have been suffering in the wake of the deep stagnation of ASEAN economies. In Japan, the number of bankruptcies and factory shutdowns is on the increase. However, as far as the overseas operations of Japanese affiliated companies in ASEAN countries are concerned, many companies including SMEs are standing firm against the economic crisis, and keeping their business intact.

It is assumed that many Japanese companies retain their perspectives for the development of the international horizontal division of labor in East Asia, which they had forecast 10 or 15 years ago. Many Japanese companies believe that East Asia has a competitive advantage with the production of goods, so the production network that has spread throughout this region could be globally competitive.

In fact, when we visit Japanese affiliated or local companies in ASEAN

countries, we find many modern factories with the latest equipment and diligent young workers who are assimilating and improving their skills. Yet, in other areas of the world we cannot find similar elements. When the economic crisis eventually comes to an end and the Asian economies start to reestablish themselves, these factories, equipment and workers will surely show their value.

To realize this bright future, we need to continuously prepare for it. Possibly one of the most important tasks in the ASEAN countries is to promote the supporting industries, as well training the workers in them. The Japanese and ASEAN governments are continually cooperating to achieve these targets, and many Japanese companies are in support of them. In particular, there are many Japanese SMEs who are contributing to this by maintaining their operations in ASEAN countries.

JETRO has also organized the “supporting industry conferences”. The first was held in Thailand in 1997 and the second in Malaysia in 1998. Many companies and associations of automobile related and supporting industries from Japan and ASEAN countries have participated in these conferences and discussed their future cooperation. Of course, many SMEs also have participated.

In the ASEAN countries, JETRO has organized several “reverse trade fairs” to showcase the parts and accessories that can be procured by assembly companies. Many ASEAN SMEs have attended to make contact with Japanese companies.

Both the Japanese and ASEAN governments are strengthening technical training for ASEAN workers. Many workers come to Japan to get more effective training under a governmental and private cooperation scheme. The Japanese government is increasing the number of technical experts dispatched to the ASEAN countries under development schemes.

Moreover, in all of these efforts, large companies and SMEs have more equal and interdependent relations than previously. Thus, we have bright prospects for an interdependent-type production network in East Asia.

So far, I have talked only about the relations between Japan and ASEAN countries. However, Korean, Taiwanese and Chinese companies are also taking part in many phases of these activities of cooperation. The production network covers and binds all East Asian countries and their industries.

The SMEs are an important element in the formation of this production network. In fact, the production network would not be effective without the SMEs. The efforts to foster the SMEs are not only for the industrial development of each country, but also for the industrial development of East Asia as a whole.

That is the reason why we should support the SMEs as much as possible during this economic crisis. We must not throw away the results, which have been achieved from the fostering of SMEs over the past several years. We should continue our efforts to maintain the activities and development of SMEs even though the current economic climate makes it very difficult.

We can expect, in the near future, that we will have a strong and competitive production network that will spread to East Asia as a whole, in which both large companies and SMEs in each Asian country will take part and play important roles. It will be the most powerful production base in the global market.

#### ***4 . General Views on the Supporting Industries in ASEAN Countries***

#### ***4.1. Remarkable Developments over the Past 10 Years***

In the past 10 years, the automobile, electrical, electronics and many related industries including the supporting industries in ASEAN countries have developed rapidly.

10 years ago, we had to spend a lot of time to explain in order to make ASEAN people understand what the supporting industries are and how they are important for industrial development. Also, it was difficult to find any local academics who were interested in this subject. But today, it seems, times have changed.

Many government officials in ASEAN understand well the importance of the supporting industries, and they are proceeding with policies to foster these industries. If we compare the recent figures with those of 10 years ago, we can recognize the real extent of development.

#### ***4.2. Supporting Industries in Wider and Narrow Senses***

The word supporting industry has two kinds of concepts. One is in a wider sense, which contains the manufacture of many parts and accessories and also that of basic materials. The other is in a narrow sense; we could call it the process transforming or process transforming of materials. More practically, it contains mold and die, foundry or casting, forging, pressing, plating, welding, machining, heat treatment and plastic processing. It is this group that is more important in assuring the development of the supporting industries in developing countries.

Industries of these types are sometimes integrated in the assembly companies or parts manufacturers, but many times exist as independent small and medium manufacturers. And mainly because of these variations or complication in form, it is not easy to find clear figures of operation, which in turn makes it difficult to do

accurate research.

We can find many figures in detail on the industries in a wider sense as parts manufacturing, but can not find the figures on the industries in a more narrow sense, namely, as process transforming industries. This inevitably results in insufficient analysis on these industries. It is an important task to pursue studies on this subject.

#### ***4.3. Importance of Human Resource Development***

We can raise many obstacles to the promotion of the supporting industries in ASEAN countries, such as high import duty, government regulations, shortage of low interest funds, limited technology, design and marketing ability, and a shortage of engineers.

At the same time, if we look at the process transforming industries in a narrower sense, the problem of the development of human resources is often raised as the most vital problem to overcome. To accomplish this means fostering human resources from skilled workers in workshop to the qualified engineers in the supporting industries in sectors such as mold and die, casting, forging, welding and plastic processing. We should proceed with further analysis or recommendations on this issue based on the progress of the support in the past and the current situation.

#### ***4.4. Parts Manufacturing as an Export Industry***

We could raise, if anything, traditional or commonsense objectives for industrial development in the developing countries. For example, not to depend too much on foreign technology, to promote research and development, but not in a head office overseas, to accelerate technology transfer by foreign companies, and to push the export of finished products by own brand name etc. These are the ways that many

industrialized countries have developed in the past.

However, if we consider the actual movement to globalization and the progress of horizontal division of labor in Asian countries, we could foresee otherwise, and that would be more practical. For example, one country could foster the industries in the finished products, intermediate products, or parts and accessories, depending on foreign technology. That could be a fast track to get international competitiveness anyway, and could export them.

The recent trade statistics show the substantial increase of export in many sectors such as motors, transformers, computer components and semi-conductors. We have also been informed recently that the export of many other electronics parts is increasing dramatically.

Therefore, it can be supposed that ASEAN countries have a good chance to play an important role in the production and export of parts and accessories, even if they depend largely on foreign technology, as long as they have a competitive supporting industry. To realize this goal, these countries should make it a priority to promote supporting industries, and to foster the skilled workers and qualified engineers in this field.

#### ***4.5. Strategic Policy Program and Scheme***

As far as we are informed, some ASEAN governments have had a strategic program or support scheme for fostering supporting industries since the beginning of the 1990s. For example, the Board of Investment in Thailand (BOI) has set up BUILD (BOI Unit for Industrial Linkage Development) to promote joint venture between local companies and foreign companies in the supporting industries. Also, the

Department of Industrial Promotion (DIP) of the Ministry of Industry in Thailand has elaborated the NSDP (National Suppliers Development Program) and has started to implement it.

It may be useful if we get information on how these existing policies were implemented, and their results or evaluation thereof. In this way, we could confirm the effectiveness of the industrial policy in this sector.

#### ***4.6. Damages to Human Resource Development***

In the actual economic crisis in ASEAN countries, the biggest cause of anxiety for supporting industries is the interruption to or retreat of the efforts being made in the area of human resource development, which have been accumulating for many years. The interviews and questionnaire study indicate there are not just a few companies that were forced to cut their work forces during this recession.

In the near future, when the ASEAN economy begins to recover, this loss of human resources might be a serious hindrance to the reestablishment of the supporting industries, because the skill and experience of workers are so vital to these industries. Although we were informed that many countermeasures are being carried out by the government by private initiative, and also by the Japanese side, it will be very useful if our study were able to extend to these situations, countermeasures and their effects.

#### ***4.7. Technology Transfer in the Support Industries***

Fostering the supporting industries is one of the most important tasks for industrial development in ASEAN countries. Both ASEAN and Japanese governments, as

well as large Japanese companies, have made various efforts to transfer technology, and to foster the development of enterprises in this field.

In this economic crisis, there are enterprises that are suffering from the shortage of orders, many of which have not attained a sufficient level of technological know-how. In light of this, the transfer of technology is still important objective for the supporting industries.

Many Japanese staff in charge of procurement, or even engineers express their dissatisfaction in regard to the ability of local workers to realize the quality required by the Japanese affiliated assemblers. Many of them explain it by reason of racial characteristics.

But, there are cases in which the local workers or engineers have already attained the high enough quality. Therefore we could not put it down simply to a racial matter.

In any case, the Japanese side should continue to support the local supporting industries and also should continue in their effort to transfer technology. That will be only way to give supporting industries the chance to survive under the current serious economic crisis.

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