

Chapter 3 Hearings

1. Description of Hearings

1.1 Objective

The objective of these hearings was to gather information relating to the field of physical distribution which will be necessary for streamlined and efficient economic cooperation by Japan with various countries in Asia.

1.2 Survey subject companies

Localized Japanese companies in the countries to be surveyed (The Philippines, Thailand, Malaysia, Singapore) were addressed; as a rule, one company each was selected from the manufacturing, distribution and logistics industries.

Country visited Industry type	Philippines	Thailand	Malaysia	Singapore
Manufacturing (5)	Company A (Processed food)	Company B (Chemicals)	Company C (Electrical equipment)	Company D (transport equipment), Company E (chemicals)
Distribution (4)	Company F (Trading company)	Company G (Supermarket)	Company H (Supermarket)	Company I (automotive parts wholesaler)
Logistics (4)	Company J	Company K	Company L	Company M

1.3 Determination of Subjects for Hearings

The subjects of hearings were as described below.

Information obtained from existing literature was primarily related to constraints on external access and to barriers to entry into the logistics industry; hence the results are here organized primarily in terms of problems relating to increased efficiency of logistics, which are thought to be common to local companies as well as to local Japanese firms.

- <1> Distribution services
- <2> Logistics costs
- <3> Information services
- <4> Transportation infrastructure
- <5> Regulatory/legal system

1) Distribution services

(1) Transport

<1> Transport capabilities

- Shortages of trucks
- Shortages of vehicles with cranes, gullwing trucks
- Shortages of drivers, shortages of drivers of special large-size vehicles

<2> Transport containers

- Lack of regulations for, compatibility of containers
- Lack of regulations for, compatibility of pallets
- Lack of regulations for, compatibility of transport containers

<3> Reliability

- Uncertainty of arrival times
- Frequent occurrence of delays, errors in delivery, delivery failures
- Inability to confirm location or track cargo

<4> Quality assurance

- Frequency occurrence of damage to, breakage of goods
- Inability to control temperature
- Frequency occurrence of theft

(2) Storage

<1> Storage capabilities

- Warehouse shortages
- Shortages of coldrooms, freezer rooms
- Shortages of personnel for stock management etc.

<2> Automation, mechanization

- Shortages of sorting equipment
- Shortages of conveying equipment

<3> Reliability

- Inadequate management of storage locations, periods

<4> Quality assurance

- Frequency occurrence of damage to, breakage of goods
- Inability to control temperature

- Frequency occurrence of theft
- (3) Cargo handling, packaging etc.
- <1> Cargo handling capabilities
 - Shortages of forklifts
 - Shortages of personnel to operate forklifts
 - <2> Reliability
 - Frequency occurrence of inspection errors
 - <3> Quality assurance
 - Frequency occurrence of damage to, breakage of goods
 - Inability to control temperature

2) Logistics costs

- <1> Inability to calculate costs incurred, time required for negotiations
- <2> Determination of shipping fees (for same packaging, weight, distance, shipping means, incidental conditions)
- <3> Determination of storage fees (for same packaging, weight, storage period, handling conditions)
- <4> Lack of shipping fee tables (tariffs), opacity of contract conditions
- <5> Failure to honor payment conditions, frequent changes in conditions

3) Information services

(1) Informatization

- <1> Lack of stability, high speeds in communication circuits
- <2> Internet availability, constraints on region, time, costs
- <3> Constraints on communication media for business use (telephone only)
- <4> Lack of standardization
- <5> Failure to conform to international standards

(2) Extent of one-stop customs processing

- <1> Separate offices for processing of papers for customs, inspections, weighing etc.

(3) Extent of network adoption

- <1> Between cargo owners (between manufacturers and major distributors, between manufacturers)
- <2> Between cargo owners and logistics companies

<3> Between government and businesses

4) Transportation infrastructure

(1) Level of preparation of infrastructure

<1> Inability of large-size vehicles to use roads

<2> Occurrence of damage to cargo due to absence of paving on roads

<3> Road congestion, occurrence of congestion due to mixed traffic with two-wheel vehicles etc.

(2) Conditions of terminal use (railroad freight stations, harbors/ferry harbors, airports)

<1> Constraints on cargo handling area, parking area

<2> Constraints on processing capabilities (storage, sorting capabilities etc.)

<3> Constraints on operation (areas for use, time constraints)

(3) Continuity between transportation means

<1> Occurrence of transshipment at borders

<2> Occurrence of wait times, time loss due to number of trains in operation, failure to adjust timing

5) Regulatory and legal system

(1) Regulations governing participation

<1> Content, level of regulations

- Transport (trucking, oceangoing, railway, transport, air freight)
- Warehousing
- Handling etc.
- Regulations governing external investment

<2> Lack of standards, documents for operations

<3> State of enforcement and monitoring

(2) Regulation of businesses

<1> Content, level of regulations

- Regulations governing location
- Regulations governing business operations (time, place, fees, etc.)

<2> Lack of standards, documents for operations

(3) Environmental regulations

<1> Content, level of regulations

- Regulations for large-size vehicles (times, types, restriction of entry etc.)

<2> Lack of standards, documents for operations

<3> State of enforcement and monitoring

(4) Safety regulations

<1> Content, level of regulations

<2> Lack of standards, documents for operations

<3> State of enforcement and monitoring

1.4 Survey Period

February 10 to February 21, 2003

1.5 Method of Summary of Hearing Results

In this section, the results of hearings conducted for 13 companies in four countries are summarized by country and by subject. However, because transport is closely related to the infrastructure, results for logistics services are summarized last.

After providing each piece of information with a heading, [1] the type of company serving as the source of information, and [2] the logistics characteristics of the company providing the information, were appended. The reason for providing [2] in particular is because it was considered that, depending on whether the viewpoints of individual companies are focused inward toward the country in which the company is located or outward toward overseas countries, substantial differences may arise in evaluations of the legal system and other aspects of the country in which the company is located.

The types of logistics characteristics of companies are as follows.

(1) Manufacturing industries, distribution industries (cargo owner companies)

<1> Domestic-domestic: Subject country accounts for majority of both purchase and sales.

<2> Domestic-overseas: Subject country accounts for majority of purchases and overseas accounts for majority of sales.

<3> Overseas-domestic: Overseas accounts for majority of purchases and subject country accounts for majority of sales.

<4> Overseas-overseas: Overseas accounts for majority of both purchases and sales.

(2) Logistics industry

- <1> Domestic: On a physical distribution basis, subject country accounts for the majority.
- <2> Overseas: On a physical distribution basis, overseas accounts for the majority.

2. The Philippines

2.1 Overall Evaluation

Hearings were held with three companies in The Philippines in this survey, in the processed food production industry (overseas-domestic), the distribution industry (overseas-domestic), and the logistics industry (overseas).

1) Logistics service level

Where cargo handling is concerned, shipments from manufacturers to wholesalers are mainly bulk loading by manual means. This is because there are no forklifts at the other party's facilities (processed food production industry, overseas-domestic). With respect to pallets, there have been movements by the government to unify on T11-type pallets, but various sizes are in use by different industries, and unification is difficult (processed food production industry, overseas-domestic).

As for storage, because there are few large warehouses (storage spaces), stacking is common, and often goods lower in a stack are destroyed. In addition to unreliability of transport and problems with supply and demand, warehouse shortages are due in large part to factors involving the securing of safe inventory in anticipation of labor disputes (processed food production industry, overseas-domestic).

As for inspections, it is difficult to secure personnel having the skills required for inventory management and similar tasks (trading company, overseas-domestic).

Where informatization is concerned, the following were noted. [1] EDI is used between manufacturers and major retailers, and all orders are also handled via EDI; but other than this, information exchange is paper-based involving slips (processed food production industry, overseas-domestic). [2] Barcode functions with source marking of products have not extended to logistics (product traceability etc.), and are limited to commercial aspects (invoices and other accounting) (processed food production industry, overseas-domestic). [3] There is no general-purpose package software (because there are few users).

With respect to transport and delivery, times for transport and delivery by truck are unpredictable. This is often due to road congestion, and to regulations regarding truck operation (processed food production industry, overseas-domestic).

As for public order, the rampancy of truck hijackings was noted. These occur within 50 to 60 km of Manila, and cases in which the driver is killed are increasing. In response, measures such as the following are being adopted. [1] Trucks are not driven

at night outside of Manila. [2] GPS equipment is used to monitor vehicles 24 hours a day. [3] Armed guards are being hired as regular employees (logistics industry, overseas). In addition, requests are being made for stricter law enforcement by the authorities.

2) Logistics costs

Regarding logistics costs, the following were noted. [1] Costs for ocean shipping are unstable, and there are few ships in service (processed food production industry, overseas-domestic). [2] Costs for local air cargo are unstable, and there are few flights (processed food production industry, overseas-domestic). [3] Communication costs within cities are fixed and inexpensive, and so in these respects pose no problems; but circuits are unreliable (logistics industry, overseas). [4] The rights of laborers are strongly protected, and in addition to being unable to fire workers, wages also cannot be lowered; consequently personnel costs are high (processed food production industry, overseas-domestic).

3) Infrastructure (hardware/software)

Among hardware infrastructure, the following was noted regarding infrastructure for electrical power and communications. [1] There have been fewer power outages than previously, and in a PEZA (a special economic zone), there is little fear of outages (logistics industry, overseas). [2] There has been some slowing in the preparation of communication infrastructure (approx. 500,000 cases are waiting for circuit installation) (logistics industry, overseas). [3] Instances in which the Internet suddenly cannot be used occur roughly once every three months, but little actual harm results (recovery takes about a half a day) (trading company, overseas-domestic).

Where roads are concerned, problems noted include the poor state of maintenance of road surfaces and the like, the failure to restore roads that have become impassible due to accidents or other causes, and slow progress in road construction (logistics industry, overseas).

With respect to restrictions on capital, in a PEZA (special economic zone) it is possible to establish companies with 100% foreign capitalization, but elsewhere in The Philippines foreign capitalization is limited to 40% (logistics industry, overseas).

As for traffic regulations, the following were noted. [1] Trucks are regulated according to the number of axles, and time periods are set, in the morning and evening, during which passage is not permitted (logistics industry, overseas). [2] There are what are called “color coding” regulations regarding truck transit (regulating truck entry according to whether the last digit of the license plate is even or odd) (logistics industry, overseas). [3] Because vehicles are prepared in advance with license plates having both even and odd final digits, due to the color coding regulations, the number of vehicles and costs are both increased (trading company, overseas-domestic).

With respect to environmental regulations, in addition to the strict standards for truck exhaust gases, it is noted that there are plans to further tighten regulations from March 2003 (logistics industry, overseas).

With respect to labor, the following were noted. [1] There are numerous labor disputes. [2] It is recognized that increases in salaries are the sole means of heightening a sense of belonging to the company among local employees, and of boosting the quality of service. [3] Despite the fact of insufficiencies in equipment, software, infrastructure and other areas, there are many highly skilled personnel. [4] There is some job-hopping, and in IT-related departments this is quite common (all of the above from the logistics industry, overseas).

With respect to customs, there was the opinion that there are problems with the promptness of clerical processing for import customs. This was prompted by experiences in which, on several occasions, parts did not arrive due to the inability to obtain a signature on an import permit from a customs officer who had left the office, so that a customer's production line had to be stopped. Also, it was noted that if cargo arrives on a weekend, customs processing was delayed until the following week. In addition, each port is operated under a unique system, and there is some competition between ports, so that systems cannot easily be integrated (all of the above from the trading company, overseas-domestic).

Below, the individual pieces of information obtained from the three companies are arranged in detail by survey subject.

2.2 Logistics Service Level

1) Packaging

<1> Breakage of external packaging materials--processed food production industry, overseas-domestic

- Because there are few large (in terms of space) in-house warehouses, stacking is common, and goods on the bottom are broken. The standard procedure is to stack ten items, but larger numbers may be stacked.
- One reason for this is that the cardboard boxes used as outer packaging are weak (in order to hold down the cost of the cardboard). However, the rate of breakage of merchandise on a numerical basis is 1% or less, and although outer boxes may break, there is little damage to the merchandise.
- The single biggest cause of warehouse shortages is thought to be the need to maintain a safe inventory (inventory margin) in preparation for labor disputes (strikes during group negotiations), rather than supply and demand.
- When loading onto trucks, often there is damage to outer packaging caused by ropes.

2) Cargo handling

<1> Cargo handling is primarily done manually--processed food production industry, overseas-domestic

- There is a movement in the government to unify pallets on the T-11 type. However, various sizes are used in different industries, and unification is

difficult. There is a low-level department in DTI which is in charge of pallet standardization. The size of pallets at this company is 1000x1200 (mm), the same as within Japan.

- Shipping to wholesalers primarily relies on manual cargo handling using bulk loads. This is because there are no forklifts at the other party's facilities.
- Manual loading results in higher loading rates. In The Philippines, excessive loading of trucks is the norm.

<2> Breakage of merchandise due to inattention during cargo handling --trading company, overseas-domestic

- Within in-house warehouses, much damage to and breakage of goods is caused by inattention during repacking and the like. There have been cases in which goods were damaged when a knife is thrust into a master carton (external packaging), or were damaged by water.
- T-11 pallets are kept and used by this company. However, the pallet size does not match the sizes of specialized returnable boxes.

<3> Need for standardization--trading company, overseas-domestic

- Common standards are needed for pallets and EDI.

3) Storage

<1> Raising the level of inspections on receipt and inventory management is an issue--trading company, overseas-domestic

- There are 200 to 300 destocking instructions per month; in terms of disagreements in the number of inventory parts, there are 5 to 10 cases of errors in inspections on receipt. Errors are around 2.5 to 5%. When a picking list is issued and inventory is viewed after sorting by destination, there are disagreements in quantity.
- It is difficult to secure personnel with inventory management and other skills locally.
- The business software desired is inventory management software (all the business software used within the company was developed in-house, and the information system is integrated to include order placement, payments, and sales).
- There is a desire to introduce barcode management, but when lead times are tight, direct hand carrying is used, and current business models which require that goods pass through a center cannot easily accommodate such practices; hence barcodes have not been adopted.
- Currently the number of items handled is around a thousand; in light of cost-performance issues, this level is thought to be around the breakpoint between visual inspections and barcode inspections. There is a desire to eventually use barcodes for inventory management within the company.

4) Informatization

<1> EDI--trading company, overseas-domestic

- UN/EDIFACT6 are not known, and are not used.
- There is a desire to adopt EDI, but at this stage the company is waiting for preparation of an information system on the customer side.
- In future, would like to promote information exchange with manufacturers over the Internet via web servers.

<2> EDI--logistics industry, overseas

- Within The Philippines, there are areas in which the international standards UN/EDIFACT cannot be introduced. At this company, UN/EDIFACT is not used.
- Local companies seem not to be interested in informatization.

<3> EDI--processed food production industry, overseas-domestic

- The company knows of UN/EDIFACT, and uses it (for management of amounts, payments).
- The company uses EDI with the major retailer Shoemart (SM), and places all orders using EDI. The company also uses EDI with Makro. However, apart from these two companies, all information exchange is paper-based using slips. The company's salesmen receive orders directly.
- Salesmen send information on received orders to a center, and information arrives from the center via e-mail. If close by headquarters (an office), salesmen will bring slips directly.

<4> Use of barcodes with limited applications--processed food production industry, overseas-domestic

- Barcodes are printed on merchandise, but even major retailers (Shoemart and Makro) do not use barcodes in distribution processes. Barcode functions do not extend to logistics (product traceability etc.), and are limited to commercial aspects (invoices and other accounting).

<5> Desire for general-use package software--logistics industry, overseas

- There is no package software. The absence of general-use software is probably due to the small number of users. It would be nice if standardized software could be utilized. But even standardized software, if requiring customization, would be similar to software developed in-house. It would be necessary to start by establishing, within The Philippines, a company for software development. (In addition to accounting software, software currently in use was all developed in-house.)

<6> Need for standardization--trading company, overseas-domestic

- Common standards are needed for pallets and EDI.

5) Transport and delivery

- <1> Times for transport and delivery by truck are unpredictable--processed food production industry, overseas-domestic
- Unreliability includes delays of from one to three days. Reasons often include road congestion, and regulations regarding truck operation.
- <2> Difficult to set stock--logistics industry, overseas
- The number of trucks is 10 within the company, and overall about 30 trucks are used. The company has a policy of not holding too many fixed assets. It is necessary to anticipate drops in the currency and increase liquidity.
 - On the other hand, it is true that there tend to be shortages of chassis and trailer heads.
- <3> Tracking of freight is handled by human agents--processed food production industry, overseas-domestic
- Freight and merchandise tracking and management is performed by DHL and the like, but is expensive, so this company does not use these services. The shipping company employed by this firm uses cell phones to track cargo (there is no use of digital devices).
- <4> Public safety is poor--logistics industry, overseas
- The biggest reasons for the hesitation of foreign capital to enter the market are the poor public safety and corruption. Under-the-table dealings are also rampant.
 - Outside of Manila, as a rule our company stays off the road at night. There are truck-jackings and theft, and particularly in the north of Manila there are bandits. As a company, we are preparing manuals for driver education and regarding truck-jacking.
 - At our company, GPS is used to monitor vehicles 24 hours a day, and armed guards are hired as regular employees. Additional costs are incurred for equipment and personnel.
 - Freight insurance is provided only by Japanese insurance companies. Local insurance companies will not provide insurance. If the situation in The Philippines becomes still more dangerous, risks will be too great, and it is thought that insurance will no longer be available at all.
 - In the period from January to October 2002, in the region within 100 km of Manila, there were approx. 400 cases of truck-jackings and vehicle theft. These are only the reported figures. The closest of these occurred at a distance of 15 km from here.
- <5> Rampant truck-jackings--trading company, overseas-domestic
- Recently, within a range of 50 to 60 km from Manila, there have been truck-jackings. In response, in some cases goods are carried by helicopter.

- There are about seven areas of frequent truck-jackings between a PEZA and the port (there are few thefts within a PEZA). Parts, computers, car stereos, tires, and so on have been stolen.
- There are also an increasing number of cases in which the drivers are killed, and we are asking the authorities to strengthen law enforcement. The response of the government is favorable. There are also forums for the periodic exchange of opinions with the Japanese Chamber of Commerce and local government entities.

2.3 Logistics Costs

<1> Costs are high compared with the service level--processed food production industry, overseas-domestic

- In The Philippines, only a very few companies monopolize the markets for both ocean and air freight.
- In The Philippines, which consists of numerous islands, the geography implies a considerable dependence on coastal shipping, and the cost of marine transport is the single biggest problem. Shipping costs are unstable, and the number of ships is small.
- While there is preferential treatment for maintenance and management of ships and for spare parts, there is no preferential treatment for marine shipping.
- As with marine shipping, local air freight is also expensive and unreliable, with few flights. Air freight expenses are regarded as high.
- There is preferential government support for aircraft fuel, but no assistance for marine shipping.

<2> Inexpensive communication costs--logistics industry, overseas

- It is nice that communication costs are fixed within the city and are cheap (approx. 23 yen per connection; a single text transmission is 2.3 yen for 160 characters), but there is a tendency for numerous lengthy phone calls.

<3> Expensive labor costs due to work customs--processed food production industry, overseas-domestic

- The rights of laborers are (strongly) protected, and in addition to being unable to fire workers, wages cannot be lowered; as a result, labor costs are high.
- Due to union issues, the number of employees cannot be increased, and so the only option is to establish a separate company; hence packaging operations were separated from this company and a separate firm was established.

2.4 Infrastructure (Hardware/Software)

1) Hardware infrastructure

(1) Electric power

<1> Electric power shortages--logistics industry, overseas

- Previously, power outages occurred frequently. As the causes of outages, it was said that transmission towers were felled and 10 km of transmission cable was stolen. As much as 100 km is stolen annually.
- Most electric power is from hydroelectric power generation.
- In a PEZA, there is no worry of power outages.

(2) Communications

<1> Incomplete preparation of communication infrastructure--logistics industry, overseas

- Communication lines are extremely weak. It seems that there is a backlog of some 500,000 orders for circuit installation.
- The communication company is PLDT (Philippine Long Distance Telephone Company). Cell phone companies are Smart and Globe. Smart is a subsidiary of PLDT; Globe is independent, and its system is incompatible with Smart's.
- In a PEZA, a dedicated communication system is used.

<2> Communication circuits are unstable--trading company, overseas-domestic

- The Internet suddenly becomes inaccessible on occasion. We have a contract with a local provider (PLDT, 128 kbps), but about once every three months things don't work, although at present there is no real harm. Up till now, recovery has generally taken about a half a day.

(3) Roads

<1> Level of road maintenance is low--logistics industry, overseas

- The poor state of road surfaces causes problems. There are potholes in the roads.
- Bridges must be crossed to leave Manila, but the bridges are decrepit and cannot be crossed in places.
- What is called the highway (a toll road) runs north-south for about 50 km. However, the road surface is extremely poor, and tolls for the highway are on the whole higher than in Japan. And when it rains the roads are flooded, and stalled cars result in traffic jams, among other problems.
- The distance over which customers are regularly transported to facilities and the like is, in the north, 250 to 300 km (about 8 hours from Manila), and in the south, about 80 km (about one and a half hours from Manila).

- The northbound national routes include one trunk road and three branch roads; of these, we normally use two routes. However, one of these has been impassable for as long as six months due to landslides. The impassable route is faster by about an hour than the passable route.

(4) Railways

<1> Flimsy railroad network--logistics industry, overseas

- There is essentially no freight railway system.
- The railroads (national railways) are inconvenient. There are about 1000 km of track throughout the country, but the length of track actually in use is only about 60 km. This is in the Manila vicinity; about six departures per day are used mainly for commuting.

<2> Railways cannot be used for freight--processed food production industry, overseas-domestic

- The Philippine railways have track laid, but at present only a total length of about 60 km in the vicinity of the capital, Manila, is currently in use, mainly carrying passengers. And there are few trains in operation, with only six round trips per day. (LRT is separate)
- There appears to be a movement to use the airline DNR for railway freight. If this comes to pass, avoidance of railway congestion can be anticipated; but elimination of illegal housing on railway tracks must come first, so the chances of this actually occurring are low.

(5) Airports

<1> Opening of the international airport has been delayed--logistics industry, overseas

- Work to expand the Manila International Airport has been completed, but it is not yet ready for use. Due to an internal dispute over rights, it is said, an agreement (over allocation of profits) has not been reached. And, functionally it seems that there are no changes.

2) Software infrastructure (legal system etc.)

(1) Restrictions on capital

<1> Upper limit set for foreign capital participation through operation--logistics industry, overseas

- As far as the legal system is concerned, a company can be established with 100% foreign capitalization; but in terms of actual operation, there is a limit to foreign capital (40%). It is unusual for foreign capital to be 50% or higher. In general, in the case of forwarders, foreign capital ratios of 40% are common.
- This company is exceptional in this sense, with 70% capitalization from Japan, and 30% capitalization from The Philippines.
- Preparations to establish the company took three years.

(2) Restrictions on market entry

<1> Difficulty of entering the transport market--logistics industry, overseas

- There are considerable restrictions, including business customs. In general, in whatever country, the transport industry is a mass of concessions, and it is difficult to overcome existing concessions, making the domestic transport market difficult to access.

<2> Restrictions on entry into PEZA--logistics industry, overseas

- Manufacturing industries are located in a special economic zone called a PEZA. This is a bonded region, and taxes are not levied on imports and exports. However, there is the restriction that only high-tech companies are allowed (but, the definition of “high-tech company” is vague). Computer parts-related businesses are located here.
- Transport industry companies cannot enter a PEZA, and so it is necessary to adopt other measures, such as creating a separate company. Our company has entered into a separate special economic zone (a special economic zone other than a PEZA).

(3) Traffic regulations

<1> Restrictions on entry of large-size vehicles into urban areas--logistics industry, overseas

- Large-size trucks are restricted according to the number of axles. Times are set in the morning and evening during which passage is not permitted.
- There is a system based on the final number of the license plate (“color coding”) (excluding buses and taxis). In order to deal with this system, it may be necessary to maintain twice the number of vehicles (or to use rentals).

<2> Final-number system causes increases in number of vehicles--processed food production industry, overseas-domestic

- There are substantial constraints on logistics due to truck regulations (color coding).
- Specifically, because of restrictions on truck operation called color coding (restrictions on entry into areas according to whether the final number on the license plate is odd or even), vehicles must be kept on standby at plants (some trucks will necessarily be idle).
- Also, in order to cope with the color coding system, vehicles with both even and odd final numbers must be prepared in advance, leading to an increase in the number of vehicles maintained and thus increased costs.

(4) Environmental regulations

<1> Strict environmental regulations--logistics industry, overseas

- Environmental regulations are extremely strict, and the standards for truck exhaust gases are also demanding. From March of this year (2003), standards

will be tightened further. Also, there are no incinerator furnaces, and garbage is recycled.

(5) Work force

<1> There are numerous labor disputes--logistics industry, overseas

- There are numerous labor disputes, and warnings and labor trials are continuous. Normally the period for a trial lasts from three to five years.
- The only way to heighten the sense of belonging to the company among locals, and to raise the quality of services, is to raise wages.

<2> Laborers are highly skilled--logistics industry, overseas

- Despite an environment with no equipment, software or infrastructure, there are numerous workers with considerable skills.
- The language used is a mixture of English and Spanish. Normally children receive English instruction from the fourth grade of elementary school, and by the time they graduate from high school at age 17 they have sufficient conversational ability.
- An individual with IT skills and English ability has numerous chances for employment. Out of a population of 70 million, six million are employed overseas.
- It is thought that the government does not have much understanding of IT. At most, there is talk of creating an IT park.
- In IT-related positions, there is a lot of job-hopping. In our company, there is little.

(6) Customs

<1> Delays in customs--trading company, overseas-domestic

- Inspection of actual goods takes little time. The problem is the promptness of clerical processing for import customs.
- At this company, a customs firm is hired to handle customs business; but on a number of occasions in the past, the staff in charge of customs had left the office and a signature on an import permit could not be obtained, or for some other reason goods did not arrive, so that a customer's production line was stopped. Also, if cargo arrives on a weekend, customs processing is delayed till the following week.
- Even when in a PEZA (a special economic zone), preferential treatment extends only to tariff rates, and there are no special privileges relating to customs processing.
- There are approx. 100 PEZA areas throughout The Philippines. Japanese companies use about ten or so of these.
- Customs procedures are paper-based.

<2> Separate import/export and port systems--processed food production industry, overseas-domestic

- The various systems are all operated independently. There is competition between harbors, and there is no progress in unifying the systems.

3) Other

(1) Statistical materials

<1> Lack of maps and statistics--logistics industry, overseas

- In The Philippines, various statistics have not been completed. The quantity of shipments arriving at the airport each month is also unclear. The situation is similar for maps. In essence, it seems that people are not inconvenienced so long as they understand the area in which they themselves move.

(2) Finances

<1> Shortage of domestic funds--processed food production industry, overseas-domestic

- There is a shortage of domestic funds to match foreign capital.

(3) Bribery

<1> Bribery--trading company, overseas-domestic

- There is a zone manager office at the entrance/exit to the industrial park, and the signature of the person responsible is required. Rules are not set out clearly in print, and operations differ depending on the individual; as a result, bribery and the like occur.

(4) Culture

<1> Thought patterns--logistics industry, overseas

- If the actual ability and business customs of the country in question are not understood, it is difficult to make advances in logistics and IT. In The Philippines, new concepts which do not lead to personal profit tend not to make headway.
- The Philippine government appears to have an interest only in the siting of foreign-capitalized companies. It is not understood that there can be no profits without distributing what is manufactured.

3. Thailand

3.1 Overall Evaluation

Hearings were held with three companies in Thailand in this survey, in the household goods production industry (domestic-domestic), the distribution industry (domestic-domestic), and the logistics industry (overseas).

1) Logistics service level

Regarding cargo handling, it was noted that in rural areas warehouse operations rely more on human labor than on forklifts (household goods production, domestic-domestic), and that where pallets are concerned, the standard in Japan is not a standard in Thailand, and European standards are widely adopted (household goods production, domestic-domestic).

Where storage is concerned, the following was noted (distribution, domestic-domestic). [1] There is frequency damage to and breakage of goods. [2] There is incomplete management of storage locations and periods. [3] There are few commercial warehouses and storage locations.

With regard to informatization, there were the following opinions. [1] Where EDI is concerned, the freight owner requires conformance to their own format, so that standardization is still not possible. It is sufficient to extract only the required places and promote common elements (logistics, overseas). [2] Adoption of EDI is only making progress in a few companies; but as preparations for ebXML are made, it is predicted that the foundations for a rapid change in the situation will be laid (household goods production, domestic-domestic). [3] Western-style business concepts alone are jumping the gun, and there have been experimental efforts in XML and web EDI; but because there is no middle management in place to bring top-level concepts down to the workplace level, there is a growing departure from the workplace situation (household goods production, domestic-domestic).

As for transport and delivery, the following problems were noted. [1] Due to traffic regulations, nighttime and day-before transit are made necessary, and lead times are lengthened (logistics, overseas). [2] JIT remains sketchy (household goods production, domestic-domestic). [3] Even when freight arrives, there may be no-one to receive it, so that often the freight is returned (household goods production, domestic-domestic). [4] Because there are no businesses making deliveries in small amounts, product deliveries in small lots are not possible (distribution, domestic-domestic).

2) Distributions costs

With respect to distribution costs, the following were noted. [1] In direct deliveries by suppliers, there is no separation of merchandise prices and logistics costs, so that it is not possible to directly determine logistics costs (distribution, domestic-domestic). [2] In Thailand, labor costs are low, and so in some areas it is easier to rely on humans than on machines; but there are often many errors, and checks are necessary (household goods production, domestic-domestic). [3] Because there are no documents

corresponding to Japan's tariffs, there is confusion in judging which fees are appropriate (household goods production, domestic-domestic).

3) Infrastructure (hardware/software)

With respect to the communication infrastructure, the following were noted. [1] On some occasions international communications are shut down. [2] An infrastructure has not been prepared in rural areas. [3] The two communication companies are state-run, and costs are high (household goods production, domestic-domestic).

With respect to the road infrastructure, it was pointed out that the shape of the road network is poor (logistics, overseas), and that the level of preparation is low (distribution, domestic-domestic).

As for the legal system and other "software" infrastructure, it was found that in response to the expansion of hypermarkets, in the interest of small- and mid-size retail protection, there is a movement to introduce restrictions on new stores and on foreign-capitalized retailing (distribution, domestic-domestic), and that on entering a market, large-scale local businesses with connections and financial resources are said to be at an advantage (distribution, domestic-domestic).

As one matter directly related to logistics, it was noted that within Bangkok there are restrictions on entry of large-size trucks in the morning and evening, so that early-morning delivery is not possible (distribution, domestic-domestic).

With respect to manpower, the problem of job-hopping was noted (logistics, overseas).

As for customs, it was pointed out that because the rules for application of tariff rates are not set forth clearly in print, when there is a change in the customs staff the tariff rates may change (logistics, overseas), and that there is a problem with the arbitrary setting of tariff rates, thought to arise from the old HS7) code (logistics, overseas).

As another comment on such systems, the problem of frequent and sudden system reforms was pointed out (household goods production, domestic-domestic).

Below, the individual pieces of information obtained from the three companies are arranged in detail by survey subject.

3.2 Logistics Service Level

1) Cargo handling

<1> Breakage of delivered goods--distribution, domestic-domestic

- Goods are broken when the manufacturer (processed food, household goods) brings them to the warehouse. Breakage is more frequent than in Japan.
- When goods are broken at time of delivery, they are returned to the manufacturer.

<2> Cargo handling by manual labor--household goods production, domestic-domestic

- In rural areas, warehouse operations rely more on human labor than on forklifts.

- <3> Pallet standardization--household goods production, domestic-domestic
 - The standard in Japan is not a standard in Thailand. In practice, European standards have been adopted (T11 is used only in Japan, Taiwan, and in parts of South Korea). It had been said that if this company gives the OK, the standard pallet will be determined in the grocery industry. (In 1999, this company also switched to the Thai standard.)
 - In Japan, 1.1x1.1 (T11) pallets are used; in Thailand, the size is 1.0x1.2. Due to requests from customers (for pallet delivery etc.), it was necessary to adopt the Thai standard.
 - If the pallet size changes, racks and loading onto trucks will also change, and merchandise masters, pallet pattern descriptions of cartons and the like will also need to be changed all at once; none of this will be easy, and preparations will take time.
 - This company uses rental pallets. In Thailand this is a monopoly situation, but they are somewhat cheaper than in Japan.
- <4> Matters for improvement relating to cargo handling --distribution, domestic-domestic
 - Frequent occurrence of damage to, breakage of goods
 - Frequent inspection errors
 - Lack of pallet standards, compatibility
 - Forklifts are needed, but no problem in particular
 - Racks are general-use racks, and at present pose no particular problems; but standardization would probably make things more convenient.

2) Storage

- <1> Matters for improvement related to storage--distribution, domestic-domestic
 - Shortage of sorting equipment (however, although machines are accurate and fast, human labor is cheap, and so there is no cost advantage to introducing machinery)
 - Frequent occurrence of damage, breakage of goods
 - Incomplete management of storage locations, periods (there are few commercial warehouses and storage sites)
 - Need for temperature control
- <2> Absence of wholesalers--distribution, domestic-domestic
 - There is no wholesaling function in the country, and so manufacturers function as wholesalers.

3) Informatization

(1) Standardization

<1> Standardization of EDI difficult--logistics, overseas

- EDI standardization with customers is still not possible. Because formats differ among customers, adoption of a common format is not possible. Customers request conformance to their own formats. It will probably be best to extract the necessary items and proceed toward a common format.

(2) Informatization with larger companies

<1> Nearly all orders placed with large domestic manufacturers are via EDI--distribution, domestic-domestic

- Online transactions with business partners are nearly all orders sent to manufacturers for merchandise procurements.
- Merchandise procurements are performed via a leased-line network through TTN (Thai Trade Net). Orders are placed via the web, after appealing to suppliers. This is the second or third year of this system. Orders are placed using POs (purchase orders), in a method not linked to inventory, but set based on the number sold.
- There are POS systems, and item inventories cover processed foods, consumables, home products (large electric appliances etc.).
- At present, automated order systems are being studied. Suppliers have been asked for web POs from two or three years ago.
- Only larger trading partners (ten firms) are capable of online transactions. About 90% of procurements on a value basis are via EDI, and are varied in nature, including the Internet and the web, leased lines, etc. Of this, about 80% are processed food and household goods, while 10% or so are items delivered daily and raw or fresh goods. About 90% of daily delivered items and raw/fresh items are via the web, and 10% are via auto-fax service.

<2> ECR with large-scale foreign-capitalized retailers--household goods production, domestic-domestic

- In Thailand, growth of foreign-capitalized large-scale retailers has been rapid, and in terms of shares of manufacturer shipments by value, there are instances of expansion from less than 10% to more than 30% in the period from 1996 to 2002.
- Advances by foreign firms into the area of large retail stores are particularly noticeable in the capital, Bangkok; in rural areas, transactions of this company are often still with wholesalers and with retail shops managed by individuals, but recently large retail stores have also made prominent advances into rural areas as well.
- Judging from past and present trends in retail markets, the relation of this company to major foreign-capitalized retailers is extremely

- Together with this movement by large-scale foreign retailers, retailers and manufacturers have cooperated to promote standardization of information so as to avoid the need to accommodate various individualized systems. Also, information systems have been configured to determine demand trends and manage inventory, and in other ways also there have been new activities to improve business operations.
 - Rather than retailers and manufacturers fighting over concessions, efforts to promote cooperative activities have been prominent; examples are VMI (Vendor Managed Inventory) and CPR (Continuous Replenishment Processing). CPFR (Collaborative Planning, Forecasting and Replenishment) is also being studied.
- <3> Development of an information system with large retailers--household goods production, domestic-domestic
- This company currently employs VMI (Vendor Managed Inventory) to manage inventories according to movements of merchandise delivered to two customer mass sales stores. A KPI (Key Performance Indicator) which is an index of business results for merchandise management is determined, and is reviewed periodically. Orders are received from some other mass sales stores via EDI.
 - The core of information exchange via VMI is sales information and inventory information. Other than VMI, most information exchange consists of orders from customers.
- (3) Informatization with mid- to small-size companies
- <1> Auto-fax used for orders to domestic mid- and small-size manufacturers--distribution, domestic-domestic
- Fax is used to place orders with domestic mid- and small-size manufacturers; but rather than manually transmitting a fax for each order, an auto-fax system is used in which electronic files are transmitted automatically.
- (4) Informatization with logistics businesses
- <1> EDI is not used for transactions with domestic cargo owners--distribution, domestic-domestic
- EDI is not used for transactions with cargo owners.
- (5) Informatization with financial institutions
- <1> Online methods are not used for transactions with domestic banks--distribution, domestic-domestic
- There are no online transactions with banks. In essence, checks are issued, and floppy disks are brought to the bank.
- (6) Future trends in informatization
- <1> ebXML holds the key to advances in informatization--household goods production, domestic-domestic

- At present, adoption of EDI is only underway in some companies. However, with the preparation of ebXML, the foundation for a sudden change is being laid. This is probably true not only of Thailand, but of Asia as a whole.
- <2> Informatization plans and environmental changes move further from the workplace--household goods production, domestic-domestic
- Recently, the development of the Internet and entry of foreign capital have caused Western-style business concepts to jump ahead. For example, while there have been experimental movements in XML and Web EDI, they have not been continued. With respect to human resource development also, no middle management has been nurtured to receive top-level concepts. Isolation from the workplace continues unchecked.
 - Two years previously, there was various talk of a GCI (Global Commerce Initiative) and of global commerce and exchange systems; but of late these subjects have not been broached. However, these movements themselves have not yet disappeared. Among movements in the past and present to reorganize the industry, there have been no calm discussions.
 - The market environment is undergoing rapid change, and it is not yet clear in which direction corresponding informatization will proceed.
- <3> Product tracing yet to begin--household goods production, domestic-domestic
- At this company, product tracing has not yet been begun; hereafter we hope to construct such a system.
- <4> Main issues in promoting logistics informatization--distribution, domestic-domestic
- All business software was developed in-house; the absence of commercially marketed package software is a problem.
 - Communication costs are low, from the viewpoint of the Japanese; but from the viewpoint of local staff, they are high.
 - Prior to standardization, it is not decided what are standards.
 - Retail stores are generally small businesses operated by individuals; prior to the introduction of EDI, informatization itself is expected to be difficult.
 - There is no need for product traceability. It would be convenient to have management for tracing of freight and products (between this company and the main office and domestic suppliers, traceability is deployed at Okura at the OEM product level).
- <5> There is incomplete general awareness of the meaning of standardization in information systems--household goods production, domestic-domestic
- In the past, education probably helped enforce conformance to standards; but directions are frequently changed in mid-course. Even areas which should not be changed in view of the mid- and long-term are frequently changed for very short-term reasons.

4) Transport and delivery

<1> Lead times long due to traffic regulations--logistics, overseas

- Traffic regulations within the city of Bangkok stipulate that vehicles with six or more wheels (5-ton trucks (Japan's 4-ton trucks loaded to 5 tons)) cannot enter the city during the following time periods, in order to alleviate congestion.

Mornings: 6:00 to 9:00

Evenings: 15:30 to 21:00

- Vehicles are prevented from entering airports and port areas, in addition to Bangkok. The fine is 1000 bahts. However, some special vehicles are permitted entry, if they have a license issued by the police.
- Due to traffic regulations, deliveries must be made at nighttime or the day before, and lead times are longer. There is also the burden of fines.

<2> JIT is sketchy--household goods production, domestic-domestic

- There is a sense that, for most retailers, it is sufficient for goods to arrive during the day on which the time of arrival is scheduled. There is also frequently the problem that upon arrival, there is no one to take delivery of the goods. Often the goods must be returned.
- There are cases in which the person who ordered a delivery is absent, and the details of the order are unknown, so that receipt of merchandise is refused.

<3> Absence of trucking firms operating throughout the country--distribution, domestic-domestic

- While there are shipping businesses in rural areas, there are no cargo owners operating throughout the entire country.

<4> Absence of smaller delivery firms--distribution, domestic-domestic

- Because suppliers use their own trucks to make deliveries, delivery lots are limited to truck units, and small-lot deliveries cannot be made.

<5> Deliveries cannot be specified for a particular day of the week or time--distribution, domestic-domestic

- There is no problem using our company's DC route, but in cases when the DC route is not used. Often suppliers use their own trucks, and do not deliver on the day specified.
- Also, times cannot be specified, such as for example delivery by 2:00 pm.

3.3 Logistics Costs

<1> Separation of merchandise price and logistics costs--distribution, domestic-domestic

- Suppliers deliver directly so that logistics costs cannot be directly determined.

- <2> Human labor employed rather than mechanization/automation to cut costs--household goods production, domestic-domestic
 - Because labor is cheap in Thailand, it is easier to rely on human labor than on machines to cut costs.
 - Because people perform the work, there are many errors, and checks are necessary.
- <3> No written tariffs exist--household goods production, domestic-domestic
 - There is nothing corresponding to tariffs. For example, fees are computed by specifying the cost per four-wheel truck. However, it is difficult in practice to set the amount that can be carried in cubic meter equivalents by trucks, which are cloth-covered rather than with solid-wall containers.
 - At this company, when payment conditions are incompatible, part of the penalty for breach of contract is not paid.

3.4 Infrastructure (Hardware/Software)

1) Hardware infrastructure

(1) Communications

- <1> A fast, reliable communication infrastructure must be secured--household goods production, domestic-domestic
 - In Thailand, international communications go down on occasion. In rural areas, infrastructure is not present. There are TOT (domestic, similar to the old Nippon Telephone and Telegraph) and CAT (overseas, similar to KDD), but they are state-run companies, and services are expensive. Broadband ADSL/ISDN is also available, but it is not the main mode of access.
 - WAN circuits utilize frame relay VOFR; there are several companies within Bangkok, but there is no national network, and there is only one relay company capable of covering all 15 of our company's business offices.
 - Rural areas have not yet adequately addressed the need for infrastructure.

(2) Roads

- <1> Hard-to-use road design--logistics, overseas
 - With respect to road congestion, there is the sense that roads in Bangkok are odd in terms of both structure and design. For example, there are places on the highway where there are only exit ramps, and on ordinary roads one cannot make right or left turns, but must drive for several kilometers and then make a U-turn. This is because the U.S. previously built roads horizontally and vertically for military purposes.

<2> Lags in foundation preparation--distribution, domestic-domestic

- Roads and other infrastructure have gotten better, but the level of preparation is still low.

<3> Improvement of the level of road development--distribution, domestic-domestic

- Railway freight services are too poor to use, so it is hoped that the road network will be reinforced.

2) Software Infrastructure (legal system etc.)

(1) Capital restrictions

<1> Restrictions on foreign capital--distribution, domestic-domestic

- In Thailand, the automotive- and housing-related economy is doing well, but there is a high concentration of small retailers, and in order to protect small- and mid-size businesses from encroaching hypermarkets, there are movements to impose restrictions on new stores and restrictions on foreign-capitalized retailers.

(2) Discrimination by nationality

<1> Existence of restrictions on entry--distribution, domestic-domestic

- It is said that large-size local firms with connections and financial resources have the advantage.

(3) Traffic regulations

<1> Expansion of restrictions on truck passage--household goods production, domestic-domestic

- Regulations are based on the time of day, and differ for different vehicle types (6-wheel, 10-wheel).
- At present, within the city of Bangkok, restrictions on passage of 6- and 10-wheel vehicles are enforced during the following hours.

Mornings: 6:00 to 10:00 (for 10-wheel vehicles; till 9:00 for 6-wheel vehicles)

Evenings: 16:00 to 22:00

Highways: 16:00 to 21:00

- This company has a plant within a special restricted zone.
- The government has established truck terminals in three places on the belt road, and has plans to restrict entry of large vehicles to the inside of the belt road.
- The terminals themselves have already been completed. However, usage fees are high and appear to be unpopular with logistics businesses. The proposal to prohibit traffic within the belt road has been in planning for more than ten years, but has still not been executed completely.

- These regulations will exclude trucks with 10 or more wheels from the central district of Bangkok. Ultimately, the plan is to utilize the truck terminals to limit trucks inside the belt road to only small-size vehicles.
- First phase: Entry of 10-wheel trucks into the city center, a 45 km² area, is prohibited 24 hours a day. Trucks can pass through the city, but cannot stop.
- Second phase: Passage through a 113 km² area of the city center is possible, but vehicles cannot stop. (The area of the first phase is expanded.)
- Third phase: Passage through and stopping in the 113 km² area is not possible (5:00 to 22:00).

<2> Traffic regulations--distribution, domestic-domestic

- Our company would like to make early morning deliveries, but entry of large vehicles into the city is restricted, so we cannot.

(4) Work force

<1> High potential for human resources--logistics, overseas

- About 5% of Thai employees can speak English. At the introductory level, PC skills are quite high. Even in slums there are Internet cafes, and because income levels are insufficient for computer gaming in households, Internet cafes serve as game centers. For this reason too, it is thought, from an early age people here become familiar with computers and acquainted with English.

<2> Problem of work force job-hopping--logistics, overseas

- It is quickest to cultivate workers in-house. However, if a worker is given training in Japan and acquires skills, the worker does not stay with the company, but becomes a job-hopper who will move to a company offering better conditions. For Thailand as a whole, in the long run, this is effective; but for individual companies in the short term, there are doubts about the effectiveness of in-house education.

<3> Approaches to personnel cultivation as a form of international aid--logistics, overseas

- It is thought to be important that the “glass ceiling” which prevents locally hired employees from being promoted beyond assistant manager be eliminated insofar as possible, and those local employees are given a sense of responsibility to remain with the company.
- Assistance by the Japanese government in cultivating manpower is important, in its own way. The enhancement of resources (the situation of the people) in other countries is beneficial for Japan as well.
- With respect to cultivation of manpower, unilateral aid has little effect; if there is intensification of such basic incentives as the desire of the individual to learn and improve himself, cultivation will likely be effective.

(6) Customs

- <1> Rules for application of tariff rates are not set forth clearly in print--logistics, overseas
 - There is the problem that when customs staff change, the rules change. Customs personnel are moved quickly, and when staffs are moved, tariff rates may change from 5% to 15%. Rules are not stated clearly in print.
- <2> Tariff rates originating in old HS codes are set arbitrarily--logistics, overseas
 - HS codes are too old. They are not suited to today's products, which change so rapidly that some products of five years ago are no longer around. This gives the customs staff wide latitude for judgment, and leads to cases in which the code application differs depending on the customs official.
 - When there is no classification code suited to current conditions, goods may be classified according to the product material (a plastic product etc.). In Thailand, tariffs are high for steel and plastics, and so there is a tendency to classify anything as a steel or plastic. However, after the entry of the IMF the situation has changed a little.
- <3> Customs EDI--logistics, overseas
 - In Thailand, UN/EDIFACT is used only for customs. Here, the customs office requests EDI. Local companies entrust EDI input to specialized firms. Previously, a PC for EDI input was installed at the customs office.
 - Customs and EDI are currently connected by leased lines. In future, it is hoped that communication will be via a web server.

(7) Other

- <1> Frequent and sudden system revisions--household goods production, domestic-domestic
 - Case [1]: On September 25, it was reported that from Oct. 1 large-size vehicles would be prohibited from travel on highways. A company cannot make preparations in time for a change to take place in a week's time.
 - Case [2]: On January 10, it was announced that activities to strengthen reinforcement of limits on 10-wheel vehicles with 21 ton loads would be executed in March. However, on January 24 there was easing of the upper limit of 21 tons to 26 tons, and it was announced that tests would be conducted from Feb. 1 (NNA Thailand e-mail magazine).
 - Case [3]: News of an increase in highway tolls was not noticed, and because an excessive sum of highway tolls was collected, tolls were subsequently reduced.

4. Malaysia

4.1 Overall Evaluation

Hearings were held with three companies in Malaysia in this survey, in the distribution industry (domestic-domestic), semiconductor production industry (overseas-overseas), and logistics industry (domestic).

1) Logistics service level

Where packaging is concerned, it was found that the packing for shipping generally performed in Japan is not performed (distribution, domestic-domestic), while on the other hand, at another company a high level of service is received in terms of lead times for handling of import cargo (electrical equipment manufacturer, overseas-overseas). Neither pallets nor returnable boxes are used, nor is there hanger transport.

It was found that large amounts of labor are expended on inspections (distribution, domestic-domestic).

With respect to informatization, often source marking of individual products, common in Japan, is not performed, so that upon arrival at the company a new code is applied for purposes of merchandise management (distribution, domestic-domestic).

Where investments in informatization are concerned, it was pointed out that even when investments are made and equipment installed, data input lags behind, and because labor costs are low, investment costs are unclear (distribution, domestic-domestic).

As for transport and delivery, it was noted that JIT is not possible (distribution, domestic-domestic).

2) Infrastructure (hardware/software)

Where the hardware infrastructure is concerned, it was noted that overall there is a difference in the level of development in cities and rural areas (logistics, domestic).

It was pointed out that there are power outages (about once per year in Port Klang) and that communication circuits are unreliable (logistics, domestic); also, there are delays in the development of roads, which are thought to arise from the contracting method used (electrical equipment manufacturer, overseas-overseas).

With respect to railways, given the recognition that Malaysia is currently a developing country, there has emerged a desire for expansion of freight stations in rural areas (logistics, domestic). And where ports are concerned, there is a desire to develop Port Kuantan on the east side, which is useful for trade with Japan (logistics, domestic).

Regarding the legal system and other “software” infrastructure, whereas some are of the opinion that market entry restrictions and business regulations pose no problems in particular (electrical equipment manufacturing, overseas-overseas), others maintain that there are restrictions on market entry according to company nationality and environmental restrictions, and that (part of) the permit system gives priority to local companies, based on preferential treatment of Malaysians under the Bumiputra policy

(logistics, domestic). It was also noted that traffic regulations may suddenly be changed (logistics, domestic).

As for customs, there are the problems of guidance by customs staff based on favoritism and a system of specifying customs agents; and the absence of progress in electronic processing of import procedures was also noted (logistics, domestic).

Where the work force is concerned, holidays are taken on the birthdays of sultans in various locales, and in other respects also holidays differ in different regions; this is an impediment to logistics, and to this extent inventory amounts are increased (distribution, domestic-domestic).

3) Other

Where security is concerned, it was noted that merchandise may be lost during deliveries (distribution, domestic-domestic); truck-jackings occur once every several years, and thieves target plastics, copper wire, bare metals and other recyclable items, and recently, appliances and computers as well (logistics, domestic).

Bribery is not committed so openly as in Thailand or Indonesia. However, it was noted that law enforcement is not so strict as in Singapore (logistics, domestic).

Below, the individual pieces of information obtained from the three companies are arranged in detail by survey subject.

4.2 Logistics Service Level

1) Packaging

<1> Pallets are not used-distribution, domestic-domestic

- At present, there is no delivery using pallets. Steel box trucks are used. There is no need to move to pallets. In general pallets are useful for household goods, but lots cannot be assembled, so at present there is little need for them. Returnable boxes are not used either.

<2> Goods are not packed for shipping-distribution, domestic-domestic

- T-shirts arrive in plastic bags. There are no hangers, nor is there hanger shipping (a very small number of Japan-affiliated manufacturers deliver goods on hangars).
- Because goods are not packed for shipment, there is frequent damage and breakage. Manufacturers do not bear the costs of packing for shipment. Cushioning materials are not included. Manufacturers consider that they are responsible only for shipment of merchandise.
- Broken articles are not accepted. Also, goods are not delivered in appropriate boxes. In rural areas, often used merchandise boxes are employed, and audio equipment boxes are used to hold other merchandise.

- We are currently demanding delivery in the correct boxes.

2) Storage

<1> There is little need for storage-distribution, domestic-domestic

- There is little need for storage; the number of stored items is small, and there are no particular problems in this area.

<2> Areas for improvement in storage-electrical equipment manufacturer, overseas-overseas

- Management of storage locations and periods is not thorough, and barcode management must be more complete.

3) Cargo handling, inspections

<1> Demanding inspection tasks-distribution, domestic-domestic

- Due to the fact that there are no standardized slips and other reasons, considerable skills are required to maintain precision in receiving inspections. It is also difficult to perform accurate receiving inspections when a variety of goods of different types are delivered.
- Clothing, dry goods and the like are generally delivered in huge vinyl bags, rendering inspections difficult, and causing decreases in the loading rate.
- There are no standardized slips (order forms). In some cases, logistics firms have installed online terminals and will print out slips specified by our company. This is similar to the delivery slips specified by Japanese manufacturers. However, many manufacturers are small businesses and cannot purchase dot matrix printers.
- The shipping lists (delivery orders) and invoices brought by businesses are of all varieties, and do not follow a unified format. Delivered goods are inspected by matching the shipping lists of the other party with the order forms and actual goods. Consequently, receiving inspections are absolutely essential.

<2> Reasons for difficulty in automating inspections--distribution, domestic-domestic

- The actual nature of inspection errors arises from the fact that, for example, even if 12 boxes are ordered, the 12 boxes are not delivered at once, but are divided for example into 10 boxes and 2 boxes, and inspection on delivery is not possible.
- Further, inspections cannot be performed in box or carton units. Often the contents of boxes are different. There is also no equipment to check quantities or amounts. When labor costs are low, often inspections rely on humans, even when accuracy is poor, and there are delays in mechanization; consequently there are more frequent problems.
- From the shipping side, mechanization of our delivery center means no more than mechanization and informatization at one delivery destination. When a

shipper has many delivery destinations, and those have not undergone mechanization and informatization, there are no scale advantages and thus no incentives to use the bar codes that are necessary for informatization.

4) Informatization

- <1> Lack of source codes, POS register codes provided by our company--distribution, domestic-domestic
 - Because there is no merchandise management after delivery, our company provides codes for POS register barcodes. There are no source codes by the manufacturer. There is a lot of merchandise without barcodes. Also, our company's codes are applied when placing orders, but there is no guarantee that the merchandise ordered will arrive on the specified date. There are many problems which precede informatization of our current operations. Business customs themselves are different. Seals are applied to raw and fresh goods at the storefront.
- <2> State of recognition and use of EDI standards--distribution
 - UN/EDIFACT are known, but are not used.
- <3> Lags in network configuration of other parties alleviated by using the Internet--distribution, domestic-domestic
 - Lags in the development of networks by other parties can be accommodated after a fashion by using the Internet.
 - Even within manufacturers, in 1989 faxes were primarily used (it was also true that postal services were poor at that time). With the coming of the Internet, there has been considerable improvement.
- <4> State of recognition and use of EDI standards--electrical equipment manufacturing, overseas-overseas
 - UN/EDIFACT are known, but are not used.
- <5> Major issues for promotion of logistics informatization--logistics, domestic
 - The major issues for the promotion of logistics informatization are as follows.
 - Electrical communication network, including extensive telephone circuits, Internet network
 - Inexpensive data communication equipment
 - Cultivation of human resources
- <6> Investments in logistics informatization not directly leading to profits--logistics, domestic
 - With respect to informatization of logistics, there is the problem that even if a system is introduced, not all the data can be input (the system cannot be used effectively). Employees are used to manual operations. For example, a system which is in wide use in Japan would be difficult to use in Malaysia.

Also, labor costs are low, so system introduction would not reflect favorably on profits.

- In contrast with inexpensive labor costs, there is the problem of the high costs of system development and equipment purchases. And, the advantages of system introduction are unclear. But it is uncertain whether low labor costs would directly lead to increased revenue for forwarders.

<7> Absence of system compatibility--logistics, domestic

- Because electrical equipment manufacturers, distributors and logistics companies use different systems, often there is no compatibility, and cost and time are consumed by interfacing operations. Databases are also of various kinds, including Oracle, DOS, SAP, etc.

<8> Common standards needed--logistics, domestic

- Promotion of standardization, and advocacy of the spread of standards such as UN/EDIFACT are necessary; information exchange using the Internet is also needed.

<9> Management of cargo, merchandise tracing--distribution, domestic-domestic

- At present it is not possible to determine whether merchandise is lost within the DC (distribution center), or before reaching the DC. Because inspections cannot be performed reliably, it is necessary to ensure reliability of related information processing.

<10> System to promote logistics informatization in associated industries--distribution, domestic-domestic

- There is an organization of large retailers called the Malaysia Retail Association which conducts various activities. There are research groups also, but our company does not participate.

<11> Movements in electronic settlements, from e-POS to finances--distribution, domestic-domestic

- In Malaysia, on Nov. 15 2001, an e-POS contract was concluded between the financial institution Maybank and the major retailers JUSCO, KAMDAR, makro, metro, and SOGO.
- e-POS is used for payments at the time of purchase, and not for sales management. It was begun by major banks. There is a high rate of use of credit settlements in stores. Customers input an electronic signature on an LCD display.
- With debit cards, there is a limit to the transaction amount. Even for small expenditures, there are no automatic debits from bank accounts; debits are made after checking individual statements.
- There are movements to use highway ETC as parking spaces, and to provide license information with prepaid functions.

5) Transport and delivery

<1> Delayed delivery--distribution, domestic-domestic

- In Malaysia, merchandise which has been ordered never arrives on the specified day in the specified quantity. Occasionally, items which have not been ordered may arrive.
- Within Kuala Lumpur, delivery is by smaller vehicles, but the number of vehicles cannot be increased, so that some goods remain.
- The local concept of time is relaxed, and people are not bothered if something scheduled for 10:00 happens at 10:30.
- Even ordinary appointments often do not have times specified, and people say only “let’s meet in the morning” or the like.
- The time cannot be told from road or traffic conditions.

<2> There are few airline flights--electrical equipment manufacturer, overseas-overseas

- Air freight is used for all shipments. About 10 shipments are made each day. The infrastructure is well-developed, but there are few flights. It would be nice to use nighttime flights for shipments to Japan, but there is only one such flight, and flights are infrequent. Even when preparations for shipment are made in the morning, it is necessary to wait for a nighttime air freight flight. More flights would be appreciated.
- Air freight can be tracked, and there are no losses. Checking based on a barcode system has also been in operation since a year ago.

<3> Time required between the airport and plant is short due to special privileges--electrical equipment manufacturer, overseas-overseas

- In the case of imported cargo, after the cargo arrives at the airport, it arrives at the plant in four hours (but normally takes 6 to 7 hours). Within Malaysia there is a company which handles freight for our company, and has priority for carrying cargo. These privileges are granted to only five companies out of 124 in KLIA. Our company is one of the top 15 preferred KLIA customers.
- With respect to exports also, normally a container must be at the airport six and one-half hours beforehand, but in our company’s case, freight can be at the airport three and a half hours beforehand (when using Malaysia Airlines). Even IATA has rated Malaysia as the world’s best.

<4> Top-level absence of losses, damage--electrical equipment manufacturer, overseas-overseas

- There is no theft of goods.
- Previously there were problems in which cargo would go missing, but now there are none. Our company hardly ever experiences damage to goods or other problems (perhaps only once or twice a year).

<5> Theft--distribution, domestic-domestic

- One time in the past, a truck was stolen. In general, robberies are common.

<6> Security measures are important--distribution, domestic-domestic

- Though comparison with Japan is not possible, security measures are important. The reason for merchandise losses is the absence of control during deliveries.
- It is very difficult to achieve improvements through the efforts of our company alone. Efforts will be needed from government as well as the private sector.

<7> Truck-jacking--logistics, domestic

- Truck-jackings occur once every several years. All companies have experienced at least one truck-jacking. Thieves target plastics, copper wire, bare metals, and other recyclable products. Recently appliances and computers have also been targeted.

4.3 Logistics Costs

None in particular

4.4 Infrastructure (Hardware/Software)

1) Overall infrastructure

<1> Substantial difference between urban and rural areas--logistics, domestic

There are major differences in both the hardware and software aspects of the infrastructure between major cities and outlying areas, and a sense of unbalance (ports, airports, roads, electric power, telephone, and the SMK customs system).

2) Hardware infrastructure

(1) Power, communications

<1> Power outages, telephone service interruptions--logistics, domestic

- Power outages occur at a rate of about once a year. In Port Klang, there are still outages. It may be that the absence of major electric power plants is the cause of the frequent outages. In addition, phone circuits go dead at least once a month.
- In Port Klang, corrosion of circuits close to the ocean and other factors resulted in power outages twice a month around 1993, and recently there have been from one to five outages a month; phone circuits also go dead, and communication lines are extremely vulnerable. When phone lines go dead, recently people have been using cell phones. Similarly, interruptions due to circuit congestion and drops in data communication rates have meant longer transmission times.
- Because of the poor state of communication circuits in Port Klang, the Shah Alam Industrial Estate, the largest in Malaysia, is being used as a relay point

from Port Klang. However, the circuits of the relay point also are frequently overloaded, so that even e-mail cannot get through. Consequently, despite the fact that in terms of distance the port would be more convenient, shipping companies tend to locate in cities, with more stable communications.

(2) Roads

<1> Odd ordering methods--electrical equipment manufacturer, overseas-overseas

- Road tolls and fuel costs rise with each passing year.
- In Malaysia, there are no prime contractors in the construction industry. Roads likewise are constructed piece-by-piece by separate companies. There is no company for overall supervision. Roads other than toll roads are especially slow. And in Kuala Lumpur, construction is not possible in the daytime, and all construction is at night. There are no overpasses, and few traffic signals.

<2> Delays in road construction--logistics, domestic

- The north-south highway on the west coast side is completed, but construction of the north-south axis road on the east coast and east-west traversing roads is delayed, and because of the jungle in these areas, construction takes time. It is said that these roads will be opened in four or five years' time.
- The state of access roads between Port Klang and the interior is poor.

(3) Railways

<1> Railways are deficient--electrical equipment manufacturer, overseas-overseas

- Only the railroads are deficient; hereafter, connection of freight lines with inland areas will be an issue.

<2> Expansion of railroads an issue for foundation development--electrical equipment manufacturer, overseas-overseas

- Development of foundations poses no problems other than the railroads. The government is now in the process of improving railways. Connections with other modes of transport are delayed on account of the railroads.

<3> Freight stations needed in outlying areas--logistics, domestic

- Railways are still in development. However, there should be a demand. There is nothing linking the east and west regions of Malaysia. Investments in port infrastructure are centered on Johor. Railroad shipping is increasing gradually, due to imports and exports with Thailand.
- There are few railway stations available for use. Outside major cities, there are no freight stations. In rural areas, cargo cannot be unloaded where it should be.

<4> A freight train schedule should be set--logistics, domestic

- A schedule for freight trains should be prepared.

(4) Ports

<1> Development of ports in the east awaited--logistics, domestic

- Port Klang is divided into three districts: the northern (international) district, the southern (domestic) district, and the western (domestic) district. The northern district is undergoing expansion through 2010.
- The western district port opened in 1997, and is being expanded; there are plans to improve access to highways and railroads. However, maintaining a balance with development of Tanjung Pelepas will be tricky. The west side is important for trade with India and Europe, and also has petrochemical plants; hence emphasis is being placed on development of this area.
- We hope that there will also be development of Port Kuantan on the east side, which is advantageous for trade with Japan.

<2> Predominance of Port of Tanjung Pelepas (PTP, the new Johor port)--electrical equipment manufacturer, overseas-overseas

- PTP (Port of Tanjung Pelepas) is in Johor, in the south of Malaysia, and is situated so as to compete with the port of Singapore. Because of the low rates, MERSK has moved from Singapore to PTP. BMW has shifted its automobile delivery center. It is said that there is a good possibility that Mercedes-Benz will move in next.
- Because of PTP, Malaysia is more convenient than Singapore. There is also an exchange rate difference. Storage fees and operating costs are low, and in particular, storage fees are 40% cheaper than in Singapore. There is a high probability that the material handling will be transferred to Malaysia.

(5) Interconnections with transportation means

<1> Occurrence of wait time, loss time due to failure to adjust timing--logistics, domestic

- Port Klang is Malaysia's largest port, and there seem to be no problems with connection with other transportation means; but at the ports of Penang, Johor and Kuantan, in most cases cargo is reloaded for Port Klang or Singapore. In the case of Ipo, cargo must be brought to Penang or to Port Klang.
- The number of trains offered by the railway service is small, and there is a need to increase the number of departures.
- The occurrence of wait times and time loss due to failure to adjust timing is absorbed by reception of containers at ports. Documents are brought to the customs office, and time is required to obtain an import permit.
- After an import permit is received, container shipping procedures can be taken. Here also, time is required for a permit to be issued.

3) Software infrastructure (legal system etc.)

(1) Market entry restrictions

<1> No problem in particular--electrical equipment manufacturer, overseas-overseas

- There are no particular problems with market entry restrictions or business regulations.

<2> There exist market entry restrictions based on ethnicity--logistics, domestic

- Due to market entry restrictions based on the Bumiputra policy, there are constraints on the acquisition of licenses and extension of licenses for trucking and forwarding. Also, there is a sense of unfairness, in that kickbacks and the like mean that there are differences in regulations among firms.
- As a result of a policy of preferential treatment for Malaysians, Malaysians must be hired as employees or as management staff, and if Malaysians do not account for 50% or more of staff, a business permit cannot be obtained. This is common not only to logistics, but to all industries.
- As a result of preferential hiring of Malaysians under the Bumiputra policy, the ethic of self-help and self-reliance is impeded, and a sense of dependence or entitlement may be fostered; and in the long term, the country's vitality may be compromised. In actuality, Chinese have a large influence on industrial activity. On the other hand, as a country which encompasses diverse ethnic groups and religions, they seem to be doing well.

<3> Permit system gives preference to local companies--logistics, domestic

- The permit system enables only local companies to acquire permits in the container shipping industry.
- The small- and mid-size company cultivation agency limits the issuing of licenses necessary for each truck (A license: registration of commercial vehicles). In the last several years, we have applied for truck A licenses but have not been able to obtain them. There is no problem with a manufacturer using its own trucks, but outside orders are not possible. (C licenses are for private vehicles).
- Local companies with 100% Malaysian staff are given preference in the issuing of licenses.
- Licenses for four-foot trucks purchased at the end of 2000 have not yet been granted. Also, license applications cannot be submitted until after a truck has been purchased.
- As measures taken when licenses are not granted, a license may be transferred from a person wanting to sell a truck, or the truck may be entrusted to a company having a license.

(2) Traffic regulations

<1> Sudden changes in regulations--distribution, domestic-domestic

- Often traffic regulations change suddenly. These are sudden modifications.

(3) Environmental regulations

<1> Discriminatory treatment based on nationality--logistics, domestic

- There are restrictions on exhaust gas from commercial-use trucks, and inspections once every six months are mandatory. The Road Transport Department or JPJ (Jabatan Pengangkutan Jalan) of the Ministry of Transport, which is the enforcing agency, performs inspections frequently.
- Whereas trucks which are 20 or 30 years old are allowed transit, the trucks of Japanese companies fail inspections merely because they are seen to emit “black smoke”, and inspections have to be repeated any number of times. There is no independent vehicle inspection system; the JPJ performs inspections. There are the problems of kickbacks and of improper inspections.

(4) Customs

<1> Paper documents needed for customs--electrical equipment manufacturer, overseas-overseas

- An online system is used for freight customs at ports.
- The computer systems at airports and ports are, overall, satisfactory.
- For freight customs at airports, forwarders are processed online, but customs itself relies on paper processing.

<2> Guidance by customs staff subject to favoritism--logistics, domestic

- Due to the lack of unification of opinions and guidance at customs offices, our company sometimes cannot provide the same service to the same customers. Even within the same government office, the guidance offered will differ from one official to the next.

<3> Problem of a system of specifying customs agents--logistics, domestic

- There is a system of specifying customs businesses, which impedes consistent service (door-to-door service) and emergency measures.
- The details of the system are not put into print, and negotiations are used (kickbacks are also possible).
- The plants and trading companies that are importers and exporters can only specify two customs agents at each port. If a customs agent is not registered, the import/export application documents are not accepted.
- When a customs agent opens for business, it must receive a power of attorney from the manufacturer or other importer/exporter. Applications using the SMK (System Maklumat Kustoms) customs information system accept input even if

not by a specified agent, and a number can be received. However, if a specified agent is not used, the application is not accepted.

<4> There has been no progress toward electronic import/export procedures--logistics, domestic

- In 1997, the SMK (System Maklumat Kustoms) customs information system was introduced at KLIA and Port Klang. At present, in addition to KLIA and Port Klang, it is also used at Johor.
- However, in order to obtain an import/export permit, customs documents must be brought to the customs office. Processing is based on a so-called “manual inspection”, which reduces by half the effectiveness of electronic processing.
- At airports also, similarly to ports, “manual inspections” based on paper documents are used.
- There is no category 1 corresponding to Japan’s customs information system (Sea-Naccs); there is only category 2.
- Introduction of a completely electronic system which eliminates paper processing would lead to reductions in the customs staff, so that customs employees would lose their jobs; hence a group of customs employees is offering fierce resistance, and it is said that reform is not possible.
- An automated permit system using an information system was announced around October 2002, but has come to nothing. And as of February 2003 no such system has been deployed. Related to this appear to be complaints that “informatization would have the effect of excluding small local forwarders who cannot purchase systems”.

(5) Work force

<1> Holidays differ for different religions--distribution, domestic-domestic

- There is a system of giving Malaysians preferential treatment in hiring. Differences in holidays for different religions pose difficulties for logistics, and to this extent inventory amounts are increased. Double the time is required for the same space. The ethnic makeup of Malays, Chinese, and Indians is said to be 6:3:1. On Fridays, 95% of Malaysians go to mosques (men only) to pray.
- 90% of the employees of this company are Malays, and 10% are of Indian and other ethnicity.
- Malaysians 40 and older can speak English. Those in their 20’s and 30’s received education which for a time emphasized the Malay language, and so many cannot speak English. From 2003, English education has once again been emphasized. Business is conducted in English.
- In office work, each individual has a computer, and there are no problems with computer operation. Computer keyboards all use an alphabetic layout.

4.5 Other

1) Bribery

<1> Bribery--logistics, domestic

- Kickbacks are not as open as in Thailand or Indonesia. However, enforcement is not as strict as in Singapore.

2) Other

<1> Forwarder associations exist in each port--logistics, domestic

- Forwarder associations exist by port, and are also in Johor. It is unclear whether the forwarder associations in the different ports have ties to each other. Because rules and fees both differ for each port, it would seem to be advantageous to form a lateral organization.

<2> Wholesalers have no financial functions--distribution, domestic-domestic

- The financial functions performed by wholesalers in Japan are absent in Malaysia.

<3> World-class manufacturing concerns are present in Malaysia--electrical equipment manufacturer, overseas-overseas

- Hereafter, one issue will be the incentives provided by the government to promote trade with China. This is expected to affect logistics in future as well. Japanese companies, and also American companies, are sending R&D engineers to Malaysia by the hundred. The engineers impart technical know-how to locals, and provide design support in proximity to customers. There are also many arrangements with customers who are set manufacturers.

<4> Period of change for Singapore--electrical equipment manufacturer, overseas-overseas

- In neighboring Singapore, there is already a shift to financial services and to biotechnology. There is a high probability that Singapore's port functions will be shifted to nearby countries such as Indonesia, Thailand and Malaysia. Neighboring countries will have service and cost advantages using similar facilities.

5. Singapore

5.1 Overall Evaluation

Hearings were held with four companies in Singapore in this survey, in the transport equipment manufacturing industry (overseas-overseas), chemical products manufacturing industry (overseas-overseas), distribution industry (domestic-domestic), and logistics industry (overseas).

1) Logistics service level

The logistics service level in Singapore is assessed to be of very high quality compared with neighboring countries (chemical products manufacturing, overseas-overseas), but on the other hand, it was noted that while transport services themselves are good, compared with neighboring Malaysia, fees for use of transportation means are high (logistics, overseas).

With respect to international land transport, the closed border for trucking with Malaysia is said to mean that Malaysian trucking companies can enter Singapore, but Singapore trucking companies cannot enter Malaysia (logistics, overseas).

As for cargo handling, partly because Singapore is a hub for international shipping, pallets conforming to various national standards arrive here, so that it is difficult to make progress in standardizing pallets (chemical products manufacturing, overseas-overseas).

Also regarding pallets, a desire was expressed for convenient pallet rental such as in Japan, and in particular for rental pallets which are flexible among plastics manufacturers (chemical products manufacturing, overseas-overseas).

2) Logistics costs

Where logistics costs are concerned, there are cases in which it seems that freight costs for local firms are cheap; but insurance of cargo for damage, which in Japan is the responsibility of the shipping company, in Singapore is the responsibility of the owner of the goods (and the low costs of shipping are thought to correspond to the cost of this insurance). (chemical products manufacturing, overseas-overseas)

3) Infrastructure (hardware/software)

There is a common perception that the level of hardware infrastructure in Singapore, and also the corresponding service level, are quite high even compared with Japan (chemical products manufacturing, overseas-overseas; transport equipment manufacturing, overseas-overseas). There was also the desire for rail transport to Malaysia (chemical products manufacturing, overseas-overseas).

Regarding various regulations, there was the common opinion that restrictions on siting are strict (chemical products manufacturing, overseas-overseas; distribution, domestic-domestic; logistics, overseas). In terms of various systems within the ASEAN region, the opinion was expressed that whereas Thailand and other countries are relaxing restrictions for AICO and the like, in Singapore there are regulations

relating to documents and detailed restrictions on physical packaging for shipping (transport equipment manufacturing, overseas-overseas).

Relating to customs, numerous opinions were expressed regarding Trade Net.

As an advantage, it was noted that once data is input to Trade Net, all the data is distributed to the related agencies and offices, so that it is not necessary to input the data once for each office and agency as in the Japanese system (chemical products manufacturing, overseas-overseas).

On the other hand, two disadvantages were noted. Data input to Trade Net cannot make use of the data in one's own company system without modification, but must be input manually to a Trade Net terminal, so that construction of an interface remains an issue (chemical products manufacturing, overseas-overseas); and, paper documents are still necessary (logistics, overseas).

Comments on customs other than Trade Net included the opinion that in the port of Singapore there is flexibility in returning cargo even after bonding, so that even emergency situations can be dealt with (chemical products manufacturing, overseas-overseas).

As for the work force, three problems were identified: [1] there is frequent job-hopping; [2] laborers will only perform work within a scope determined in advance; and [3] there is a tendency to rely too much on computers (chemical products manufacturing, overseas-overseas).

Below, the individual pieces of information obtained from the four companies are arranged in detail by survey subject.

5.2 Logistics Service Level

1) Overall

- <1> JIT is difficult within the ASEAN region--transport equipment manufacturing, overseas-overseas
 - Just-in-time transport is extremely difficult within the ASEAN region. Ship arrivals can easily vary by a half a day. There are also customs procedures. Transport is essentially different from the overland large-scale transport in Europe and elsewhere.
 - Even in trucking between Thailand and Malaysia, it is necessary to change chassis and reload containers.
- <2> PSA enthusiastic about developing businesses--transport equipment manufacturing, overseas-overseas
 - PSA is extremely enthusiastic regarding business. PSA is making various efforts to ensure that container handling amounts do not hit a limit, and to search

for various businesses. Recently PSA has also advanced into management of ports in China, the middle east, and developing countries.

- Officials of PSA, the Economic Development Board (EDB), and other organizations often come to hearings on future trends and the like, and are eager to grasp business trends.

<3> PSA should invest efforts in new businesses--logistics, overseas

- There are movements within PSA to cut staff, but this should be done after everything else; first, efforts should be put into new businesses of PSA itself.

<4> High-quality logistics services--chemical products manufacturing, overseas-overseas

- In Singapore, the quality of logistics services is high.
- In the area of logistics services also, quality is regarded as extremely high compared with neighboring countries.

2) Storage

<1> Frequent product shortages--distribution, domestic-domestic

- Merchandise is delivered by manufacturers to this company; product shortages are frequent.

3) Cargo handling

<1> Rental pallet service desired--chemical products manufacturing, overseas-overseas

- There is no pallet rental service in Singapore. At present, our company uses T14 and T11 pallets, but it would be convenient if there were pallet rentals as in Japan. Rental pallets are especially wanted for flexibility among plastics manufacturers.

<2> Hard to make progress on pallet standardization--chemical products manufacturing, overseas-overseas

- There is a need to standardize pallets, but this company has a high export ratio, and so there is little possibility of using the same pallets. Domestically, distances are not great, so it is simpler to recover pallets.
- Consequently it is hard to make progress in standardizing pallets. There is little need for transport between plants.

<3> Local companies not using pallets--distribution, domestic-domestic

- Pallets are not used for goods delivered by local companies.

<4> External education and training--chemical products manufacturing, overseas-overseas

- Education in the operation of forklifts is outsourced.

4) Logistics informatization

- <1> Cost cuts are an issue to promote logistics informatization (1)--logistics, overseas
 - Main issues to promote logistics informatization:
 - Lower communication fees
 - Inexpensive data communication equipment
 - Commercial-use software
 - Standardization
- <2> Cost cuts are an issue to promote logistics informatization (2)--distribution, domestic-domestic
 - The following are the main issues.
 - More solid telephone circuits, Internet, electrical communication networks; ADSL should be cheaper.
 - Inexpensive communication fees; rates for international communication seem to be high.
 - Inexpensive data communication equipment; from the perspective of the purchaser, high-level equipment is still expensive.
 - Commercial-use software; software for business use is expensive.
- <3> System standardization desired--logistics, overseas
 - Linking with production and sales systems is on an individual basis; standards are needed.
- <4> The reasons for advances in informatization in Singapore--logistics, overseas
 - In Singapore, children begin studying computers in kindergarten from age 5. Computers are indispensable for improved productivity and cost-cutting.
 - Singapore has secured its competitive position by being in the vanguard of informatization.
 - In Singapore, Western technology has been studied closely, and in introducing this technology the government has prepared infrastructure and conditions; this, it is thought, has contributed to the spread of informatization.
- <5> Need to know the time of arrival--distribution, domestic-domestic
 - Regarding the problem of improving logistics services, it would be good to have an information service which would provide arrival time and other information.
- <6> Fax used according to level of informatization of trading partner--distribution, domestic-domestic
 - It should be possible to exchange transaction information using web browsers even with local companies, if they are large; but because data is unified and

managed at our company, we use faxes to accommodate the lowest-level companies.

5) Transport and delivery

<1> Fees are high--logistics, overseas

- In Singapore things are efficient, and the transport service itself is good; but compared with neighboring country Malaysia, fees for use of transportation means are high.

<2> Problem of border with Malaysia--logistics, overseas

- When trucks cross the border with Malaysia, it is possible for Malaysian trucks to enter Singapore, but the trucks of Singapore companies cannot enter Malaysia. For land transport to Malaysia, our company always has to rely on Malaysian firms.
- The reason for this policy is probably that because Singapore is a small country, economically the country coexists with Malaysia, and because Malaysia is so large it is judged difficult for Singapore drivers to be active in Malaysia, and better for Malaysian drivers to do the driving. (Tour buses likewise cannot cross from Singapore into Malaysia.)

<3> There are essentially no major problems--chemical products manufacturing, overseas-overseas

- The reason for uncertainty in arrival times is the problem of congestion, which exists in all countries. Most of Singapore is within a one-hour distance, so that this problem is not so serious.
- Though not essentially a major problem, more advanced temperature control would be useful.
- Damage to and breakage of goods is slightly more common than in Japan, and occurs about twice a month.
- Delays in delivery are not much of a problem, since the country is so small. Congestion is also limited.

<4> Instability of arrival times is due to problems with the status of supplier inventories and delivery deadlines--distribution, domestic-domestic

- The first issue for improvement is the instability of arrival times. Not knowing when imported goods which arrive at our company is thought to be a problem of supplier inventory and delivery deadlines, rather than a problem with the transport firm.

5.3 Logistics Costs

- <1> Singapore labor costs still inexpensive--logistics, overseas
 - Compared with Japan, labor costs are still low, and there should still be room for industrialization.
- <2> Public utility fees somewhat high--chemical products manufacturing, overseas-overseas
 - Use fees are not a problem worth special note. However, public utility fees are a bit high. About 70% of invoice amounts are public utility fees.
- <3> The owner of the goods insures the cargo against damage--chemical products manufacturing, overseas-overseas
 - In Singapore there are no tariffs. In PSA there are tariffs (a list of terminal cargo handling fees).
 - In Singapore, in contrast with Japan, an estimate (contract) precedes the beginning of operations.
 - At the time of contract, attention should be paid to insurance among the ancillary conditions.
 - In Japan it is the responsibility of the shipping company to ensure cargo against damage, but in Singapore the customer must take out insurance. This point should be made completely clear to cargo owners.
 - The Singapore Forwarders' Association assumes liability of \$1 per kilogram. However, in actual practice this is insufficient, and so the cargo owner must take out insurance.
 - There are some cargo owners who do not take out insurance, but when problems arise there is no easy resolution. The warehousing company to which our company outsources operations asks firms placing orders to confirm the state of insurance once every two years. It is essential that freight charges include insurance.
 - The reason for the impression that freight charges are lower among local companies is probably that they do not reflect the cost of insurance.

5.4 Infrastructure (Hardware/Software)

1) Hardware infrastructure

(1) Overall

- <1> High level of logistics infrastructure--chemical products manufacturing, overseas-overseas
 - The logistics informatization, 24-hour port and airport system, and other aspects are at quite a high level even compared with Japan.

- As a minor point, a higher level of training for truck drivers and better maintenance of vehicles would be appreciated.

(2) Ports

<1> Policy of emphasizing ports--logistics, overseas

- Singapore plays an important role as a hub connecting Vietnam, India and Jakarta with Bangkok, Myanmar and Cambodia.
- Malaysia and Jakarta are devoting efforts to direct exports. Singapore should improve connections to airports and ports, and devote more resources to the development of Singapore as a port, whether for shipments to Malaysia and Jakarta, or as a relay point for trade.

<2> Malaysia's PTP a rival of Singapore--logistics, overseas

- The development of Malaysia's PTP (Port of Tanjung Pelepas) is not a major problem for the people of Singapore, but is a major problem for the government. Singapore and Malaysia should be regarded as partners. PTP will certainly be successful, but for marine transport companies, changes in ports being used are major issues. (However, forwarders merely follow customers.)
- PTP faces west, and although Maersk has also made investments, the position is different from the port of Singapore, and the Indian side is also being considered.

<3> The level of port service is high--transport equipment manufacturing, overseas-overseas

- The port of Singapore handles emergencies extremely well, and the great flexibility of port operations receives favorable evaluations.
- Comparing Japan and Singapore, there is a difference in the development of ports. For example, where 24-hour operation of ports is concerned, Japan has at long last entered the stage of discussions and experiments.

(3) Railways

<1> Rail shipments to Malaysia would be convenient--chemical products manufacturing, overseas-overseas

- It would be convenient if railway shipments to Malaysia were available.

2) Software infrastructure

(1) Regulations

<1> Siting regulations strict (1)--logistics, overseas

- There is no problem posed by restrictions on market entry, but siting regulations are strict.

- <2> Siting regulations strict (2)--chemical products manufacturing, overseas-overseas
 - 80% or more of land is owned by the government. Due to restrictions on use, truck terminals cannot be freely built.
 - Transport businesses cannot be situated in Julong.
- <3> Siting regulations strict (3)--distribution, domestic-domestic
 - In Singapore, there are restrictions on land use. This company has two functions, as a retailer and a repair shop; because there are no regions in which these uses can be combined, a storefront is maintained at the current site, which is an industrial area. When considering the breakdown of sales by the store, revenue from the repair shop is higher, so the retail business is incidental.
 - In order to cope with noise and other environmental regulations, it may not be possible to locate repair shops in commercial districts, and so an industrial area was chosen.
- <4> Other regulations--distribution, domestic-domestic
 - In Singapore, the motor sports products which are best-sellers in Japan run up against regulations, and do not sell. At the parts level, certification standards are not met, and so parts cannot be installed. Mufflers and suspension products also cannot be installed, due to traffic regulations. Helmet safety standards are also different.
 - There are no restrictions in particular on business hours (currently from 10:00 to 20:00). However, if there is a residential area adjacent, there are restrictions on noise even in an industrial area.
- <5> Further relaxation of regulations desired--transport equipment manufacturing, overseas-overseas
 - Viewed in terms of the various systems within the ASEAN region, Thailand and other countries are relaxing restrictions on AICO and similar, whereas in Singapore there are still some detailed restrictions. Limits relating to documents, as well as restrictions of a physical nature such as packing for shipment, are imposed. As a result, logistics efficiency is quite poor. On the other hand, the large number of regulations is thought to derive from a situation in which many companies engage in illegal acts.

(2) Customs

- <1> Data links between Trade Net and in-house information system an issue--logistics, overseas
 - Trade Net is used for custom procedures in import/export operations. Port Net is a separate system, for use by shipping companies.
 - In order to pay GST (Gross Sales Tax), Trade Net must be used at the time of import. Similarly upon export, Trade Net must be used.
 - In order to use Trade Net, it is necessary to have a licensed operator with a specialized license set up the software and communication equipment on a

general-use computer in the company. Usage fees are paid to the vendor by the user. At our company, three computers are used as Trade Net input terminals.

- At present, data must be input to terminals manually. If our in-house system could be linked with Trade Net, use would be still more convenient.
- Circuits are public circuits (not circuits used for web transmissions). In future, we would like to use leased circuits.

<2> Trade Net issues--chemical products manufacturing, overseas-overseas

- Construction of an interface for connection to Trade Net is an issue. Data must be input to Trade Net manually.
- Once data is input to Trade Net, it is transmitted to all related agencies and offices and is returned. The time for this is generally from 30 to 40 minutes (this time is the contents of the application). Considering the complexity of procedures in Japan, this is extremely efficient.
- Our in-house data files cannot be transferred to Trade Net. The method will rather be that being advanced by bolero net. In Singapore, bolero is still only being discussed, and is not in the stage of operation.
- Future issues will include whether and how to link the data communication system of the Singapore government to our in-house system.
- The Internet is also frequently used, and administrative documents can be obtained, and procedures performed, via the Internet.

<3> Penalties for falsified reports and similar are stiff--chemical products manufacturing, overseas-overseas

- In Trade Net, about 40 minutes are required from input of data until a permit is granted (an approval number is obtained). The import permit which is returned is output. Originally, the authorities were oriented toward collection of statistical data. Checks are not very rigorous, but the penalties for false statements are severe.

<4> There is a single administrative point of contact, for greater efficiency than in Japan--chemical products manufacturing, overseas-overseas

- When data is input to Trade Net, it is sent to customs, and from there to all the related agencies and offices, and returns to Trade Net. During the period between transmission and reception, communications may be halted. The time involved is normally 10 to 20 minutes (from 5 minutes to a maximum 40 minutes or so). Because there is a single point of contact on the administrative side, efficiency is improved compared with Japan.
- An advantage of Trade Net is that a permit can be obtained before the ship actually arrives. In exports also, reports can be filed up to one week after the ship leaves port.

<5> Trade Net is not “paperless”--logistics, overseas

- The Trade Net system is a method of connecting to vendors by installing dedicated software in PCs. It is set up by a licensed operator. When the application information is input using a keyboard, a decision to grant or not to grant a permit arrives at the PC within several minutes. However, this must be once again output on paper, and the system is not “paperless”.

<6> Handling of emergencies excellent--chemical products manufacturing, overseas-overseas

- The port of Singapore responds extremely quickly to emergencies. Emergencies are coped with in some fashion. There is flexibility in that even when cargo is once bonded, it can be returned.
- In Japan, about a week is required from the time of order until loading on the ship; in Singapore, only three days are required.

<7> Logistics services which cope with difficult situations--chemical products manufacturing, overseas-overseas

- In Singapore, emergencies can be handled. Fairly difficult situations can be dealt with. For example, when a particular computer part is needed urgently from within a mixed-load container for air shipping, in Singapore the part can be retrieved.

<8> Assignment of HS codes depends on negotiation ability--transport equipment manufacturing, overseas-overseas

- Interpretation of the HS codes to the advantage of one’s own country’s tariffs is in the interest of each country, and so this itself should not be criticized, and is only natural. In the case of new merchandise and the like, the disadvantageous assignment of HS codes is a problem of negotiating ability in the industry.

(3) Work force

<1> Job-hopping--chemical products manufacturing, overseas-overseas

- There are no personnel to operate forklifts. Because individuals acquire skills and then job-hop to another company, persons with skills do not remain with our firm.
- There is a lot of job-hopping. Simply by leaving one’s job and then again returning to the company, wages are increased.
- Skilled laborers cannot be expected, so it may be better to use manual methods to perform tasks. It may be effective to introduce ISO for internal management.

<2> Japanese better at sorting cargo--chemical products manufacturing, overseas-overseas

- Japanese workers seem to be better at physically manipulating cargo, as in cargo handling. Japanese are better at sorting cargo. Here, in essence cargo from

the plant is stacked for shipment, and packing in bags is automated and mechanized; within the premises, forklifts are used.

- <3> Scope of labor of workers too clear-cut (1)--chemical products manufacturing, overseas-overseas
 - Because there is the danger of explosions at chemical plants, the Japanese staff cannot be reduced out of considerations of safety management. Local laborers work hard within the range of responsibility stipulated by their positions, but do not pay attention, as Japanese workers do, to the jobs of others.
- <4> Scope of labor of workers too clear-cut (2)--chemical products manufacturing, overseas-overseas
 - This is a problem of national character, but while the capacity for work of local workers in a specified field is quite high, work outside this range is not performed at all. They consider it not to be their job.
- <5> Scope of labor of workers too clear-cut (3)--chemical products manufacturing, overseas-overseas
 - If products are placed outdoors in an area without a roof, when it rains the goods will get wet. In Japan, workers will move the goods indoors when the rain starts, as a matter of course; but in Singapore workers will not move the products indoors if they are not so instructed. Their attitude is that “it’s not my responsibility if it rains”. This difference in attitudes must be taken into account.
- <6> Workers dislike physical labor--chemical products manufacturing, overseas-overseas
 - People in Singapore (many of whom are ethnic Chinese) often dislike physical labor such as cargo handling operations; 70% of our warehouse staff are foreign workers other than Singaporeans, and half of these are Malaysians.
- <7> Excessive trust in computers (1)--chemical products manufacturing, overseas-overseas
 - Singaporean employees tend to place excessive trust in computers. They can perform data input, but do not understand overall systems, and so there are cases in which responses to problems are inappropriate. Further education and training are needed, including prevention of human errors, but there are cultural differences involved.
- <8> Excessive trust in computers (2)--chemical products manufacturing, overseas-overseas
 - Singaporeans tend to place excessive faith in information systems, and do not believe in the possibility of input errors by intervening humans.
- <9> Employees take pride in their work--chemical products manufacturing, overseas-overseas

- Things do not go well if attempts are made to run jobs according to the value system of the Japanese. Differences in attitudes must be taken into account when ordering work. If mistakes are made in this respect, problems occur when handling cargo. Workers in Singapore, and also in Malaysia and Thailand, take pride in their work.

(4) Other

<1> Lack of development of commercially marketed digital maps--distribution, domestic-domestic

- There are car navigation systems, but because map databases are undeveloped, they do not sell.

5.5 Other

<1> There is a logistics-related organization--logistics, overseas

- There is a logistics-related organization in Singapore, the SLA (Singapore Logistics Association). This organization promotes programs related to logistics, holds periodic seminars and forums related to setting up companies, securing manpower, qualification tests and other subjects, and holds meetings on logistics informatization. Meetings with government personnel and PSA are also held.
- All logistics companies are affiliated with the SLA.

<2> Negotiations are common in purchases--distribution, domestic-domestic

- Sales are expanding because there are price tags with clearly marked prices, and the prices in question are low. In Singapore, auto parts are generally sold at repair shops and the like; there are no price tags, and negotiations are normal. And, quality cannot be verified. However, with the appearance of small retailers such as our company, consumers have come to appreciate a sales method in which prices and quality are made clear, and hereafter this is expected to have a considerable impact on overall commercial trends.

<3> The future of Singapore--logistics, overseas

- Singapore is putting efforts into service fields, and in particular into the medical and financial sectors.
- The government is involved a joint venture on Batam Island in Indonesia. Items produced on Batam will be sold as made in Singapore; work is underway to ensure things move efficiently.

6. Summary

The results of hearings in each of the countries are summarized below, grouped into the issues common to each of the survey groups--logistics services, costs, and infrastructure.

1) Logistics services

Logistics services rely primarily on manual labor for all operations, whether cargo handling, storage, or inspections. The frequency of use of pallets and forklifts is low. In general, when wage levels are low it is cheaper to rely on human labor, and so little progress is made toward mechanization, including use of forklifts. However, in order to cope with diversifying products and shortened lead times, and to improve freshness control and inventory management, some degree of mechanization and investment in barcode management and other informatization will be necessary. Adoption of pallets (palletization) will be an important issue in future.

Packing and packaging for shipping are inadequate, cushioning material is not used, specialized boxes are not used, and there are numerous other problems related to packaging. It will be necessary to improve shipping quality, including methods of cargo handling and storage, and to cultivate workers for logistics businesses.

Informatization is being pursued only between large manufacturers and large retailers; and although there has been an increase in the use of e-mail recently, most transactions still rely on faxes and paper documents. And because many manufacturer products are not provided with product barcodes, barcode management is limited to inventory management within the depots of major retailers and sales management at storefronts, and management is limited to the application of proprietary labels at depots and affixing of price tags.

Where transport is concerned, uncertainty in times of arrival due to restrictions on operation of large trucks in capitals and congestion (with delays not on the order of hours, but ranging from one to three days), and security measures, are common issues; hereafter it will be necessary to develop measures to deal with problems of traffic in urban areas and similar issues. Also, operation of chartered vehicles is the rule, and there are no systems in place for mixed loads (joint transport) or for large batch transport between truck terminals. On the other hand, excessive loads are common, there are numerous accidents and malfunctions, and delivery times are not reliable; this is also the cause of damage to goods during transport and cargo handling.

2) Logistics costs

Because of the low cost structure due to wage levels and exchange rate differences, logistics costs are essentially not viewed as a problem. However, as stricter demands are made of logistics management, it is gradually being recognized that “costs are high relative to the level of service”, and hereafter it will be necessary to improve the level of logistics services. Also, marine shipping and air freight are monopolized by state-run firms and large companies, and the absence of any prospect of cost reductions is cause for some dissatisfaction.

Also, it was noted that because shipping rates and other charges are not made clear, it is not possible to judge whether costs are appropriate.

3) Logistics infrastructure

Among “hardware” logistics infrastructure, development of electric power and communications infrastructure is, like the traffic infrastructure, vital. Where traffic infrastructure is concerned, in addition to road construction, there is a need for reform of levels of road maintenance and management, including restrictions on passage of large trucks in capital areas, and of methods for regulating traffic.

Where “software” logistics infrastructure is concerned, work is needed on logistics-related business laws. As opposed to restrictions on market entry of foreign-capitalized businesses in general, restriction of market entry is very strict in all countries where logistics businesses are concerned; and hereafter streamlining and enhanced efficiency of transport systems through cooperation with international logistics operations will be necessary.