PART-III
WOODEN FURNITURE INDUSTRY

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1. General Situation of the Thai Furniture Industry

The Thai wooden furniture industry began developing as an export industry in the 1970's. Behind this were several factors: [1] the commercialization of parawood as a furniture material 10 years ago, [2] the designation by the BOI of rubberwood products as an industry for promotion of investment, and [3] the government's ban on exports of logs in 1977.

The number of furniture companies registered at the Ministry of Industry rose rapidly from 243 in 1975 to 1,270 in 1987.

However, 95% of the companies are small in size, employing less than 50 workers. The medium and large sized companies account for only about 5%.

The large sized companies dominate the exports of furniture, with the top nine companies accounting for 41% of the exports in 1985. Exports exceeded 100 million bahts in 1988 and shot up in the succeeding 10 years to reach 3.2 billion bahts in 1987 - for a more than 30-fold rise. The main markets are the U.S., West Germany, and Japan.

A problem in the Thai wooden furniture industry is the rapid fall of its rate of self supply of main types of wood (78% in 1987). At the present time, parawood is viewed as a wood material for furniture, but there are problems in its processing and treatment as a material. Some large corporations have superior processing technology, but there is a large gap between the technical levels of different companies, so one of the keys in promoting furniture exports will be the measures to improve the processing technology for parawood. Another will be the measures to secure stable supplies of imported wood.

2. Production Activities and Technology

The Thai wooden furniture industry has been doing well these past few years due in part to strong furniture exports. Factories are being expanded or newly set up one after the other. Numerous cases of lumber or plywood manufacturers starting production of furniture have also been seen. The average number of workers in the factories visited which were producing wooden furniture was about 380 workers - making them comparable in the number of workers to large sized factories in Japan.

All of the factories surveyed were exporting in some way or another. None of the companies were producing all the products for domestic consumption.

2-1. State of Facilities

(1) Current State of Main Facilities

A basic characteristic of use of machinery in production in Thailand is to use a general use machine like a specialized machine fixed to one job. These general use machines are very old and create difficulties in securing a certain level of product quality in terms of efficiency and precision with the skill of general workers.

These mostly general use production facilities are partially produced in Thailand, but the majority is imported from Taiwan, F.R. Germany, Italy, Japan, and the like and includes used units. Recently, use has been made of large numbers of used machines from Taiwan.

Of the 25 companies visited, just 12, or about half, had dry kiln facilities. Only three companies were deliberating drying their wood naturally. The other companies were purchasing dried materials and were totally oblivious as to the state of drying. No companies were seen as inspecting the degree of dryness upon their purchases.

Dust catching facilities were installed in almost all the factories, however, the number of dust catchers, their deployment, and their piping were not suited to the number of work machines, resulting in a noticeable insufficiency of dust collection capacity.

The painting process requires flush type painting booths separate from other processes in the sense of securing a quality finish of the product and fire prevention. Some of the companies surveyed did not have sufficient facilities for the painting process. One factory was even observed to be doing the painting work right out in the open.

As to the drying of the products after the completion of the painting, it is desirable to quickly complete the final drying so as to prevent adherence of dust in the air and it is desirable to do the same in independent rooms or areas provided with electrical drying facilities. In this regard too, there is still much room for study in Thai furniture producing factories.

(2) State of modernization of facilities

The vast majority of the companies suffer from a critical shortage of information on new equipment and cannot keep up with advances made in machinery when replacing their work machines. Overall, signs are just now beginning to appear of the introduction of automatic work machines and labor saving equipment at this stage.

(3) State of maintenance and safety

There were many improper points in the maintenance of the work machines, both in the large and small factories. In particular, there was little interest in the polishing of drills, cutters, and other woodworking cutting tools. Some factories were even observed to be using notched cutting tools. This is feared to have an effect on work quality.

In general, many factories were unconcerned about the centering of rotary machines. In addition, there were many facilities observed lacking protective covers for cutting tools, belts, and other rotary parts and moving parts, resulting in problems in work safety.

2-2. Technical Level and Quality

(1) Product planning and basic design

The Thai furniture manufacturing companies strongly tend toward production based on the plans and designs of the customers. Planning and design are not possible without a sufficient grasp of the properties of the markets due to differences in the lifestyle and habits in the furniture markets, and such market information has not reached the industry much at all.

(2) Production design

There is only a thin strata of designers able to handle production design and an absolute shortage in the number of designers able to handle production design in the industry as a whole. In a noticeable number of companies, the managers lacked an awareness of the necessity of production design and production based on drawings.

In terms of the technical capability of the production designers, there is insufficient knowledge about the basic design features of structural strength. In particular, there was a noticeable weakness in design capabilities relating to assembly strength and adhesion strength and a shortage of knowledge about work precision, deformation projections, etc.

(3) Production

Most factories producing primarily export furniture were relatively large in size had numerous machine tools and were set up for mass production.

A problem arising from this state of affairs is the shortage of engineers knowledgeable about the machinery and equipment. The shortage of engineers knowledgeable about operation and adjustment of machines to meet with the objectives of the work and the maintenance of numerous types of machinery is worsening. Similarly, the shortage of skilled workers able to correctly set the work efficiency of each equipment and the suitable amount of cutting and to select the cutting tools and other tools and judge their condition is becoming a problem.

The importance of drying of materials is generally recognized, but almost none of the factories are performing the temperature control, humidity adjustment, etc., such as the raising of the temperature inside the dry kilns and the maintenance of those temperatures, or are not keeping records of the treatment, based on correct knowledge. There are many improper points with regard to practical drying knowledge.

In selecting materials for parts, it is desirable to make the selection envisioning the state of the surface of the finished product, but not much attention is paid to the existence of knots and cracks or mismatching of the grain.

As mentioned earlier, almost no attention is given to the state of maintenance of tools (cutting tools) used for cutting, planing, boring, etc. The greatest care is required in this regard in the coming introduction of automated and labor saving facilities. One thing noticeable about the use of these cutting tools is that heavy duty working is performed in the circular sawing, planing, and boring processes. In particular, the cutting is performed at excess cutting tool feed speeds and rotating speeds. This heavy duty working has a detrimental effect on product quality and presents problems in safety as well due to the fact that wood is a material which easily cracks.

In the polishing process, the direction of the final polishing is determined with respect to the type of wood used and the direction of the grain, but no uniformity was observed among workers in the factories surveyed.

The painting directly governs the quality of finish, but the directions of application and the frequency of application of paint by sprayers were varied. Therefore, numerous painting spots and unevenness of luster can be seen. This is due to improper machine finishing of the surfaces and further to differences in the mixture ratios of paint and solvents (thinners) and inappropriate numbers of applications (thickness) and directions of application. At the present time, Thai factories do not have mature enough painting techniques required for dealing with all these points.

The production lines tend strongly to make use of general use machine tools as specialized machines, so there are a larger number of work processes, waste in the flow of work members, and in some cases even crossing of flows.

Judging from the above, Thailand has had only short experience in the production of furniture of the mass production type and there are almost no control engineers in the industry who can handle production control, which comes from both theory and experience, in particular practical combination of process settings.

The biggest elements in judging quality are the performance, strength, and beauty. In performance, there are numerous problems such as tottering in legs, uneven table surfaces, looseness of the drawers, poor fit of the doors, and misalignment of mounting of the fittings.

In regard to strength, a large problem exists in the loss of strength due to lack of assembly precision.

The quality control staff in most cases had double duties such as design or process control and their actual duties could be said to have been within the area of simple inspection. Regarding inspections, almost none of the companies performed inspections of the dimensions upon purchases of lumber products or inspections of the moisture content

The companies had basically no standards serving as measures for checking quality. Therefore, they did not understand the significance of quality throughout the processing, assembly, and finishing processes and were unclear as to the quality demanded for the products itself and the allowable range of quality.

2-3. Product Costs

There are differences depending on the species of wood used and the grade of the products, but the materials costs account for 40 to 60% of the ex-factory price, for an average of a little over 50%, it is believed. The ratio of personnel costs to the ex-factory price is a wide range of distribution of 15 to 40%, varying according to the production items and the state of facilities, but the average value is estimated at about 30%.

2-4. Development of Human Resources

The majority of the companies surveyed strongly complained of the fact that the supply of engineers and other key personnel has not kept up with the progress and expansion of Thailand's industrialization program and of the difficulties in securing the manpower for expansion of business.

As to in-house training of employees, the frequent response was that in-house training was through on-the-job training, but this could not be expected to give systematic, integrated training. Almost none of the companies have the work standards, quality standards, and other in-house standards required for training. This is thought to be one reason for this.

Regarding the training and education provided by government organizations, with the exception of some seminars, there are many doubts as to the government led training and reeducation of personnel as they stand now.

2-5. Problems and Countermeasures

(1) Promotion of replacement and modernization of processing facilities

The Thai furniture industry is currently in the middle of a process of quantitative expansion and has yet to finish the conversion of work from human hands to machinery where possible. Unless it introduces automated, specialized machines and introduces modernized facilities, it will find it difficult to establish true international competitiveness and expand its export market. Industrial organizations must take the lead and work to collect information on trends in development of facilities and start full-scale research on CAD. Further, it would be desirable to conduct research on the linkage from CAD to CAM in parallel.

(2) Promotion of spread of dry kiln facilities and establishment of drying technology

The quality of the drying largely depends on the control technology for the drying temperature, drying period, and moisture content. A government organization should research the details and provide guidance to the industry. Further, it will be necessary, for companies without dry kiln facilities, which are mostly small and medium sized companies, to promote action by low interest fund assistance or joint utilization of dry kiln facilities.

(3) Strengthening of individual guidance on production and quality in accordance with characteristics of export market

Depending on which market the company is targeting for export, the targeted quality, the plans of equipment, and the process settings differ, so the quickest way to upgrade quality to match productivity and the market would be to obtain direct guidance from specialists from the targeted markets. The same applies to product planning and design.

(4) Conversion to production based on drawings

Regarding the product design, which follows product planning, there is a lack of design capability and knowledge of draftsmanshiop among designers as a whole. The most important things in design at the present time are the promotion and strengthening of design capabilities in regards to product strength. The augmentation of organizations for providing guidance in specialized design is urgent.

(5) Strengthening of functions of FIDC

International trends in wooden furniture have been changing with each year and a higher degree of processing technology and skill have come to be demanded. Therefore, it is necessary to reeducate the medium level engineers and skilled workers now handling furniture production and to quickly give the expanding furniture industry practical export adaptability.

A possible place for this would be, considering the past administrative organizations and their roles, the FIDC. Strengthening and development of its current functions would seem a realistic approach.

The guidance would be offered to FIDC staff and medium level engineers from private companies and would cover, in content, production design, drafting, and other design techniques, production processes, schedule planning, and other aspects of planning and control technology, drying technology, processing technology and assembly technology, including bonding methods, for legged furniture and box type furniture, tool handling methods, polishing, paints, paint adjuvants, painting methods, and other finishing methods, quality and quality control technology, etc.

To implement this education and training, replacement of some of the processing facilities currently owned by the FIDC will be necessary.

To overcome the present weak points of Thai furniture products, it would be effective for foreign engineers and FIDC personnel to provide frequent seminars and roving guidance of factories on the points to watch in design, relating to the properties of the wood materials, and the technology for finishing furniture.

The FIDC should augment its capacity for testing materials and products and expand its services. In particular, it should run correct tests on the strength of members, assembly strength, repetitive strength, and properties of materials and issue official test findings so as to contribute to the improvement of basic furniture quality, for example, judging the compliance with customer specifications or the standards of the market, i.e., export destination.

3. Supporting Industries

3-1. Raw Materials

Regarding the access to logs, lumber, and other materials for furniture, many large sized corporations are have integrated supply systems, covering forestry and lumbering, in-house or in their affiliated group, and so overall have no problems in obtaining materials.

On the other hand, the small and medium sized companies have trouble in that purchases cannot be made at the best timing since the purchasing lots are small.

The raw materials for plywood are mostly imported, but there are no problems in access. Production has fallen in the past two years.

The volume of production of particleboard is rising. At the present time, the companies are obligated by the government to export, so much of the production is of thick board and only a little of thin board. The prices have been rising each year. The particleboard is produced by the hot press method. The cold press method is not used. The strength of the products is sufficient and the error in thickness is held within ± 0.3 mm.

Demand for parawood has been growing rapidly, so there is a slight shortage of supplies. Prices have risen 20% from last year.

The area of rubberwood plantations rose to 11.00 million rai in 1988, it is reliably thought. Of this, 90% is distributed in the local regions of southern Thailand and 10% in the northeast.

The current amount of rubberwood being used is about 300,000 rai, so there are considered to be no apprehensions on supply for the time being.

At the present time, 312,500 rai is being aforested a year, but the average rate of implementation is about 90%. Recently, there has been rapid progress in aforestation of rubber tree forests in the northeast, where the wood is of superior color, high in wood fiber density, and hard.

The prices of rubberwood have been rising rapidly these past two or three years.

Starting January 1989, domestic harvesting of teak trees was banned and the industry was forced to rely on imports for its supplies. Prices have been continuing to rise, and both the public and private sectors have apprehensions over future projections of supply.

3-2. Secondary Materials

Thailand has about 20 to 30 companies, including cottage industries, engaged in the production of furniture fittings, but none of the companies are engaged in integrated production of all varieties. Further, there are no foreign capital affiliated companies. There are about 10 importers.

As to the items produced, Thailand can manufacture fairly much everything, but too much investment is required for the molds and dies and the processing facilities, so it cannot manufacture good quality items.

At the present time, large amounts of standard screws, bolts, nuts, nails, etc. are being used for export furniture with almost no problems. Thailand cannot make console hinges, handles, rails, etc. with good functionability and has to use imports for its export furniture.

3-3. Processing Facilities and Parts

Thailand has four to five companies which produce woodworking machinery, but these account for only a small percentage of the machinery supplied to the domestic furniture industry.

It will still require considerable time before these companies contribute to procurement of parts by the furniture industry, which uses mostly imported facilities.

Cutters, saws, and other tools are produced in Thailand, but the industry relies on imports for almost all of the same. Improvement of the quality of domestic tools is being sought.

4. Marketing

Thai's modern furniture industry has only been in existence a short time and exports have begun to soar only just recently. Therefore, there are few (3) companies engaged in their own design work. In general, companies cannot be said to be positive in their marketing activities.

The U.S. market is large and demand is diverse, so Thai products are welcome. U.S. importers and manufacturers are interested in Thai products, but feel it difficult to obtain information through catalogs etc. and point to a lack of effort on the part of Thai industry in marketing.

On the other hand, there is a demand for Thai products in France, but in general they are treated as low class items and are not regarded well. In France's case, demanders are shifting toward moderate and high class items in their preferences. In particular, design and finish are judged by tough standards.

In promoting exports of furniture, attention should be paid to establishing a system for the supply of products which meet the characteristics of the target markets and tailor marketing methods to the markets as well.

5. Corporate Operations

5-1. Corporate Development Process

Although Thailand has been manufacturing furniture for many years, the sector has centered around small companies using manual labor. Most of the existing export-oriented wooden furniture manufacturers have been established since the 1970s. Furthermore, it has only been in the past 10 years or so, along with the increase in exports, that wooden furniture manufacturers have set themselves up for mass production. This move has been due to changes in the production environment such as the use of parawood in furniture, which started about ten years ago, and the prohibition of raw lumber exports in 1977.

Thai wooden furniture manufacturers can be roughly divided into three categories according to the degree of product processing and the presence or absence of a mass production system: 1) companies mass-producing products with a low degree of processing; 2) companies mass-producing products with a high degree of processing; and 3) companies with a high ratio of manual processing. Based on the results of the present survey, it appears that firms manufacturing furniture with a low degree of processing generally began production later than those producing products with a high degree of processing; virtually all of them have commenced production since 1985.

5-2. Corporate Operations

Most Thai wooden furniture manufacturers are local-capital firms, with few joint ventures or foreign-affiliate companies being observed. The introduction of technology and capital through the attraction of overseas corporations can be an effective means of expanding mass production systems, but concern over a stable supply of furniture materials in the future is proving to be a handicap in attracting foreign companies.

In general, Thai manufacturers exporting wooden furniture are supplied with product specifications and designs by their customers and produce products based on the same. However, some of the larger manufacturers producing upmarket furniture as well as some companies producing hand-made furniture exported products based on original designs.

Manufacturers producing furniture with a low degree of processing can be roughly divided into those exporting primarily to the U.S. market and those exporting primarily to the Japanese market. No manufacturer visited during the course of the survey placed equal weight on sales to both. Some of the firms producing furniture with a high degree of processing were pouring effort into both the U.S. and Japanese markets. One of the reasons for this dichotomy is the lack of skills necessary to carry out mass production with separate control of quality for products for the U.S. and Japanese markets.

At manufacturers exporting mainly to the Japanese market, product quality was ensured by receiving technical guidance from Japanese manufacturers or employing highly-trained inspectors.

5-3. Problems and Countermeasures

Given the difficulty of procuring materials within their own country, Thai furniture manufacturers must take advantage of low labor costs to mass-produce high-quality products with a high degree of processing. This will become increasingly important in the future.

In Thailand, the mass production of wooden furniture is a relatively recent phenomenon, and worker skills are not yet sufficient. Mass production in this type of environment may require the introduction of specialized equipment for specific processing steps to supplement the lack of worker skills. In addition, since some nations exporting wooden furniture can offer lower labor costs, Thailand must increase productivity through the aggressive incorporation of specialized equipment into the production process.

Larger manufacturers that are mass-producing furniture with a high degree of processing have already introduced a wide variety of specialized equipment, and production lines are well-controlled. At small and medium-sized manufacturers, however, there is still room for the expansion of mass production systems for products with a high degree of processing. Given this situation, the quickest means of enlarging Thai export capacity would be an increase in the production capacity of existing small and medium-sized firms. Furthermore, an environment facilitating the introduction of specialized equipment for the various processing steps should be prepared and systems for instruction on mass production management technologies reinforced in order to help these companies to produce more products with higher quality and a higher degree of processing.

6. Current State of Industries of Competing Nations

6-1. Malaysia's Wooden Furniture Industry

According to official statistics, there are 324 furniture manufacturers in Malaysia, including Saba and Sarawak, which produce about M$260 million worth of furniture. The furniture industry accounted for 0.1% of the production of all manufacturing industries as of 1985 - an extremely low share.

The level of technology in its furniture manufacture is low overall, with insufficient recognition of problems in design, production planning, and QC.

Malaysia is blessed with large forest resources and will have no problems for the time being in the supply of wood, the main material used for furniture.

Overall statistics on exports of furniture could not be obtained, but office furniture, other furniture, chairs, chair parts, etc. are being primarily exported to the U.S., the U.K., Singapore, etc.

Some large companies are establishing technical tieups with foreign firms, participating in overseas trade fairs, and otherwise exerting effort to positively develop products and market them.

6-2. Taiwan's Wooden Furniture Industry

The majority of the businesses in Taiwan's wooden furniture industry are so-called cottage industries. Of the 2,032 companies reported by an official survey in mid-1988, there were only 15 large ones with over 200 workers.

Taiwan produced about NT$17 billion worth of furniture in 1987, displaying a growth of an average annual 16.7% in the past five years, but production has been declining somewhat since 1988.

Production of wooden furniture is an export industry. In 1987, over 95% of the production (on a value basis) was exported.

There have long been limits to the domestic supply of the main materials, wood, but Taiwan did not begin importing wood until around 1980. Due to the bans on exports of logs by the principal sources of supply, the Southeast Asian countries, Taiwan has been diversifying its sources of supply of wood.

Up until now, Taiwan has been primarily producing low priced items, but in recent years the improvement of its technical expertise and the promotion of mechanization of its facilities have enabled it to produce high quality furniture of a level competitive with Italian makes. The manufacturers are working to upgrade their technology so as to convert to medium and high quality furniture as the mainstays of their production and are working on factory control, diversification of the materials used, training of designers, and establishment of their own brands.

6-3. South Korea's Wooden Furniture Industry

South Korea began producing furniture on a corporate basis around 1960. As of 1986, there were 1154 wooden furniture manufacturers. However, the majority of these are small or medium in size. Only 16 companies are large ones with over 200 workers.

South Korea also has problems in securing supplies of wood, the main materials for furniture, and relies on imports for the majority of the same. Recently, it has been introducing particleboard and fiberboard as substitutes for wood.

The furniture industry suffers from a shortage of technical personnel, and improvement of the quality of products requires that suitable engineers be secured. At the present time, the industry is engaging designers from Italy, Sweden, and other countries so as to develop new products and improve designs. Recently, the industry and government have been considering cooperation in the establishment of a training center for skilled workers. Further, a furniture design course will be launched at a university in Seoul in 1989.

Exports of wooden furniture rose sharply starting 1986. The industry is trying to promote exports further by establishing overseas display centers and branches. Some companies have embarked upon local production (in the U.S.) with the double purpose of securing supplies of materials.

South Korea established industrial standards (KS) as part of its industrial promotion measures in 1962. As of February 1982, it had established 42 standards for the furniture industry to help improve quality.

6-4. Policies for Furniture Industry

In Malaysia, the wood processing industry is one of the industries taken up by the Industrialization Master Plan (IMP) formulated in 1986 and is being targeted for improvement. An industrial estate is also being developed for furniture.

In South Korea, the government does not offer an positive support to the wooden furniture industry, but the industry is working on its own to achieve greater efficiency in its production system and to develop export markets. Specifically, it is forming a joint industrial estate and promoting cooperative use of production facilities there and business affiliations among companies.

In Taiwan, the authority does not provide any special guidance or offer any incentives for the wooden furniture industry. It only provides indirect support in development of furniture exports and in participation in exhibitions.

Japan does not take any specific measures for promotion of the furniture industry per se, but promotes advancement of industry, modernization of management, etc. as part of its series of measures for promotion of small business. These small business measures cover a wide range of financing, tax privileges, management and technical guidance, etc.

7. Trends in Key Markets

7-1. Scale of the Furniture Market

U.S. shipments of wooden furniture have recently moved at about the US$6.2 billion level, thus stagnating somewhat, but in the long term the maturation of the population structure is expected to lead to an improvement in the market conditions.

The wooden furniture industry is in a period of transition. Large manufacturers are in the process of taking over small and medium sized manufacturers, while the mainstay of products is shifting from low and medium class items to medium and higher class ones. As a result, imports of such low and medium class items have been increasing. Thai products are competitive in this area and therefore much can be expected there.

The U.S. imported US$2.3 billion worth of wooden furniture in 1987, up 11.7% from the previous year. On a value basis, the main sources of supply were Taiwan, Canada, and Italy. Thailand came in at 11th place (1.9%).

The imports from Thailand span a wide variety of items. A comparison of the main items with competing countries shows Thailand to be superior in price in three items: "other tables", "other chairs", and "dining tables". Future growth in imports of the same may be expected.

Domestic demand for wooden furniture in France totaled 28.2 billion francs in 1987, of which about 27% was filled by imports. Further, 85% of the furniture demand was for home use.

The French furniture industry includes numerous small sized companies. Large companies with over 200 employees only account for 33% of total production. Products are extremely specialized, so consolidation or reorganization of companies would be extremely difficult.

The furniture which France imports are mostly low priced items. The main source of supply is Italy, followed by West Germany, Belgium, etc. Thailand accounts for only a little over 1% of all imports.

Most of the imports from Asia, with the exception of those from Taiwan, are made of rattan. In the French industry, Thai furniture is considered synonomous with rattan furniture.

7-2. Evaluation of Thai Products and Problems Therein

There are several problems in the promotion of exports of Thai furniture to the U.S. and French markets.

First, the U.S. accepts Thai products with a good feeling and there are numerous businesses interested in Thai products, but the comment was made that while deals with Thailand were desired, the situation there was not understood. This reflects the insufficient marketing effort of the Thai industry. Depending on how much effort is made, considerable expansion of exports to the U.S. can be expected. As means for this, the suggestion was made of participation in trade fairs and the establishment of offices in the U.S. by Thai industrial organizations.

On the other hand, France makes tough demands on the quality of Thai products and thus seems different from the U.S. market. The industry advised that for the French market, the emphasis should be placed on not increase of the quantity, but improvement of the quality. Note should be taken of the fact that consumer preferences are shifting toward medium and high class items. As a means for upgrading quality, recommendation was made of technical cooperation (technical tieups) and joint ventures with European dealers.

In this way, promotion of exports requires measures tailored to each market. This in turn requires the proper domestic setup.

8. Setting of Export Targets and Requirements for Achievement of Targets

According to the UN Yearbook of International Trade Statistics, world imports of furniture (including metal furniture) grew by an average annual rate of 7.5% in the nine years from 1978 to 1986. During the same period, the average annual rates of growth of imports by the leading importing nations (U.S., West Germany, France, the U.K., and Japan) ranged from 12.5% (France) to 35.8% (U.S.), with such imports thus increasing at a speed far greater than the world average.

As opposed to this, according to the same data, furniture exports by Thailand grew by an average annual 39.2% in the period from 1978 to 1986. Exports of wooden furniture alone grew by a large average annual 19.5%.

There are problems with the above UN statistics, and long term Thai figures on furniture exports are not available, so it is difficult to make future projections on exports based on firm figures.

However, there is brisk demand for Thai furniture in the U.S., one of the main markets surveyed, and while the evaluation of the quality of Thai products was severe, there was interest in France as well. Therefore, if Thailand makes efforts in marketing and improvement of quality through an upgraded level of technology, a considerable growth in exports can be expected in the future.

9. Policies and Regulations

9-1. Policies for the Furniture Industry and Problems

(1) Basic policies

The Ministry of Industry has established a policy for promoting the wooden furniture industry as an export industry, but starting January 1989 a ban was placed on harvesting of wood and this has increased the problems in following through with this policy.

(2) Investment incentives by BOI

Furniture using rubberwood and wooden furniture for export purposes are eligible for the investment promotion of the BOI and can enjoy several incentives.

(3) Functions of FIDC

The FIDC is active in promoting the wooden furniture industry, but suffers from antiquidated testing and inspection facilities and insufficient staff, it has been pointed out.

(4) Tariff refund system

The refund system of tariffs now in effect is growing in importance to the furniture industry, which will have to rely increasingly on imports in the future, in the sense of maintaining its international competitiveness.

(5) Policies on materials

Along with its ban on the harvesting of wood domestically, the government is lowering the import tariffs on logs and lumber.

(6) Delayed modernization of facilities

Most of the present day machinery and equipment is old in style, which poses a problem interms of maintaining competitiveness in the future.

9-2. Dealing with Problems

(1) Basic policies

Due to the large restrictions in the area of acquisition of materials, the industry cannot limit itself to the field of price competitive products. It must raise the technology-intensiveness and enter the medium and high class item market.

(2) Strengthening of technical guidance system

In the furniture industry, upgrading of technology is in many ways achieved through the accumulation and collection of knowhow, so a considerable strengthening of the technical guidance system of the FIDC, including augmentation of its facilities, would be desirable.

(3) Material supply system

Measures must be taken to stabilize the supply of usable domestic rubberwood and to stabilize prices.

(4) Promotion of modernization of facilities

Some sort of special measures would be desirable for promotion of modernization of facilities.

Chart 17. Thailand's Wooden Furniture Industry - Features and Topics

	Main types of furniture and main markets	Features and problems of companies	Topics
Manufacturers producing furniture with high degree of processing	Production of high class furniture. Export markets are U.S.,Japan,Europe, etc.	Includes leading Thai companies. While there are differences in size, mechanization is underway and production efficiency is high. Export competitiveness is considerable. Some companies are able to plan and design products on their own.	Promotion of introduction of latest facilities. Improvement of product planning, development, and design capabilities. Training of engineers. Greater effort in export marketing.
Manufacturers producing furniture with low degree of processing	Color box furniture parts and other low processed items. Exports mainly to U.S. and Japan.	Existence of superlarge companies. Size of companies is relatively large. Due to low degree of processing, not much progress in mechanization. Relatively recent start of production of furniture. Lack of engineers with knowledge in machinery and equipment. Immaturity of production control. Lack of product planning and design capabilities.	Training of mechanical engineers. Training in and strengthening of production control and quality control. Training of design personnel.
Manufacturers with high proportion of processing by hand	Production mainly for domestic market.	Many small sized companies. Little export experience. Lack of knowledge of overseas markets. Slow in mechanization, with noticeable ageing of machinery on hand. Lack of awareness of production control and quality control. Overall lack of human resources.	Mechanization, in particular introduction of drying machines or replacement of same. Improvement of awareness of production control and quality control. Promotion of imports of materials. Supply of market information. Export promotion activities.

Common topics
- Lack of awareness of importance of drying of wood
- Insufficient usage of mahcinery and insufficient maintenance and control of tools, etc.
- Insufficient technology and knowledge of production in general

Chart 18. Exports of Wooden Furniture by Asian Economies and Imports by the U.S. (1987)

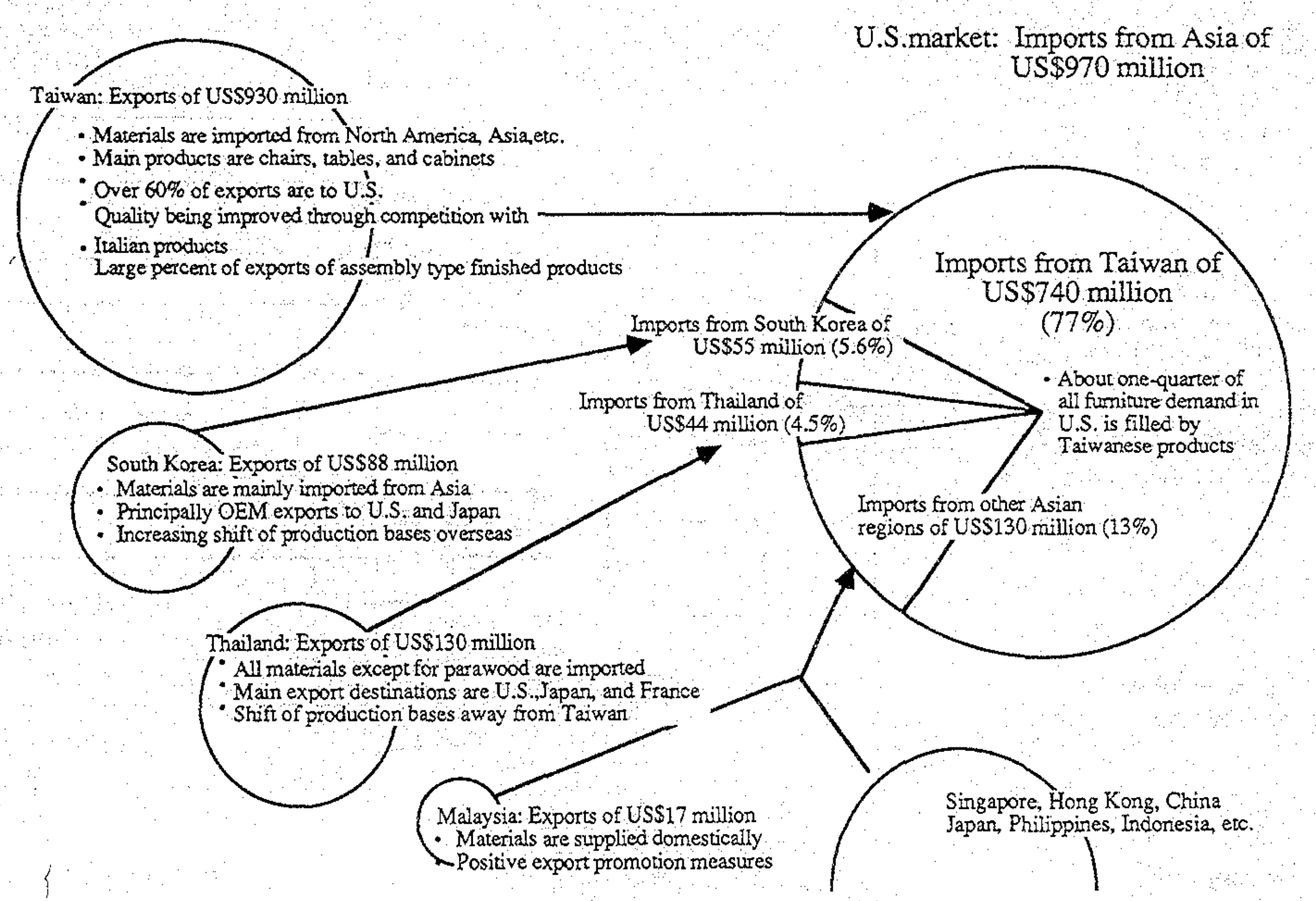
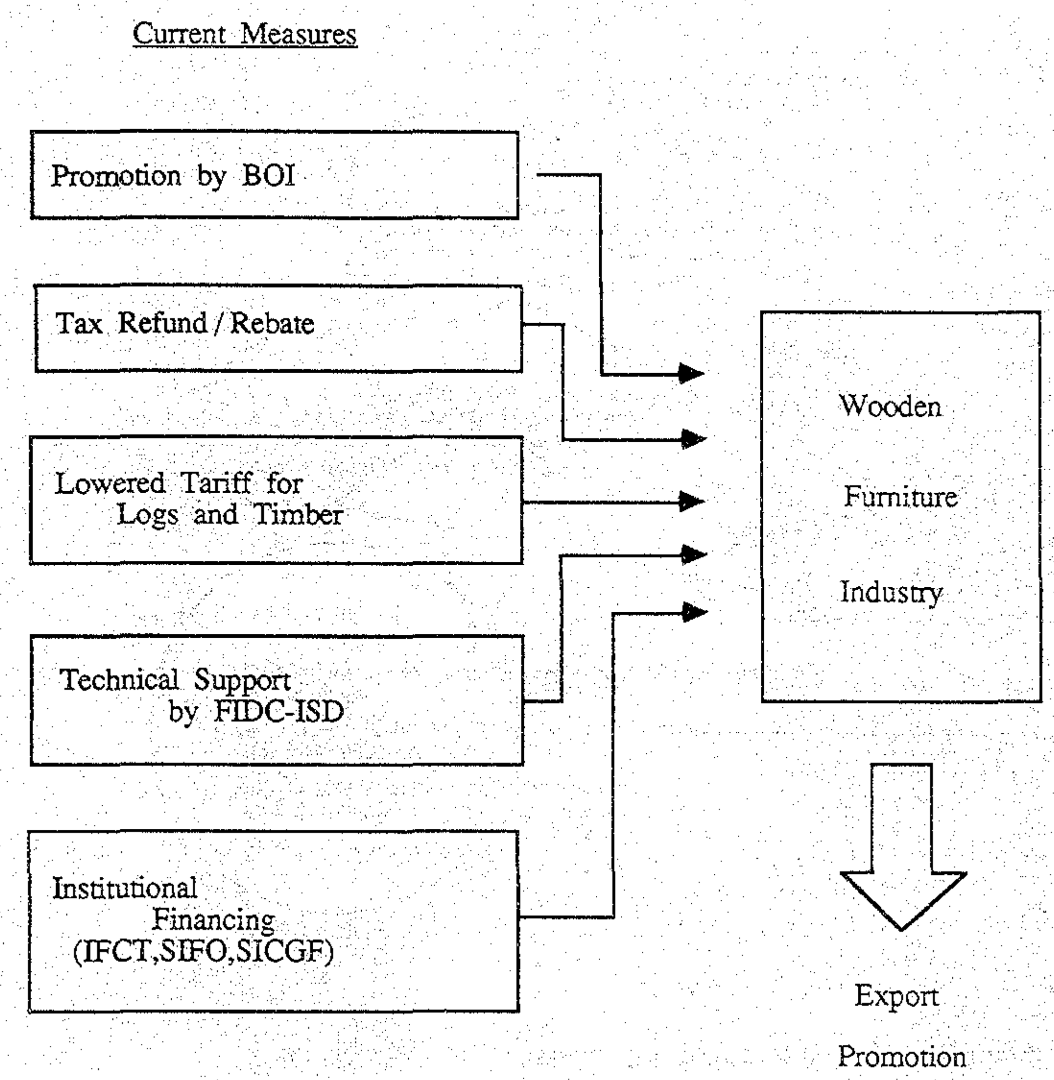


Chart 19. Major Policy Measures for Wooden Furniture Industry



Recommended Measures

(1) Reinforcement of FIDC-ISD to raise the technical level of the industry.

(2) R&D of chemical treatment of rubber wood.

(3) Promotion of technical cooperation with foreign manufacturers.

(4) Promotion of institutional financing and exemption from import duties on machinery to gear up modernization of production equipment.

(5) The advance of firms into wood-producing countries to secure the supply of wood.

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