



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

→ Theme VASINONTA

17

SURVEY
ON
OPPORTUNITY FOR INDUSTRIAL COOPERATION
BETWEEN
INDUSTRIAL ENTERPRISES FROM THAILAND
AND
POTENTIAL ENTERPRISES FROM DEVELOPED COUNTRIES

Survey
on
Opportunity for Industrial Cooperation
Between
Industrial Enterprises from Thailand
and
Potential Enterprises from Developed Countries

Survey Team

Mr. Thamnu Vasinonta

Mr. Manas Barameechai

Mrs. Pismai Boonyakiat

Mr. Sittipong Saiyen

Tables of Contents

	Pages
Forward	1
I Introduction	2-4
II National Policies and Institutions Relevant & Involved in the Promotion of Industrial Co-operation Activities Between Domestic and Foreign Companies	5-20
1. National Policies	5-11
2. Institutions Involved	12-20
2.1 Ministry of Industry	
2.2 Industrial Finance Corporation of Thailand	
2.3 The Federation of Thai Industries	
2.4 Board of Investment	
2.5 Venture Capital Companies	
III Identifying Potential Sub-sectors for Initiation	21-29
1. Lists of Selected Industrial Sub-Sectors	21
1.1 Food Industry	
1.2 Apparel Industry	
1.3 Metal Industry	
2. Criteria for Selection of Sub-Sectors	21-29
2.1 Food Industry	
2.1.1 Basis for Selection	
2.1.2 Performance	
2.2 Apparel Industry	
2.3 Metal Industry	

	Pages
IV Identifying the Most Promising Plants Within Sub-Sectors	30
1. Food Industry	30-31
1.1 Better Food Co., Ltd.	
1.2 Rungsin Factory	
2. Apparel Industry	31-32
2.1 Micheal Trade Ltd. Part.	
2.2 Four Seasons International Co., Ltd.	
2.3 Annie Bara Ltd. Part.	
3. Metal Industry	32-33
3.1 Micron Max Co., Ltd.	
3.2 Biggo Overseas Corporation	
V Summary and Recommendations	34

Foreword

In recent years, UNIDO has begun new activities to develop and explore forms of cooperation with the enterprise sector. Many companies have approached UNIDO for information on industrial co-operation opportunities with companies from the developing world. The number of viable project opportunities available via UNIDO's Headquarters is still however very limited.

Selective industrial surveys provide the basis for increased industrial co-operation activities between enterprises from developed and developing countries. As a pilot project, six countries have been selected, for which surveys will be undertaken to investigate the potential for international industrial co-operation. The six surveys are expected to provide an adequate source of information on opportunities for industrial co-operation with enterprises from developing countries.

The surveys will identify the most promising areas for industrial co-operation and indicate two to three plants which are willing to enter into industrial co-operation activities with partners from industrialized countries. Co-operation potential could be in areas such as joint management, joint ventures, subcontracting, transfer of technology (licensing, patents), technical assistance, training of managerial and technical personnel, joint technological research, joint market research or joint marketing.

In this survey, "Thailand Case" the survey team has selected Food, Apparel and Metal Working sub-sector industries. Among them, 7 potential plants have been selected to present their own background and requirements for co-operating with investors from industrialized countries. Although each company's data is not quite complete, it is sufficient for the purposes of preliminary analysis.

I Introduction

In the early 1980's when general Prem Tinasulanonda became the 17th Prime Minister of Thailand and the country experienced a financial crisis brought about by the devaluation of the baht, many enterprises went bankrupt while others became conditioned by the changes in the financial picture. Manufacturing was eclipsed by agriculture in terms of gross domestic product and export earnings. The market soon became bullish and the world manufacturers prepared to compete.

At present most of the industrialized world is experiencing annual GDP of about 3%. Thailand's growth for this year, on the other hand, is 9.3%. (in 1987 Thailand's GDP was B 1,223,218 million, roughly US\$ 49 billion). Manufacturing is growing at the rate of 11.5% a year and contributing a great deal to GDP and export earnings (export contributes around 25% to GDP). Compared with the developed world Thailand's growth rate can be said to be booming. However, there are underlying facts that need to be kept in mind if we are to understand how far along Thailand's manufacturing sector really is at the present time.

As a young player in the industrial world, Thailand has focussed the manufacturing energies on low tech, labor intensive industries. The strategy behind the low tech, labor intensive approach is to capitalize upon Thailand's cheap supply of labor and raw materials, thus enabling the country to compete more effectively in the international economy. Major Thai industrial sectors currently include textiles, jewellery, canned food, footwear and integrated circuits (assembly work only). Thailand does little raw material processing. The country has very few manufacturers of industrial machinery or intermediate materials.

At present, the major value adding factors in manufacturing are wages and salaries. Factory owners can realize profits from assembly work whereas high investment costs for high technology generally discourage Thai entrepreneurs. In the case of subsidiary companies producing parts and products for mother companies, profits are usually repatriated overseas..

Joint Ventured provide Thailand with an excellent vehicle for the transfer of technology, since from these joint ventures Thailand will eventually be able to adapt this technology and achieve its own technological milestones in the future. Through joint venturing learning will occur. It will take time, but eventually Thai industrialists will have the necessary familiarity to side-step joint ventures and hire the technicians directly after they have gained more experience and are able to compete with their rivals in more developed countries.

Going into Agro industry is one way in which the Thai government may respond to the fact that farmers are decreasing in numbers and fewer are land owners. Recent development has brought growth all over the country, and as a result land prices have skyrocketed. Many farmers have found that selling their farmlands and keeping the money in the bank is better than farming. Much land has been converted for industrial applications as the Ministry of Industry in cooperation with the Board of Investment has set up industrial estates in many areas of the country. The main idea is to promote industrialization, and in that way to absorb surplus unskilled labour. Thailand Development Research Institute projected that between the years 1980 and 1989, 7.6 million people would join the labour force; between the years 1990 and 2,000, another 8 million would join. This points to the fact that with many new workers something must be done to absorb these people into the labor pool and promote manufacturing in whatever way possible to benefit all parties, not only the industrialists alone.

The National Economic and Social Development Board, Office of the Prime Minister, has announced its Sixth National Economic and Social Development Plan (1987-1991). What follows is a comparison between the recent plan and the last plan. (see Table I)

Responding to the Sixth Plan, the Ministry of Industry's overall strategy for Thailand's to become a newly industrialized nation will be the development of industries on the Eastern Seaboard. The Ministry intends to play a supportive role and let the private sector take the initiatives. By changing its role from regulator to facilitator the Ministry is now building up the capacity to identify investment opportunities. In a major step, the Ministry is now promoting the Eastern Seaboard project which is comprised of petro-chemical projects and a deep sea port. The petrochemical industries will create many upstream and downstream industries. The deep-sea port will serve as a gateway for Thai products to compete more effectively in the world market.

Another factor to be watched closely is the total ASEAN market with its 300 million people, already a world leader in the supply of minerals and commodities. If resources within the regions can be shared and co-produced among ASEAN members, the region can produce very competitive products for the world market. The main question is how can ASEAN members agree upon the basis of resource, opportunity and benefit sharing? This golden opportunity awaits those who are capable.

Table I

Macro Economic Targets of the Sixth Plan Compared with the Fifth Plan

Indicators	Fifth Plan (1982-1986)	Sixth Plan target (1987-1991)
1. Trade deficit (current prices)		
1.1 Average value per year (million baht)	55,600	35,900
1.2 Trade deficit/GDP (%)	5.8	2.7
2. Current account deficit (current prices)		
2.1 Average value per year (million baht)	36,000	11,600
2.2 Current account deficit/GDP (%)	3.8	0.9
3. Exports of goods and services		
3.1 Value growth rate (% p.a.)	9.8	9.9
3.2 Volume growth rate (% p.a.)	8.4	7.4
4. Export of goods		
4.1 Value growth rate (% p.a.)	8.4	10.7
4.2 Volume growth rate (% p.a.)	8.3	8.1
4.3 Average value per year (million baht)	177,500	290,700
5. Income from tourism (current prices)		
5.1 Value growth rate (% p.a.)	12.2	7.4
6. Imports of goods and services		
6.1 Value growth rate (% p.a.)	3.7	9.3
6.2 Volume growth rate (% p.a.)	2.0	4.5
7. Import of goods		
7.1 Value growth rate (% p.a.)	2.9	9.5
7.2 Volume growth rate (% p.a.)	2.9	4.6
7.3 Average value per year (million baht)	233,100	326,700
8. Economic expansion (% p.a. at constant prices)		
8.1 Agriculture	2.1	2.9
8.2 Manufacturing	5.1	6.6
8.3 Mining (including natural gas)	6.1	6.4
8.4 Natural gas (million cubic feet per day)	320 ¹	720 ²
8.5 Gross domestic product	4.4	5.0
9. Expenditure growth (% p.a. at constant prices)		
9.1 Private sector		
— Consumption	4.3	3.7
— Investment	- 0.8	8.1
9.2 Public sector		
— Consumption	3.3	5.3
— Investment	1.8	1.0
10. Government revenue/GDP (%)	14.8	15.8
11. Population growth rate (% p.a.)	1.7 ¹	1.3 ²
12. Per Capita Income (baht)	21,395 ¹	27,783 ²
13. Inflation (% per year)	2.9	2.3

¹ in 1986 ² in 1991 Note: Exchange rate 1 dollar/25.88 baht as of 12/2/87

II National Policies and Institutions Involved in the Promotion of Industrial Cooperation Activitive between Domestic and Foreign Companies

1. National Policies :

At present Thailand is in its third year of the sixth five-year development plan. According to the plan, the private sector will be given a dominant role in powering the economy, while the necessities such as infrastructure will be supported by the government. As the private sector paves the way toward industrialization, it should be kept in mind that real industrial development has taken place in the Thai economy for a mere forty years. This, of course, is in great contrast to the industrialized economics of the western world.

Looking at Thailand past progress in industrialization will offer clues as to the proper means for industrial development in the future.

In 1954 there was an "Act on Promotion of Industries 1954" established and followed by economic diagnosis and recommendations from a World Bank mission in 1959 which resulted in the first five year Economic Development Plan of the country.

Prior to that time Thailand imported all manufactured goods. For example, textiles came from the United Kingdom because Thailand could not compete in terms of quality and cost of production even though there were some state enterprises and small cottage industries.

At present, after production in Thailand for twenty years, manufactured goods contribute around twenty percent to Gross Domestic Product. Manufacturing surpassed agricultural in 1984. This new lead in manufacturing is surprising given Thailand's traditional agriculturally based economy. In the early 1950's there were around 2,000 factories. The number rose to 16,000 in 1960, 50,000 in 1970 and in 1986 the number was 85,000.

Changes in viewpoints an economic development over a 40 year period can be summarized as follows:

- | | |
|-------------|--|
| 1945 - 1960 | From the end of World War II until 1960, national policy on industrialization was led by the government based on state enterprises . In 1953 there was the State Enterprise Establishment Act, followed by the Industrial Promotion Act in 1954. |
| 1961 - 1971 | For the first time foreign investment was introduced in the first economic plans. There were guidelines for industrialization by the private sector and by foreign investment. The "Promotion of Industrial Investment Act |

1960" and its revision, the "Industrial Investment Promotion Act 1960", created an active policy to introduce foreign investment. An import substitution scheme created fine results.

1972 - 1976

During the third development plan there was an increase in the import of capital goods, intermediate goods and raw materials due to import substitution and a resultant deterioration in the trade balance. There was an oil crisis around the globe and Thailand was not excluded. Together with the end of the Vietnam War, which had created demand for many goods. Thailand realized the necessity of industrialization to promote exports. The "Industrial Investment Promotion Act 1962" was revamped in October 1972 to be the "Investment Promotion Act 1972".

1977 - 1981

During the period of the fourth development plan the government regarded the introduction of foreign capital as important for industrial development and continued to promote the export industries through the enforcement of the "Investment Promotion Act 1977". Further to this government decided to correct the overconcentration of income in the central region caused by the previous industrial policy. A decision was made to improve the industrial production structure, disperse industry to the regional areas and establish the required infrastructure for the regions.

1982 - 1986

During the period of the fifth development plan, which saw a certain amount of progress in overall economic and social development while the economic growth rate declined, employment was sluggish, the external balance deteriorated, fiscal deficits increased, the gap among regions increased, and other problems surfaced. This required a reevaluation of Thailand's industrialization policy.

1987 - 1991

During of the sixth development plan period, as a resulting previous pool against performance, there are additional new areas such as environmental protection. The plan consists of six main tasks:

1) elimination of the external deficits and fiscal deficits;

2) promotion of savings; 3) diversification of the production structure; 4) creation of employment; 5) increase of income and reduction of regional disparities; and 6) development of natural resources and protection of the environment.

Table II

GDP Structure by Industry (Nominal Base)

(Unit: 100 million bahts)

(% share in parentheses)

	GDP Total	Agriculture, Forestry and Fisheries	Manufacturing	Other Industries
1950	256(100)	146(57.0)	32(1.3)	78(41.7)
1955	395(100)	178(45.2)	50(12.6)	173(42.3)
1960	558(100)	214(38.9)	73(10.5)	271(40.6)
1965	843(100)	324(38.4)	119(14.2)	400(47.4)
1970	1,359(100)	387(28.5)	217(15.9)	755(55.6)
1975	2,972(100)	941(31.7)	544(18.3)	1,487(50.0)
1980	6,849(100)	1,738(25.4)	1,345(19.6)	3,766(50.0)
1981	7,862(100)	1,879(23.9)	1,583(20.1)	4,400(56.0)
1982	8,461(100)	1,887(22.3)	1,647(19.5)	4,927(58.2)
1983	9,243(100)	2,044(22.1)	1,762(19.1)	5,437(58.8)
1984	9,916(100)	1,934(19.5)	1,968(19.8)	6,014(60.7)
1985	10,477(100)	1,983(17.4)	2,077(19.8)	6,417(62.8)
1986 ^P	10,984(100)	1,830(16.7)	2,266(20.6)	6,888(62.7)

Note: For 1986, tentative figure
For 1987, not published yet

Source: For 1950,55; ECAFE: Economic Survey of Asia and Far East, 1957
For 1960,65,70,75; National Statistical Office: Statistical Yearbook
Thailand
For 1980, Bank of Thailand, Quarterly Review

Main Economic Indicators During Development Plans (Actual)

Table III Economic Performance

	1st (61-66)	2nd (67-71)	3rd (72-76)	4th (77-81)	5th (82-86)
Economic growth rate (real, annual%)	8.1	7.2	6.2	7.1	4.9
Growth of agricultural production(annual%)	4.6	4.1	3.9	3.5	2.9
Growth of industrial production(annual%)	10.2	9.7	8.6	8.7	5.6
Increase in exports of goods(nominal/annual%)	8.7	4.1	14.0	20.0	7.6
Saving rate(% ,nominal GDP)	26.0	20.4	24.6	22.6	18.2
Investment rate(% ,nominal GDP)	25.4	24.1	23.6	26.7	22.7
Rise in consumer prices(annual%)	2.3	1.5	12.5	11.6	2.7
Current account deficit(% ,of nominal GDP)	-	2.5	1.7	6.3	4.7
Fiscal deficit(% ,of nominal GDP)	0.7	2.9	2.7	3.3	3.7

Note: For 5th plan, figures for four years(1982 to 1985)

Source: NESDB

In accordance with the sixth plan, to ensure the realization of objectives and targets there were several programs suggested that are to be used as guidelines for implementation.

For private investment, the plan envisages a total of 1200 billion baht in investment during its term (17.5% of GDP). To realize this target, it proposes 1) encouragement of investment into key fields such as export industries, agro-industries and tourism; 2) formation of and assistance to producer organizations; 3) coordination, reinforcement and assistance to marketing and production; 4) coordination of the tax system for export promotion; 5) improvement of the financial system; 6) adjustment of the level of domestic interest rates; 7) raises in the ratio of net worth of companies; 8) improvement of financing and fiscal systems; 9) encouragement of private investment into public sectors such as transportation, communication, development of marine resources, energy, education and public health; and 10) encouragement of capital and management participation from the private sector to the state run enterprises.

The plan assumes a savings rate in the private sector of 21.4% of the GDP, an investment rate of 17.5% for a saving-investment gap of 3.9% (surplus savings), and a savings rate and investment rate in the public sector of 2.3% and 7.4% respectively, for a saving-investment gap of 5.1% (surplus investment). The growth rate of investment in the private sector is assumed to be 8.1% and the rate for the public sector is assumed at 1%.

Table IV Sources of Investment in Sixth Development Plan

Unit: million baht

6.2.1 Local juristic persons and individuals	713,570	59.36
6.2.2 Securities Exchange of Thailand	15,000	1.75
6.2.3 Foreign sources (loans, joint ventures)	160,000	13.31
6.2.4 Financial institutions	313,488	26.08
- Commercial banks and other	280,488	23.33
- Bank of Agriculture and Agricultural Cooperatives	14,000	1.16
- Government Housing Bank	8,000	0.67
- Industrial Finance Corporation of Thailand	8,000	0.67
- Life and other insurance businesses	3,000	0.25
Total	1,202,058	100.00

Regarding the improvement of the tax structure, an overall reevaluation is being made from the viewpoint of increasing government revenues, ensuring fairness and promoting investment. The present business tax system is complex, inhibiting production and creating economic strains. An advalorem tax is being considered and will be put into use in the near future. A single tax rate is to be applied from which exports will be exempted. Finally, protection of domestic industries is being considered through the restructuring of import duties so as to protect production and consumption.

Production, Marketing and Employment Development Program

As the global economy fluctuates, serious attention must be paid to trade, reorganization of production and marketing structure in order to increase the nation's overall economic efficiency.

Thailand's agricultural products are severely affected by structural changes in the world trade system. Market share for rice, maize, tapioca, sugarcane and rubber has been falling continuously, in part due to increases in production of these products among those who have traditionally been buyers. Other factors

contributing to the decline in Thailand's market share in these items include changes. The portion of such commodity had been falling continuously. One of reasons being that in preference and technical innovation which result in demand structure change. Thailand must realize, then, that such agricultural products can no longer be counted on as a dependable source of income in the global market.

For industrial goods, there are trade barriers in the U.S., EC and other advanced markets. Furthermore, in many developing countries there is a problem with ability to pay. As a result of this, export share in Thailand's major markets dropped from 69% in the fourth plan to 66% at the end of the fifth plan. In spite of these negative factors, composition of exports has not changed for primary products, canned marine produce, artificial flowers, toys, etc.

In regional areas where income is much lower than in big cities there were about 390,000 unemployed in 1984. This is projected to rise to around 700,000 or 800,000 by 1991. Adding to this, about 3.8 million were considered seasonally unemployed and 11 million partially unemployed. Most of this group are in the agricultural sectors and come from the country's rural areas.

To cope with these problems, the program has set three targets and four strategies. The targets are:

(1) Reduction of the deficit on the trade balance and reduction of the deficit on the current account balance. By the end of the plan, this should come down to 2.7% with a 0.9% ratio to the nominal GDP (in the fifth plan, it was for 5.9% and 3.8%). Export revenues, then, should will increase by 9.9%.

(2) Creation of employment for 3.9 million workers in industry during the plan and to reduce employment in agricultural from 70% to 65%.

(3) Elimination of poverty and income disparities in regional areas..

Followed by four strategies:

(1) Establishment of a production system for sales

(2) Diversification of production (provision of information, including a list of 199 promising products, research and development and technical training)

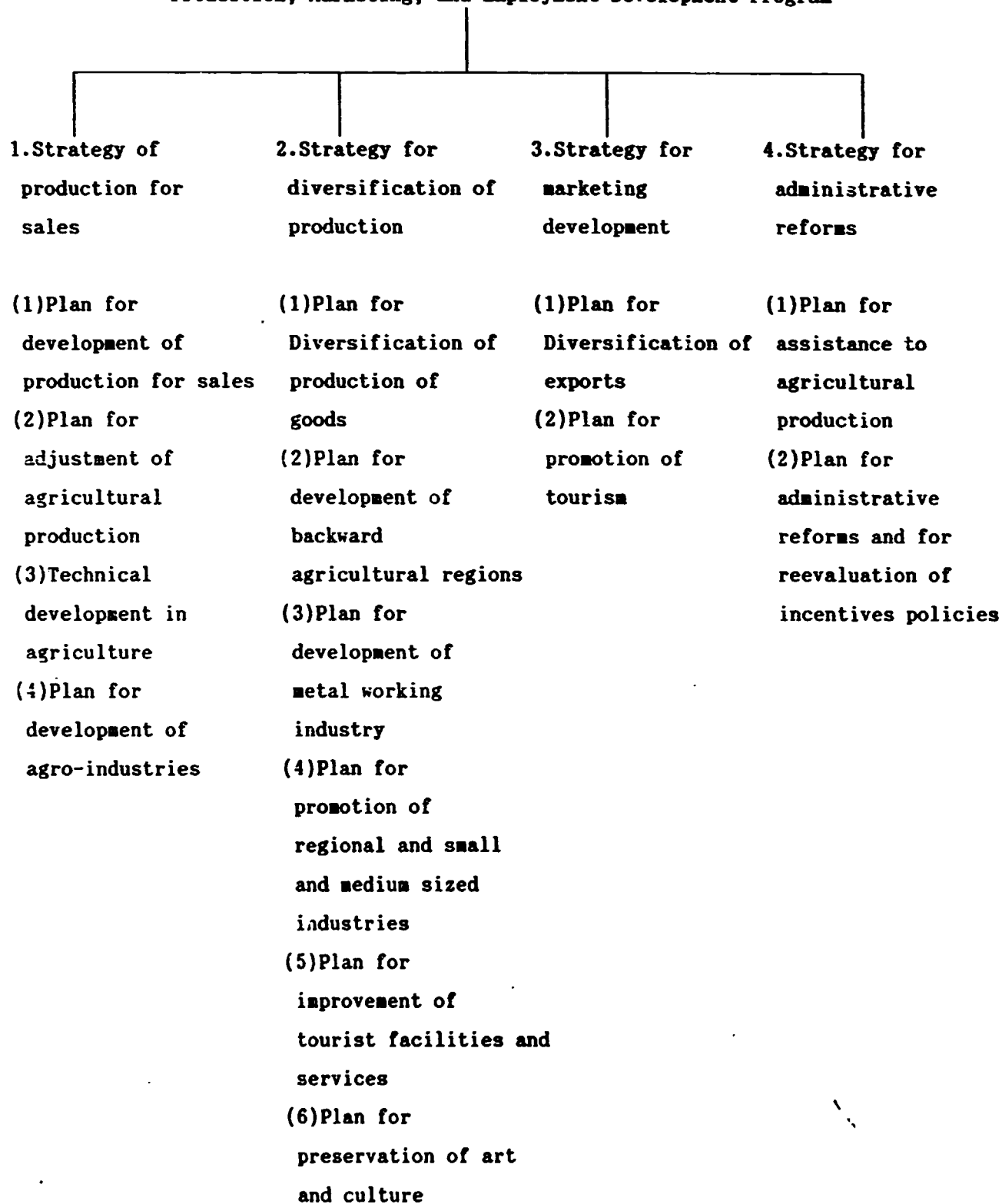
(3) Marketing development (marketing research and development, information systems, quality control, diversification of markets, public relations and advertising)

(4) Administrative reforms for marketing and production (reevaluation of incentive policies, establishment of public information system)

Fourteen sub-programs are shown on the table below in response to the four strategies mentioned above.

Table VI Strategy

Production, Marketing, and Employment Development Program



2. Institutions Involved

2.1 The Ministry of Industry (MOI)

The Ministry of Industry is responsible for the industrial sector and the manufacturing fields. It comprises four departments and one secretarial office. The Mineral Resources Department, Industrial Standards Institute and Industrial Works Department provide guidance, protection and supervision for the related industries and factories according to their respective areas. The IEPD (Industrial Economics and Planning Division) plans and drafts industrial policies for the automobile industry, the textile industry and others from the viewpoint of industrial promotion. It coordinates related government agencies and executes policy. The Department of Industrial promotion (DIP) deals with technical and business guidance, including financing for small and medium sized industries.

The Ministry carries out its promotional activities from a national 3-year policy which is heavily protective of industries, calling for an extension of preferential treatment to specific companies while promoting the industries in general. However, unlike BOI, the Ministry has not taken sufficient steps to help promote the formation of a more advanced industrial sector in which multi-level policies by industry or by scale of enterprise are required.

The organization providing assistance to small and medium sized enterprises is DIP. DIP concentrates on technical guidance and management guidance to individual firms. It provides a force in organization and policy making for the comprehensive promotion of related industries.

The IEPD is not taking any specific steps for the promotion of small and medium enterprises and regional industries. This matter is left up to DIP.

2.2 The Industrial Finance Corporation of Thailand (IFCT)

The Industrial Finance Corporation of Thailand (IFCT) is a development financing institution with a special feature in that it was established by the Government through the Industrial Finance Corporation of Thailand Act in 1959. Most of its shareholders are from the private sector and the corporation is managed like a private sector organization by professional executives. IFCT's main objectives are to promote the development of Industrial enterprises and the domestic capital market.

IFCT was incorporated to substitute for the Industrial Bank, which was established by the Government as a means to promote industrial development in Thailand after the end of World War II. As the Industrial Bank ran into a number of operational problems, HRH Prince Vivathanajai, who was the Bank's manager at that

time, decided to transform the Bank into a privately owned institution for financing industries. After the Government promulgated the Industrial Finance Corporation of Thailand Act on November 27, 1959, the Industrial Bank was liquidated and its net assets were transferred to IFCT.

The trust of IFCT's financial services for industrial development is in line with the Government's policies. In financing a project, IFCT attaches a high degree of importance to the project's commercial viability and net contributions to the Thai economy as a whole.

IFCT finances all sizes of industry: small, medium and large scale from inception throughout project life. The major services of the corporation include the provision of medium and long term loans, working capital financing, equity participation, coordination of financial packaging activities with other local or foreign financial institution, investment advisory services in the fields of marketing, production technique and finance, provision of guarantees and underwriting activities.

In addition, IFCT also plays a role in managing 3 special funds set up by the Government; namely, the Industrial Development Fund, the Capital Market Development Fund and the Small Industry Credit Guarantee Fund.

Apart from the above mentioned services, affiliated companies have been set up to provide other services to support IFCT's facilities in promoting investment and in developing the domestic capital market. These are:

Thai Orient Leasing Co., Ltd.: leasing of machinery and equipment.

Thai Factory Development Co., Ltd.: construction of modern factories fully equipped with utilities for sale on a deferred payment basis.

The Mutual Fund Co., Ltd.: mutual fund and provident fund management as well as various services concerning domestic capital markets.

The corporation's activities concerning foreign investment

To promote foreign investment in Thailand, IFCT's executives visit and arrange seminars and meetings in several countries, such as Taiwan, Japan, Australia and New Zealand. Furthermore, consultancy services and investment information are provided to foreign businessmen who visit the corporation. Potential investments include those from West Germany, Canada, Japan and Taiwan. In addition, the corporation and the National Australia Bank has agreed to promote joint ventures in various businesses as well as to exchange technology and personnel between the two institutions.

The corporation's activities in Regional Industrial Development

In line with the Government policy of decentralizing industries to regional areas, IFCT has consistently emphasized extension of services, especially to small scale industries in the provinces. In August 1987, the Thai Chamber of Commerce and the Provincial Chamber of Commerce jointly organized a seminar in Ubol Rajchathani Province to promote investments in the Northeastern part of Thailand.

IFCT has opened 6 branches and regional offices in various parts of the country since 1975. In October 1987, the new office building of the branch office in Surat Thani began operations, covering the upper part of the Southern Region. IFCT's branches and regional offices also act as centers of investment information, local exhibitions, conferences and seminars which are beneficial to local investors.

2.3 The Federation of Thai Industry (FTI)

The Federation of Thai Industry clubs has been in existence for a little more than one year. The Federation at present consists of 24 Industry Clubs with 7 regional offices. It has been more than 20 years since 27 members from 30 businesses came to agree upon setting up an association from private sector to represent itself in the Economic Board Committee organized by the Government to supervise the overall socio-economic development of Thailand. It first was known as the Association of Thai Industries (ATI). The former prime minister the late HE Thavee Bunyaket became ATI's first president.

During the ensuing 20 years a small group of Industries has grown from 30 companies to 1,500 members, and the club has changed its name to the Federation of Thai Industry club. Its functions and real power in promoting making industrial growth has been recognized, and is now realizes its active role in industrial development in many cases affecting the Government's industrial policy.

The Federation of Thai Industry club represents a diverse cross section of Thailand's industrial sector. It is directly responsible to the Ministry of Industry at present and is always led by Thai executives from the country's leading industries having vast experience in business.

"The goal of FTI, industrialization" as quoted from an ex-president- Pramarn Adireksan, now a minister of Ministry of Interior, is to benefit the entire economy through industrialization. The current president of FTI, Mr. Paron Isarasena, has 20 years of management experience with Siam Cement, the country largest industrial group.

The way FTI manages is similar to a private company where shareholder benefits receive close attention. FTI works closely with all institutions and

organizations concerned and involved in industrial development. It meets every 60 days with the Minister of Commerce and every 90 days with the head of the Board of Investment. It also works closely with the Thai Bankers' Association, the Chamber of Commerce, the Industrial Estate Authority of Thailand, the Joint Private/ Public sector Consultative Committee (JPPCC), the Export Promotion Board of the Commerce Ministry and the Thailand Industrial Standard Institute.

Its 24 club members cover all areas of manufacturing from agricultural machinery through food and footwear to pharmaceuticals. As FTI not only acts as a coordinator between its concerned members and institutions but also provides cohesion among the myriad manufacturers of each industry. The industrial club structure enables a mixture of people from all types of private industries to meet, share ideas and cooperate with each other and the public sector for the benefit of the nation. Its aims include development of a wide economic base within equal balance between the agricultural, industrial and service groups, thus providing diversification and growth of all three areas in all regions of the country, thus helping to alleviate rural poverty.

The Federation is also internationally active. It offers strong support to ASEAN region industrial collaboration through the Thai constituent chamber in ASEAN-CCI, the Joint-Standing Committee Commerce, Industry and Banking. FTI plays an important role in coordinating all public and private industrial Joint Ventures in the area.

2.4 Board of Investment (BOI)

In 1954, the Board of Investment (BOI) was established in order to implement Thailand's industrial policies under the Act on Promotion of Industry 1954. At that time policies were designed to suppress imports of consumer goods and to promote import substitution industries in order to reduce trade deficits. An additional objective was to change the dominant capital-oriented attitude to the oriented toward industrial capital. Government took the lead in the promotion of industry establishing state-run enterprises producing tobacco, sugar, paper and other goods. Meanwhile, on the private side, there were no similar activities because of operational complexities beyond private capabilities at that time.

Then, in 1958, a recommendation was made by the World Bank that Thailand should allow the private sector to handle industrialization while the government would support with the infrastructure needed by industry. The government took this advice and began to limit its role while letting market mechanisms operate more freely. This resulted in the Industrial Investment Promotion Act of 1960,

representing a major change in government public enterprise policy.

From 1972 onwards BOI has been strong in promoting industrialization. First, it was authorized to decide on the length of exemption for cooperate taxes and special duties. In 1977 the Prime Minister became the BOI chairman, reinforcing a more efficient industrial policy for the government.

Export oriented industries were given priority over import substitution industries in 1980. These industries were also given incentives along with regional industries.

The current 5-year plan puts major emphasis on 1) promotion of small-medium scaled industries ; 2) promotion of export industries; and 3) promotion of engineering and agro-industries. These five areas received similar treatment in the last 5-year plan. One major change in the current plan is that the central planning organization (known as NESDB, National Economic and Social Development Board) would present macro economic targets together with basic strategies and themes for development. The respective agencies shall be responsible for their own specific development plans and projects for each sector.

Industrial Promotion Policies of BOI

As a part of the Prime Minister's office, BOI is chaired by the Prime Minister, The Minister of Industry is number two on the committee comprising high ranking officers from all ministries involved in economic development. They came together to further the policy of promoting industry through domestic and foreign investment by the private sector. The BOI has the authority to provide abatement of corporate income taxes and business taxes. It may also give protection from imports. These matters are separated between the Ministry of Finance and the Ministry of Industry, the former having jurisdiction over finance and taxes, and the latter controlling manufacturing and the rest of industrial sector.

As of February 1988 there were 6 sectors and 123 industries having received assistance by the BOI. Minimum investment sales, export ratios, equity ratios and other ancillary terms have been set down for each industry. Adjustments can be made anytime for things like increasing or decreasing the number of industries to be assisted.

In the sixth 5-year plan there are three groups of industries which reflect BOI promotional policies. These are: 1) small and medium scaled enterprises and regional industries; 2) export industries; 3) engineering and agro-industries. The policies of the BOI that have proved most effective were those for the promotion of export industries. In 1987 BOI adopted a policy to prevent

overconcentration in the metropolitan region and to promote investment in the regional areas by designating all provinces for consideration. Also it has reduced incentives in metropolitan areas and regions adjoining the metropolitan areas to emphasize regional development priorities.

In order to encourage small-scale enterprises, in October 1986 BOI reduced the minimum investment level for investment promotion. The minimum requirement is now 1 million baht, down from 5 million baht for export-oriented industries previously. For engineering industries, BOI has established a survey project of local metal and machinery enterprises. It has been actively introducing them to foreign investors who seek joint ventures. Furthermore, BOI recognize incentives for indirect exports of the mold and die related industries and other supporting industries not oriented toward direct exports.

Table VII **Number of Applications for Investment to BOI**
and Value of registered Capital (Application Base)

Year	No. of applns.	Value of registered capital (100 million bahts)	Of which, foreign investment	
			No. of applns.	Value of registered capital (100 million bahts)
1980	245	117	N.A.	N.A.
1981	265	179	N.A.	N.A.
1982	200	50	N.A.	15
1983	341	103	N.A.	25
1984	376	122	N.A.	41
1985	325	150	N.A.	48
1986	431	158	134	48
1987	1,057	572	639	252

Note: "N.A." is marked where no data was published by the Thai government.

Source: JETRO White Paper on Investment, annually

Criteria for Joint Ventures

In considering the approval of foreign investment in a wholly foreign owned project or of foreign equity participation in a joint venture project to which investment promotion is granted, the Board utilizes the following criteria:

- 1.1 For an investment project for manufacturing products mainly for domestic distribution, Thai nationals are required to own shares totalling not less than 51% of the registered capital.
- 1.2 For an investment project in agriculture, animal husbandry, fishery, mineral exploration and mining, or services sector, Thai nationals must hold shares totalling not less than 60% of the registered capital.
- 1.3 For an investment project which exports at least 50% of the output, the foreign investors may hold shares comprising the majority of the registered capital, and comprising all registered capital if the production is totally for export.
- 1.4 When there are justified reasons, the Board may consider waiving the above criteria by taking into account:
 - 1.4.1 the necessary amount of project investment
 - 1.4.2 the level of technology
 - 1.4.3 local employment
 - 1.4.4 site of the plant
 - 1.4.5 social and economic benefits of the project
 - 1.4.6 other considerations that the Board deems appropriate.

To consider waiving any of the above criteria, the Board may extend the period of the stipulated conditions as appropriate.

Tax and Duty privileges

Tax and duty privileges that the Board is empowered to grant to a promoted project include the following:

- 1.1 exemption from corporate income tax,
exemption from or reduction of taxes and duties on machinery
- 1.2 reduction of taxes and duties on raw materials
- 1.3 reduction of taxes and duties for projects located in an Investment Promotion Zone
- 1.4 exemption from and reduction of taxes and duties for export production.

2.5 Venture Capital Companies

The Venture capital concept has come to Thailand recently as a result of increasing opportunities for business professionals to extend their practices in Thai enterprises which previously were dominated by family businesses. However, there still is much ground to cover before such concepts and practices will be widely understood and accepted. Nevertheless, an irreversible trend has been started in the region and elsewhere throughout the world.

Venture capitalists seek those with the capability of doing business and utilizing technology with market potential. These people will be sought and offered the capital necessary to make the business plan work. The venture capitalist may have to wait for a long time to see his business investment grow and become valuable enough to cover and eventually profit from the initial investment. The waiting period is usually a minimum of at least five years. In the mean time, the expected golden egg may not hatch!

The idea of venture capital in Thailand is still very new and is likely to become successful if changes take place.

One necessary change must take place in the management style of Thai small and medium sized businesses, since most of them are managed by family members and all key positions are reserved for family members. As managerial professionalism gains in reputation, western ideas and concepts with some application of Japanese management practices has made this change possible. Many small and medium sized businesses with growth potential in many areas still remain in family ownership. However, delegation of authority is slowly and firmly taking place among the top lines of management. A younger and better educated generation of family business owners is more willing to accept outside managerial expertise as an alternative to the traditional inefficiencies of family-dominated management.

The second change or shortage is in the number of eligible executives to run businesses in accordance with guidelines established by venture capital. Successful venture capitalists will have to be able to conduct market research, confirm the dimensions of the opportunity, prepare the business plan, secure the financing from the venture capital source and put together the management team which will execute the business plan.

To overcome this shortage of talent is not easy. Personnel with capability and the experience necessary to be a market leader must be recruited. This western concept will have to be modified and shaped if it is to be introduced efficiently in Thailand's unique business culture. One way is through a company's development of its own professional staff. To be a venture capitalist in Thailand

you need to be an intreprenuer not an entrepreneur. This represents a new concept of business management for small and medium sized businesses in Thailand.

in 1987, as a part of a joint effort between six local commercial banks and USAID the first venture capital company was begun in Thailand started its operation introducing. Its first fund amounted to 160 million baht, with help coming from USAID and the six banks. This company followed the practice of venture capital in the West by giving priority to project identification, followed by a feasibility study. At this writing the company has not been able to show results after investing in 2 projects, both placing emphasis on an entrepreneur oriented approach and not a project - oriented approach.

Despite doubts of "proven management capabilities in particular technologies" which are prime targets for venture capital practices, there are a number of venture capital companies in Thailand. As this is not a regulated business, anyone can start up with proper registration. There are currently 7 companies that have introduced their operations, and their registered capital range from 100 million baht to 350 million baht.

As the Thai economy emerges with high potential for development, there are great opportunities for those with good ideas, capabilities strong desire, and determination to make progress. New ideas and new technologies need time and money to turn them into living and growing businesses. Lacking adequate funds for research and development, many small businesses are out performed by larger corporations with the financial muscle to turn their ideas into reality. Venture capital does lend a helping hand to the small player with the desire and means to achieve his objectives. There are, however, lessons to be learned by both the entrepreneur and the venture capital company in all steps before the joint effort can be successful for both parties. There are regulations, tax structure, management obstacles, and the public's understanding of financing in stock the market. These must be overcome with time and patience.

III Identifying Potential Sub-Sectors for Innitiation

1. List of Selected Industrial Sub-Sectors

- 1.1 Food Industry
- 1.2 Apparel Industry
- 1.3 Metal Industry

2. Criteria for selection sub-sectors

The Ministry of Industry and the Federation of Thai Industries have agreed to set up a working group to develop each industrial sub-sector. A joint committee was formed with three members from the Ministry and three are from the Federation. The joint committee has selected the 10 most promising sub-sectors using the following criterias.

1. Value added
2. Growth rate
3. Share in industrial structure
4. Export opportunity
5. Export value
6. Local content
7. Base for other industries
8. Rate of employment

Out of twenty eight sub-sectors, the joint committee has used a weighted scale in analyzing the eight factors concerned. The following ten sub-sectors have been selected:

1. Food Industry
2. Textiles Industry
3. Apparel Industry
4. Leather and leather products
5. Wood and wooden products
6. Machinery, parts or machine components
7. Electrical products and apparatus
8. Automobile parts
9. Transport equipment
10. Jewellery

From the ten selected sub-sectors, other criteria such as management capabilities, room for further development and growth opportunity were used in order to pinpoint the three most promising sub-sectors. Two sub-sectors out of the ten were selected as follows:

1. Food Industry

2. Apparel Industry

Upon deeper analysis of the other sub-sectors not selected by the joint committee, the metal working industry, covering automobile parts, has also been selected.

What follows is the basis for selection and performance of the 3 selected sub-sectors:

- 2.1 Food Industry

Thailand, the "rice-bowl" of Southeast Asia, over the centuries has changed little. Rice is still the backbone of the economy. But as many nations have learned, economies based entirely on commodities tend to come and go with the changing seasons. So it is fortunate for Thailand that commodity crops are not the total of Thailand's agricultural output. The country is also endowed with an enviable variety of fruits and vegetables, teeming peas, the potential to develop dairy and livestock, and even new commodities like coffee and tea. Indeed, in the last couple of decades, the emphasis has gradually shifted away from fluctuating commodities. Food processing has come into its own.

Not only are Thailand's attributes particularly conducive to growing food but a whole range of favorable conditions make it suitable for processing as well. For example, Thailand's low cost, industrious workforce is a perfect fit for the labor intensive canning industries. Thailand is near the marine resources of the Pacific and Indian Oceans, enabling it to operate one of the largest fish canning industries in the world. And, technologically the Thai processing industry is among the best in the world. Both the public and private sectors realized at an early stage that product quality was a primary consideration in any export-led market.

Food processing is an all encompassing term, so, for ease of organization and management, the industry has divided itself into a number of categories, most of which come under the auspices of the Thai Food Processors' Association (TFPA) or the Food Processing Industries club of the Federation of Thai Industries.

The oldest and possibly the last established sector of the TFPA's activities is pineapple canning, the backbone of Thailand's food processing industry and a leading earner of foreign exchange. Only recently has the up and coming tuna segment driven pineapple into the number two spot in the export ratings for canned food products (see table VIII).

Table VIII CANNED FOOD EXPORTS

Product	1984		1985		1986		1987	
	Metric Ton	Mia Bht	Metric Ton	Mia Bht	Metric Ton	Mia Bht	Metric Ton	Mia Bht
Seafood	110,471	5,857	132,486	7,346	205,737	10,928.2	277,189	13,220
Pineapple	186,276	2,846	192,764	3,291	225,986	3,183.1	259,806	3,728
Pineapple Juice concentrated	6,777	122	17,451	310	23,392	361.1	28,220	447
Vegetable †	13,218	196.7	21,158	319.4	29,723	476.7	69,995	1,304
Fruits **	5,728	152.9	6,640	188.9	13,221	358.8	17,159	440
Total	322,471	9,174	370,499	11,455	498,059	15,308	602,369	19,140

Source: Business Economics Department, Ministry of Commerce

V.B.: † Bamboo shoots, babycorn, mushrooms, asparagus, tomatoes, green beans, peas, gherkins, other vegetables

** Rambutan, lychee, longan, rambutan with pineapple, mango, papaya, guava, banana, other fruits

Having a number of comparative advantages over most of its neighbours, Thailand is Asia's, if not the world's, foremost exporter of food. Nevertheless, the massive supply of agricultural produce and cheap labour is not secure enough to sustain the country's competitiveness. In an international market place, which demands increasingly stringent health and quality central regulations, sporadic dumping by some of the most technologically-advanced producers has made competition increasingly fierce.

In such an environment aggressive marketing, complemented by progressive strides in production, is crucially important. This has necessitated an expensive drive for equipment suppliers to intensify research and development in food engineering. Advancements in food technology, an area in which Thailand is still behind major food exporters of the West, can help overcome some of the more pressing problems facing the industry.

2.2 Apparel Industry

The apparel sub-sector is one of Thailand's fast growing industries, especially for those manufacturers producing for export. The export value of apparel over the past 8 years (1980-1987) has risen from Seventh place in 1980 to first in 1986 (see tables in the part "Performance").

The number of apparel manufacturers in Thailand are approximately 20,000 companies, most of them cottage and small manufacturers. Those who produce for export are estimated at about 1,400 companies. This estimate is based on the number of manufacturers who have registered with the Ministry of Industry. According to state regulations, apparel manufacturers wanting to obtain an export quota from the Ministry of Commerce must register with the Ministry of Industry.

Basis for Selection

The criteria to support the decision to establish of an apparel manufacturing industry in Thailand are:

- The availability of cheap and skilled workers. The number of workers employed in the apparel industry is approximately 550,000. More workers are being trained to meet future requirements.
- There are variable supplies of accessories and fabricated materials to assure continuous production.
- The garment industry is a top priority for support and promotion by the government.
- There is not excessive restriction and control by the government regarding factory location.
- There are few professional associations to assist and act on behalf of garment manufacturers. These include:
 1. The Thai Silk Association
 2. The Thai Fashion Association
 3. The Garment Traders Association
 4. The Thai Garment Manufacturers Association

Performance

In terms of performance, this study includes only export aspects because exports is area of primary significance when dealing with an investment. Three tables are presented to assist in determining the determind level of performance:

1. GDP originating from manufacturing industries.
2. Export performance of major products.
3. Apparel exports by region.

Table IX GROSS DOMESTIC PRODUCT ORIGINATING FROM MANUFACTURING AT CURRENT MARKET PRICES

Industrial origin	(Millions of Baht)										
	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Food	11,834	13,987	14,294	17,781	29,730	29,035	26,780	34,301	34,732	32,883	32,668
Beverages	7,009	8,399	10,123	10,401	12,006	14,620	16,084	19,154	21,035	20,978	21,978
Tobacco	5,295	5,505	6,353	7,448	9,392	9,619	10,481	11,170	11,447	12,134	12,943
Textiles	9,485	12,036	15,390	17,035	18,997	19,131	19,157	20,807	22,118	27,322	34,701
Wearing apparel except footwear	7,394	8,712	10,524	14,072	17,463	19,338	22,601	26,917	30,365	35,508	45,599
Leather, leather products and footwear	1,399	1,724	2,077	2,843	3,389	4,046	5,063	5,387	5,860	7,287	10,113
Wood and wood products	4,196	3,809	5,671	5,815	4,721	4,634	4,957	5,176	5,168	5,432	7,365
Furniture and fixtures	1,524	2,288	2,184	2,881	3,141	2,969	3,100	3,496	3,570	3,743	4,739
Paper and paper products	817	1,102	1,686	2,103	2,439	2,640	2,749	2,897	3,064	3,920	4,277
Printing, publishing and allied industries	1,066	1,277	1,508	2,229	2,612	2,916	3,276	3,424	3,570	3,498	4,436
Chemicals and chemical products	2,588	3,254	3,881	4,797	5,608	5,806	6,374	7,245	7,839	8,786	9,869
Petroleum refineries and petroleum products	4,450	5,680	9,021	11,493	11,615	10,626	12,690	13,590	15,150	25,673	25,407
Rubber and plastic products	2,464	2,794	3,843	4,191	4,306	4,465	5,471	5,450	5,813	6,014	7,130
Non-metallic mineral products	3,250	3,681	4,473	5,209	6,938	7,835	8,789	10,498	10,502	10,287	11,578
Basic metal industries	2,321	2,722	3,528	3,655	3,332	3,004	2,862	2,840	3,709	3,201	3,312
Fabricated products	2,460	3,105	3,509	3,920	4,533	4,824	5,348	5,839	6,250	6,552	7,371
Machinery	2,287	2,679	2,978	3,674	5,057	5,807	6,566	6,467	5,602	6,094	6,706
Electrical machinery and supplies	1,779	2,291	2,869	3,389	3,733	4,434	5,766	6,608	5,938	7,650	9,160
Transport equipment	7,583	9,473	9,884	11,416	12,997	12,040	15,469	15,769	10,961	11,772	14,928
Other manufacturing industries	2,231	3,140	3,815	5,579	7,452	8,571	10,761	11,015	11,763	14,859	20,216
Total value added	81,432	97,658	117,611	139,916	169,461	176,360	194,344	218,050	224,456	253,593	294,496

Source: NESDB

Table X. Export Performance of Major Products (1980-1987)

Upper row = Value (million baht)

Medium row = Share (%)

Lower row = Change from previous year (%)

	1980	1981	1982	1983	1984	1985	1986	1987
Rice	19,508	26,366	22,510	20,157	25,932	22,524	20,315	22,703
	14.6	17.2	14.1	13.8	14.8	11.6	8.7	7.6
	25.1	35.2	-14.6	-10.5	28.7	-13.1	-9.8	11.8
Rubber	12,351	10,841	9,490	11,787	13,004	13,567	15,116	20,539
	9.7	7.1	5.9	8.0	7.4	7.0	6.5	6.8
	0	-12.2	-12.5	24.2	10.3	4.3	11.4	35.9
Maize	7,299	8,349	8,330	8,486	10,147	7,700	9,261	3,928
	5.5	5.5	5.2	5.8	5.8	4.0	4.0	1.3
	29.3	14.44	-0.2	-1.9	19.6	-24.1	20.3	-57.6
Tapioca products	14,887	16,446	19,752	15,387	16,600	14,969	19,888	20,661
	11.2	10.7	12.4	10.5	9.5	7.7	8.2	6.9
	50.5	10.5	20.1	-22.1	7.9	-9.8	27.5	8.5
Prawns	1,961	2,136	2,764	3,164	2,799	3,439	4,391	5,749
	1.5	1.4	1.7	2.2	1.6	1.8	1.9	1.9
	-17.3	8.9	29.4	14.5	-11.5	22.9	27.7	50.9
Tin	11,347	9,091	7,773	5,265	5,230	5,647	3,096	2,344
	8.5	5.9	4.9	3.6	3.0	2.9	1.3	0.8
	22.6	-19.9	-14.5	-32.3	28.5	7.0	-45.2	-24.3
Sugar	2,975	9,572	12,932	6,338	5,222	6,247	7,271	8,573
	2.2	6.3	8.1	4.3	3.0	3.2	-3.1	2.9
	-38.0	221.7	35.1	-51.0	-17.6	19.6	16.4	17.9
Integrated circuits	6,156	6,193	5,930	5,829	7,352	8,248	12,818	15,179
	4.6	4.0	3.7	4.0	4.2	4.3	5.5	5.1
	112	0.6	-4.2	-1.7	26.1	12.2	55.4	18.4
Textile products	9,843	12,570	14,005	14,351	19,155	23,578	31,268	48,555
	7.2	8.2	8.8	9.8	10.9	12.2	13.4	16.2
Textile	4,663	5,391	5,797	5,230	6,573	8,474	10,228	11,445
	3.5	3.5	3.6	3.6	3.7	4.4	4.4	3.8
Apparel*	4,980	7,179	8,208	9,121	12,627	15,104	21,040	37,110
	3.7	4.7	5.1	6.2	7.2	7.8	9.0	12.4
	37.3	44.2	14.3	11.1	38.4	19.6	39.3	76.4
Precious stones	3,240	4,486	4,671	6,214	6,129	6,350	8,150	11,550
	2.4	2.9	2.9	4.2	3.5	3.3	3.5	3.9
	44.0	38.5	4.1	33.0	-1.4	3.6	28.3	41.7
Total	133,197	53,001	159,728	146,472	175,237	193,366	233,383	299,853

*Apparel; CCCN 6002 ~ 6110

Source: Bank of Thailand

Table XI Apparel Exports by Region

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1)	1,220,778 (44.8)	1,189,769 (32.4)	1,249,817 (25.1)	1,855,357 (25.8)	2,190,500 (26.7)	3,302,460 (36.2)	5,870,929 (46.5)	6,308,946 (41.8)	4,908,376 (23.3)	7,707,373 (20.8)
2)	52,065 (1.9)	103,056 (2.8)	107,741 (2.2)	104,420 (1.5)	101,804 (1.2)	81,613 (0.9)	97,445 (0.8)	181,829 (1.2)	418,716 (2.0)	1,310,048 (3.5)
3)	559,597 (20.5)	1,007,959 (27.5)	1,703,563 (34.2)	2,492,296 (34.7)	2,601,055 (31.7)	2,463,307 (27.0)	2,838,655 (22.5)	3,366,849 (22.3)	6,686,810 (31.8)	11,289,804 (30.4)
4)	78,527 (2.9)	104,672 (2.9)	142,187 (2.9)	345,189 (4.8)	568,979 (6.9)	580,630 (6.4)	533,352 (4.2)	797,121 (5.3)	1,196,824 (5.7)	2,188,315 (5.9)
5)	372,282 (13.7)	530,341 (14.5)	791,690 (15.9)	1,207,541 (16.8)	1,296,802 (15.8)	1,319,962 (14.5)	1,457,288 (11.5)	1,941,744 (12.9)	4,074,613 (19.4)	6,714,533 (18.1)
6)	300,637 (11.0)	476,734 (13.0)	522,478 (10.5)	521,147 (7.3)	561,990 (6.8)	509,211 (5.6)	569,871 (4.5)	584,043 (3.9)	869,325 (4.1)	1,258,692 (3.4)
Total	2,725,064	3,666,476	4,980,396	7,179,271	8,208,033	9,121,190	12,627,505	15,103,891	21,040,044	37,111,254

Source: Foreign Trade Statistics of Thailand

* 1) U.S.A. 2) JAPAN 3) EC 4) NIES and ASEAN
 5) MIDDLE EAST 6) NORTH EUROPE

2.3 Metal Working Industry

The share of the metal working industry in Thailand's GDP was about 2.27 in 1982. It is estimated that this percentage remained almost unchanged even up to 1984. Time is required to up-grade the metal working industry as it relates closely to other industries and is a skill and technology intensive industry.

(1) Trade and demand structure

The dependability of imports is generally high and the industrial structure for import substitution has made progress in the past 5 to 10 years. Some labor and skill intensive industries and products will reach competitive power in the 5 to 10 year cycle, giving them potential as an export industry. Agricultural machinery, pumps, valves, hand tools, simple machine tools, automotive parts, small gears, various molds dies, etc. will grow steadily in the background of social structural demands if tangible promotional measures are made to localize them as stable products for the future. The parts supply system necessary for fabrication of such products should be stimulated through the promotion of small & medium scale industries with higher productivity and quality.

The Present situations by products

The state of the metal working industry in the production of target products is;

(1) Agricultural machinery

The engine section maintains comparatively stable quality because of participation by foreign a joint venture capital. The body section supporting the engine, however, is produced by small and medium scale firms with Thai capital. Due to deficiencies in engineering skills throughout the production process, products have problems. Products, therefore, should not only be designed to suit the locality, but measures should also be taken to improve the quality and to standardize common parts as quickly as possible.

(2) Pumps and valves

Large sized pumps are centrifugal pumps for tin mines, medium sized ones for irrigation use, and small sized ones for public housings. The most serious problem in the pumps for tin mines is their short life caused by selection of poor materials. Many of the pumps for irrigation use are imported. On the other hand, small sized pumps

are in demand; but they are manufactured in such a way that mass-production is not yet possible.

(3) Moulds/dies and precision parts.

The demand for mould and die is active, and is supported by the demand for plastic products. Accordingly, the precision parts industry, including the most advanced technology and labor intensive skills, is one of the fields to be emphasized in the future.

(4) Hand tools

Demand will grow steadily because hand tools are required by all fields. However, the key factor in growth is how the combination of qualitative needs, capital and manpower should be met in the production process and how the firm should be structured in order to respond to daily requests.

(5) Simple Machine Tools

Many of the machine tools in use in small and medium scale industries in Thailand are imported from Taiwan, China and Eastern Europe. These are middle-class products. Localization of these items to substitute for imported machines should be included in the short to medium term policy in order to meet the stable potential demand for them. Currently there are about two manufacturers engaged in production of these machine tools. It will be necessary to strengthen the basic infrastructure of the machine tool industry by upgrading supporting industries (especially the casted and forged parts industry) and existing manufacturers.

(6) Automotive parts

This survey shows that 30 enterprises are engaged in automobile parts industries. Most of them are unspecialized manufacturers with other side activities. We can see, then, that it is difficult for small and medium scale firms to adopt a mass production system. Special promotional measures for restructuring industries in order to make firms specialize will be required to strengthen this field in the future.

IV Identify Most Promising Plants within Sub-sectors

Using the criteria presented in chapter III, the team prepared a questionnaire in order to gather information and idea in promising plants in terms of their general backgrounds, marketing and production capacity, potential and willingness to joint venture or cooperate with foreign partners, areas of interest, etc.

The following summarizes information from 7 companies that are potentially willing to cooperate with foreign partners. Although, the information is not complete, we still can observe some general patterns. The detailed questionnaire is attached in the annex.

I Food Industry

	Better Food Co.,Ltd.	Rungsin Factory
<u>General Information</u>		
Type of Product	Frozen chicken	Dried Rice Noodle
Capital	N.A.	USD 320,000.00
Capacity	1 ton/day	5 tons/day
Raw Material	chicken meat	Rice
Current Market	Japan, domestic	EC., U.S.A, Australia Domestic
Competitor	3 other factory	5 other factory
<u>Desire for Cooperation</u>		
Technology	-	Yes-Production
Marketing	Yes-European Market	
Joint Venture	-	Product Diversify
Management		
Development/Improvement	Hygiene, Sanitation	Drying and Packaging Process

Comments

As is fairly typical of the mid-sized Thai food industry, the firms listed above are interested in market expansion outside of the ASEAN region, in particular the United States, Japan and Western Europe due to comparative advantages in raw materials and labor supply. Joint venture opportunities are attractive to Thai entrepreneurs in this sector as a means for gaining technological expertise in a rapidly changing environment. In the future emphasis will be placed more and more upon hygiene and sanitation as well as environmental controls, necessitating some form of cooperation in the short to medium term with foreign partners in possession of new technologies.

II Apparel Industry

	Micheal Trade Ltd.Part.	Four Seasons International Co.,Ltd.	Annie Bara Ltd.Part.
<u>General Information</u>			
Type of Products	shirts, pants	shirts, trousers, fashion	underware, T-shirt garment
Capital	5,000,000 Baht	1,000,000 Baht	N.A.
Capacity	600,000 pieces/yr	2,000 dozen/mth	50,000 dozen/mth
Raw Material	cotton, polyester	Fabrics	
Current market	EC, U.S.A, Japan	Supply to exporters	70% Domestic, 30% Export to France, Canada
Sale volume	~ USD 2.4 million		
<u>Desire for Cooperation</u>			
Technology			
Marketing	yes	yes	yes
Joint Venture	yes	yes	yes
Expansion	yes		
Expertise	production	marketing	

Comments

The apparel industry is highly dependent upon foreign markets, mainly those of the Western world. Therefore, the marketing component is of prime importance to most manufacturers, and marketing assistance from potential joint venture partners is greatly sought after. Technological expertise is generally not of primary importance to producers, since the industry is not dependent upon advanced equipment or production procedures to produce goods of acceptable quality for the international market. Apart from a strict quota system in some western countries on textiles, the Thai apparel industry provides good opportunities of foreign joint venture partners in that the industry is not under strict Thai government regulation and there is a skilled supply of labor available to speed the manufacturing process.

III Metal Industry

	Micron Max Co.,Ltd.	Biggo Overseas Corperation Co.,Ltd.
<u>General Information</u>		
Type of Product	Tools, Die Set, Jig, Fixture, etc.	Hinges
Capital	1,000,000 baht	1,100,000 baht 17,000 dozen/mth
Raw Material	Tool steel, Aluminum	Steel sheet, iron rod
Current Market	Domestic	ASEAN
Competitor	Nov	
<u>Desire for Cooperation</u>		
Technology	Yes	
Marketing	Yes	Yes-Europe, America
Joint Venture	Yes	Yes
Expansion	Yes	
Specialist	Precision Tool	
Development/Improvement		Automation

Comments

Although exports are presently fairly limited, the supply of skilled labor and increased manufacturing potential in terms of plant and machinery will bring this industry into the international arena within the next five to ten years, making it now potentially attractive to joint venture partners and Thai entrepreneurs wishing to gain both technological and marketing expertise. Major markets will be in the West, in those countries most amenable to the import of goods in this sector. A great deal will rest upon government import substitution policy in the medium term for this industry and international confidence in the reliability of the Thai work force.

Conclusion and Recommendation

Although the amount of time allotted for this study was not sufficient to allow for a comprehensive analysis of investment opportunities in Thailand, some important conclusions may be drawn. Among the more dynamic and growing industrial sectors in Thailand, those offering the best opportunities for foreign investment include agro-processing, garments and metal-working, although there are a number of other industries with good potential as well. Overall growth in industry in the recent past has been quite impressive, and this may be attributed to the liberalization of government restrictions, active public sector promotion of Thai industry, and strong entrepreneurial tendencies exhibited by the Thai business community. Capitalizing upon low wage rates, non-unionized labor in many sectors, and a ready supply of raw materials, potential joint venture partners may add technological and marketing expertise, thus creating industrial synergy leading to strong product lines and increasing international confidence in the local manufacturing sector.

Foreign joint venturing and export promotion will be advantageous to the Thai economy for a number of reasons already recognized by the government. There is great potential for increasing the amount of value-added, and the processing of raw materials into industrial products can do much to alleviate problems of unemployment, especially in the country's provincial areas where a shift from agriculture to manufacturing has been underway for a number of years already.

It is recommended that further study be undertaken in the near future to more clearly identify foreign investment opportunities as well as constraints. Sample data given in this report is not entirely sufficient because of the limited amount of time available. However, in spite of time constraints, a picture has emerged of a vibrant and growing manufacturing sector in Thailand, unfettered by cumbersome government regulations, offering rewards to potential joint venture partners with technological and marketing expertise.

ANNEX

1. Food Industry

Company 1

Part I : General information on firm

1. Name

Better Food co.,Ltd.

2. Address

27-29 Yukol 1 St. Bangkok 10100

3. Type of Business

Frozen Chicken Producer

4. Executive officers

Mr. Vanus Tapaisitpong

5. Registered capital

- NA -

6. Date of operation

- NA -

7. Manufacturing products

Frozen Chicken

8. Production capacity

1 Ton/day

9. Sales in past 3 years

- NA -

Part II: General picture

1. Firm's background

-

2. Organization structure and management

-

3. Financial structure

-

4. Land and building

-

5. Machinery, equipments, tools in production

-

6. Rawmaterials and semifinished goods used in production -

- Fresh Chicken meat
- Packaging material

7. Cost structure

-

8. Pricing policy

-

9. Current market

- Japan
- Domestic

10. Competition environment

3 Competitor

11. Other informations : trend and other influencing factors

-

Part III: Desired foriegn co-operations:

1. New technology area :

-

2. Management

-

3. Marketing

To expand to European market

4. Joint Venture

-

5. Joint production

-

6. Production capacity expansion

-

7. Specialist

8. Other types of cooperation (raw material development)

Part IV: Development or improvement of present production

- Hygiene improvement to meet standard of foreign market

Part V: Production capacity available for foreign sub-order

- 1 Ton/day

Contacting personnel:

Mr. Vanus Tapaisitpong

Company 2

Part I : General information on firm

1. Name

Rungsin Factory

2. Address

51 Moo No.5, Rungsit-Oungkarak Road,
Tambol Chaimol, Ampur Oungkarak,
Nakorn-Nayok Province Tel.(037)312189

3. Type of Business

Dry Rice Noodle Producer

4. Executive officers

Mr. Nattapong Vachirapong

5. Registered capital

- US\$ 320,000 -

6. Date of operation

- 1971 -

7. Manufacturing products

Dry rice noodle with several shape

8. Production capacity

5 Ton/day

9. Sales in past 3 years

- NA -

Part II: General picture

1. Firm's background

The starting firm was family business, set up in 1971 and located in Ayuthaya Province with capacity 500 kg/day. In 1981, the factory was expanded by setting a new factory in Nakorn Nayok Province with capacity 5 Ton/day.

2. Organization structure and management

Family business without formal organization chart

3. Financial structure

100 percent owner equity

4. Land and building

Building US\$ 160,000

Land - renting US\$ 100/year

5. Machinery, equipments, tools in production

Machinery US\$ 150,000

6. Rawmaterials and semifinished goods used in production

- Rice 200 Ton/year
- Rice Cover 3 Ton/year
- Packaging material

7. Cost structure

Raw Material	502
Labour	52
Factory Overhead	152
Setting Expenses	52
other	52

8. Pricing policy

9. Current market

	Domestic	Export Market
Noodle No.1	90%	10%
No.2	-	100%
No.3	-	100%

Export Market - Canada, Australia, France, Germany, U.S.A.

10. Competition environment

Three are 5 competitor

11. Other informations : trend and other influencing factors

Part III: Desired foriegn co-operations:

1. New technology area :

Production Technology

2. Management

-

3. Marketing

-

4. Joint Venture

-

5. Joint production

To expand to other product line by ustilising excess capacity.

6. Production capacity expansion

-

7. Specialist

8. Other types of cooperation (raw material development)

Part IV: Development or improvement of present production

- Improving drying process from sun dry to machine dry
- Improving packaging to be better for shipment

Part V: Production capacity available for foreign sub-contraction order
5 Ton/year

Contacting personnel:

Manager - Mr. Nattapong Vachirapong

2. Apparel Industry

Company 1

Part I : General information on firm

1. Name

Micheal Trade Ltd.Part.

2. Address

5/6 Ramkhamhaeng Road (Sukhapibal 3)

Banggapi Bangkok 10240

Tel. 3775476, 3738663

Telex. 20187 MITRA

Fax. 3738891

3. Type of Business

Apparels Manufacturing

4. Executive officers

Mr. Surapol Srichumsin

Mrs. Patima Srichumsin

5. Registered capital

5,000,000.- Baht

6. Date of operation

August 7, 1975

7. Manufacturing products

Shirt

Skirt for children at age between 6 month to

Pant 12 years olds

Jacket

8. Production capacity

600,000 pieces/year

9. Sales in past 3 years

<u>1988</u>	<u>1987</u>	<u>1986</u>
US\$ 2.4 million	US\$ 1.8 million	US\$ 1.0 million

Part II: General picture

1. Firm's background

The firm was established in 1975 producing children's apparels
In 1982 firm has started new production, Silverware product.
The firm has 250 employees.

2. Organization structure and management

3. Financial structure

4. Land and building

- Land available = 4,000 square metres
- Factory building = 2,600 square metres
- Total Price of Land + Building = US\$ 1.0 million

5. Machinery, equipments, tools in production

1. 150 electrical sewing machines
2. 50 industrial sewing machines
3. 3 cutting machines

6. Rawmaterials and semifinished goods used in production

- Cotton fabrics 400,000 yards/year
- Mix polyester 200,000 yards/year

7. Cost structure

material	45%
labour	20%
overhead	25%
selling cost	10%

8. Pricing policy

9. Current market

100% Export to EC

Japan

U.S.A.

10. Competition environment

-

11. Other informations : trend and other influencing factors

-

Part III: Desired foriegn co-operations:

1. New technology area :

-

2. Management

-

3. Marketing

yes

4. Joint Venture

yes

5. Joint production

yes

6. Production capacity expansion

yes

7. Specialist
production specialist

8. Other types of cooperation (raw material development)

Part IV: Development or improvement of present production

Part V: Production capacity available for foreign sub-untracing order

Contacting personnel:

Mrs. Patina Srichumsin

Company 2

Part I : General information on firm

1. Name

Four Seasons International Co.,Ltd.

2. Address

653-655 Bantadthong Road

Patumwan Bangkok 10500

Tel. 2141420, 2141985

3. Type of Business

Garment Manufacturing

4. Executive officers

Mr. Somsak Chokpradab

Managing Director

5. Registered capital

1,000,000.00 Baht

6. Date of operation

1981

7. Manufacturing products

Shirt & Trousers

Fashion garment for Teenagers

8. Production capacity

2,000 dozen/month

9. Sales in past 3 years

- No Statistics -

Part II: General picture

1. Firm's background

The company has been established since 1980, 10 years after the owner-manager has started a tailor's shop.

Today, Mr. Somsak Chokpradab runs the company and his wife run Tailor's shop. The company are producing garments to supply garment exporters on sub-contract basis.

2. Organization structure and management

-

3. Financial structure

-

4. Land and building

1. Office & Factory Building in Bangkok (3 Stories with approximate space of 432 square metres)

2. Factory building in upcountry (140 Kms. away from Bangkok with approximate space of 1,200 sq.metres.

3. Empty land available is about 5 acres.

5. Machinery, equipments, tools in production

1. 50 electrical sewing machines

2. 15 industrial sewing machines

6. Rawmaterials and semifinished goods used in production

Fabric

Accessories

7. Cost structure

Material	40%
Labour	30%
Manufacturing overhead	15%
Selling Cost	15%

8. Pricing policy

9. Current market

Supply to exporters on sub-contract basic, producing about 800
Dozens/month.

10. Competition environment

Intense competition however, export market is still can be expanded

11. Other informations : trend and other influencing factors

-

Part III: Desired foriegn co-operations:

1. New technology area :

-

2. Management

-

3. Marketing

yes

4. Joint Venture

yes

5. Joint production

yes

6. Production capacity expansion

-

7. Specialist

Export marketing and product design experts

8. Other types of cooperation (raw material development)

Part IV: Development or improvement of present production

Part V: Production capacity available for foreign sub-untrating order
yes, however, expansion of production capacity can be
done easily.

Contacting personnel:

Mr. Somsak Chokpradab

Company 3

Part I : General information on firm

1. Name

Annie Bara Part.Ltd.

2. Address

47/121 Soi Yenchitre Sapan 3
Yannawa Bangkok

3. Type of Business

Apparel manufacturing

4. Executive officers

Mr. Chaowalit Lorpaiboon
Ms. Siriporn Chenpipatkul

5. Registered capital

-

6. Date of operation

26/2/1976

7. Manufacturing products

Garment
T-Shirt
Underware

8. Production capacity

50,000 dozen/month

9. Sales in past 3 years

<u>1988</u>	<u>1987</u>	<u>1986</u>
50,000 dozen	40,000 dozen	35,000 dozen

Part II: General picture

1. Firm's background

Annie Bara was established 12 years ago producing garments and underwares

2. Organization structure and management

3. Financial structure

4. Land and building

1 Factory building with total space of 2,000 square metres

5. Machinery, equipments, tools in production

6. Rawmaterials and semifinished goods used in production

-

7. Cost structure

-

8. Pricing policy

-

9. Current market

- export 30% /70% for domestic market

- export to Canada and France

10. Competition environment

-

11. Other informations : trend and other influencing factors

-

Part III: Desired foriegn co-operations:

1. New technology area :

-

2. Management

yes

3. Marketing

yes

4. Joint Venture

yes

5. Joint production

-

6. Production capacity expansion

yes

7. Specialist

8. Other types of cooperation (raw material development)

Part IV: Development or improvement of present production

Part V: Production capacity available for foreign sub-ordering order
10,000 dozen/month

Contacting personnel:

Ms. Siriporn Chenpipatkul

Part I : General information on firm

1. Name

Micron Max Co.,Ltd.

2. Address

1667 Soi Kwangrung Kwangloy
Theparak Road, North Samrong,
Samutprakan 10270, Thailand

3. Type of Business

1. Making punch, die, jigs and fixtures for integrated circuit industry.
2. Design and fabricated die set and tooling parts per customer requirement. Our tooling parts can be made to a nonaccumulated precision pitch-to-pitch tolerance of 0.0002 inch or 0.005 mm.

4. Executive officers

Mr. Saksin Kwoprajob, Managing Director

5. Registered capital

1 million baht.

6. Date of operation

October 6, 1983

7. Manufacturing products

See No.3

8. Production capacity

N/A

9. Sales in past 3 years (millions baht)

1986	1987	1988
9.5	11	13

Part II: General picture

1. Firm's background

Started operating in 1983 with 4 employee and in 1989 the co. has 66 employee.

2. Organization structure and management

Manpower :

Total Employee are (3 Shifts Operating)

	<u>Machinist</u>	<u>Supervisor</u>	<u>Management</u>	<u>Indirect</u>	<u>Total</u>
Manufacturing (51) :					
Front end	19	3	1	-	23
Back end	24	3	1	-	28
Quality Control :			1	4	5
Special Project :			1	2	3
Accounting :		1		2	3
Marketing :				2	2
Other				2	2
Total	43	7	4	12	66

3. Financial structure

3.1 Longterm loan 1.5 million baht.

4. Land and building
 - 4.1 696 square meters - land value 1 million baht
 - 4.2 Building area 240 square meters
 - 4.3 Production area 180 square meters
 - 4.4 Building value 0.7 million baht

5. Machinery, equipments, tools in production

Total Value : 14 million baht

Machine :

Grinding Machine : 10 machines

6 Jone & Shipman (England)

3 Kent (Taiwan)

1 Chevalia

C.N.C Wire Cutting Machine :

1 Agie (Switzerland)

E.D.M. Machine : 2 machines

1 Charmill with Orbi-cut (Switzerland)

1 Oscar (Taiwan)

Milling Machine : 4 machines

3 Bridgeport (England)

1 Emco (Austria)

Lathe :

1 Turning Machine

Jig Grinding Machine :

1 Moore Type 3-G (U.S.A.)

Other General Machine such as Sawing Machine, Drilling Machine, Etc...

Measuring Equipment :

2 Digital Height Masters with 2 Granite Surface Plates

1 Profile Projector

1 Hardness Tester

Others General Measuring Instruments.

6. Rawmaterials and semifinished goods used in production

<u>Major</u>	<u>Minor</u>	<u>Source</u>	<u>Volume/tons/yr.</u>
Tool steel	Aluminum	Sweden Japan and Germany	5.5

7. Cost structure

Raw material	7.0%
Labour	45.0%
Factory expenses	32.0%
Interest	2.0%
Admin. expense	9.0%
Sales expense	5.0%

8. Pricing policy

Depending on demand (the co. is the only one producer in the country at present)

9. Current market

100% sales locally for import substitution purpose

10. Competition environment

None

11. Other informations : trend and other influencing factors

N/A

Part III: Desired foriegn co-operations:

1. New technology area :
 1. Hi - precision plastic mold
 2. Hi - precision die casting mold
 3. Hi - precision progressive die
 4. Hi - precision carbide die

2. Management
Export market management

3. Marketing
Yes

4. Joint Venture
Yes

5. Joint production
Yes

6. Production capacity expansion
Yes

7. Specialist
See No.1

8. Other types of cooperation (raw material development)
N/A

Part IV: Development or improvement of present production

Part V: Production capacity available for foreign sub-ordering order
Can expand production capacity if there definitely is
a market.

Contacting personnel:

Mr. Saksin Kwoprajob, Managing Director

Part I : General information on firm

1. Name

Biggo Overseas Cooperation Co.,Ltd.

2. Address

**189/67-68 Soi Lomsomboon, Terdtai Road, Taladplue
Bangkok 10600, Thailand**

3. Type of Business

Hinge Producer

4. Executive officers

- 1. Mr. Polpipat Chinnawatpaiboon**
- 2. Mr. Tanapon Chinnawatpaiboon**

5. Registered capital

1,100,000 Baht

6. Date of operation

August 14, 1973

7. Manufacturing products

- A. Flexible Hinges**
- B. Door and Window Hinges**
- C. General Iron Works**

8. Production capacity

- | | |
|----------------------------------|------------------------|
| 1. Flexible Hinges | 10,000 doz./mo. |
| 2. Door and Window Hinges | 7,000 doz./mo. |
| 3. Punching Works | 25 tons/mo. |

9. Sales in past 3 years (Baht)

	1986	1987	1988
A	997,920	11,088,000	12,600,000
B	5,467,500	6,075,000	6,750,000
C	78,200	85,000	100,000

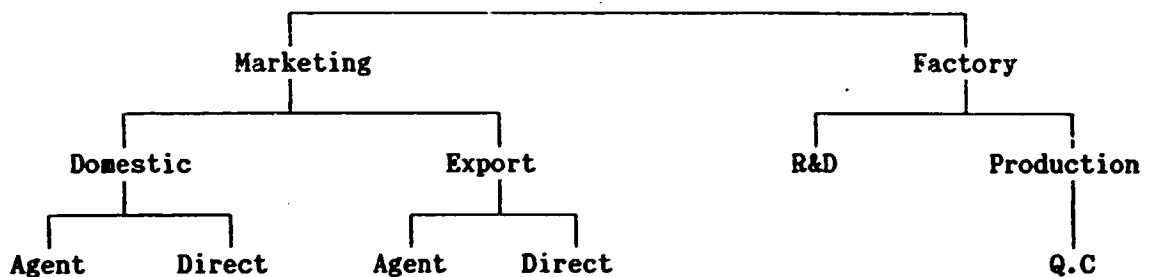
Part II: General picture

1. Firm's background

Established in 1973, two share holders from the beginning till present, starting with registered capital of 1.1 million baht. At present, 20% is exported, in 1978 a metal glazing technology was introduced from Japan. Current policy is to expand the capacity responding to export opportunity and new market creation.

2. Organization structure and management

Managing Director and Share Holders



3. Financial structure

Owner Equity 100%

4. Land and building

4.1	Land	500	meter ²
	Value	3.2	million baht
4.2	3 building	- building no.1	area 270 meter ²
		- building no.2	area 180 meter ²
		- building no.3	area 50 meter ²
4.3	Production area	450	meter ²
4.4	Office area	50	meter ²
4.5	Building Value	5	million baht

5. Machinery, equipments, tools in production

Type	Usage	Year of Use	Value (Baht)
1. Grinding	Die and Mold making	7 yrs.	420,000
2. Lathe	Die and Mo'd making	10 yrs.	350,000
3. Punching Machine	Punching	7 yrs.	2,300,000
4. Milling Machine	Milling	7 yrs.	2,000,000
5. Drilling Mahcine	Drilling	4 yrs.	3,000,000
6. Transformer		4 yrs.	100,000

6. Rawmaterials and semifinished goods used in production

Major	Others	Source	Volume/tons/yr.
Steel Sheet		Import	120
Iron Rod		Import	80
Copper nail		Local	30

7. Cost structure

Raw mat	54%
Labour	15%
Factory Expense	24.5%
Administration expense	3%
Sales expense	2%
Others	1.5%

8. Pricing policy

Lower price for agency

Lower export price

9. Current market

Product	1986		1987		1988	
	Domestic	Export	Domestic	Export	Domestic	Export
A	90	10	85	15	80	20
B	89	11	88	12	85	15
C	100	-	100	-	100	-

Malaysia, singapore and Indonesia are major export markets

10. Competition environment

Two big competitors having total capacity of 50% of total production capacity in market.

11. Other informations : trend and other influencing factors

Raw material has to be imported 100%, thus making overseas competition very tough and difficult for the co. to compete in many markets at the present time.

Part III: Desired foriegn co-operations:

1. New technology area :

N/A

2. Management

N/A

3. Marketing

Seeking for new agents in America, Europe and Asia

4. Joint Venture

1. Co.-production

2. Agents

5. Joint production

Need higher level of production technology

6. Production capacity expansion

N/A

7. Specialist

N/A

8. Other types of cooperation (raw material development)

N/A

Part IV: Development or improvement of present production

Manual to motor technology and to Automatic Currently

Part V: Production capacity available for foreign sub-ordering order
Can expand up to 50% of total production without
new machine required.

Contacting personnel:

Mr. Polpipat Chinnawatpaiboon : marketing mgr.