



**Selected Strategic Industries and Decentralization of
Manufacturing for Thailand's National Economic and
Social Development Plan 1992-1996**

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Executive Summary

This study aims to substantiate the planning of industrial and trade development in Thailand's Seventh National Economic and Social Development Plan. The study's main objectives are:

1) Selecting and targeting industries significant to the economic development of Thailand and which have growth potential. Measures to develop these industries will then be suggested.

2) Conducting a study on how to formulate policy measures to decentralize Thai industries to the provinces.

I Development of Targeted Industrial Sectors

Framework and Method of Study

In selecting which industries to target in the manufacturing subsector, the following criteria are necessary: an industry with linkages to other production subsectors which would create value added to the economic system; capable of international competition; and having the potential to support future expansion and restructuring of the industrial sector.

Indexes of industrial linkages, the impact of industrial expansion on the value added to the Thai economy, and domestic resource cost used to measure ability to compete, were calculated using data from the Input-Output table of 58 subsectors. To evaluate the ability to compete on the export market, data from the UN's International Trade Statistics were used to calculate revealed comparative advantage and constant market share analysis. In considering the future industrial structure, forecasts made by TDRI and international organizations were used.

Industries in each subsector were ranked in accordance with the importance of each aspect (as per the above mentioned indexes). The research team selected six industrial subsectors to target. These were the subsectors that were the most compatible with the criteria set up.

From each subsector selected, the research team focused on analyzing industrial structure, industrial status, expansion potential, and development measures. The study also concentrated on identifying problems that were obstacles to developing these targeted industries and recommending ways that these targeted industries could contribute to success of the overall industry.

A detailed study of each subsector was made possible by use of secondary data and statistics from both official and private sources, together with interviews with entrepreneurs and specialists.

Findings

Among the six industries studied, some were traditional ones and continuously expanding; some were industries that by present standards are small. These industries however support and strengthen the industrial sector as a whole. Others have had substantial export expansion. These six industries are:

- 1) The Food Processing Industry
- 3) The Textile and Garment Industry
- 3) The Electronics Industry
- 4) The Metal and Machinery Industry
- 5) The Petrochemical Industry
- 6) The Iron and Steel Industry

From studying each industry in detail, we can summarize major problems and suggested measures for development as follows:

The Food Processing Industry

It is the industry that has great linkages with the agricultural sector and has a high export growth rate .

The problems and obstacles facing this industry include:

- Uncertain quantity, quality and prices of raw materials;
- The government's trade policy causes prices of some raw materials to be higher than they should be;
- Small- and medium- scale industries have no modern production technology, resulting in unhygienic conditions;
- Lack of skilled workers, especially in the sciences;and
- Lack of infrastructure and facilities for exporting

Suggested measures for development:

- Encouraging the private sector to adopt contract farming ;
- Lifting protection measures to coordinate raw material costs to world prices.
- Improving the food standard certification system so that this service will be faster; allowing the private sector, under government control, to issue standard certification; and
- Providing technological assistance to small- and medium-scale industries.

The Textile and Garment Industry

Problems and obstacles:

- The Government's tax structure and control have made this industry unable to fully realize its potential;
- High tax on raw materials and highly protected products leave a great burden on middle and end producers; and
- Insufficient dyeing plants, mostly with obsolete technology and causing environmental problems; finishing industries with inadequate production capacities and mostly low quality standards.

Suggested measures for development:

- Reducing import taxes and encouraging liberalization of the industry;
- Reducing taxes on machinery parts, measuring and testing machines;
- Setting up a well-defined development plan for the finishing industry; establishing criteria for setting up dyeing factories, i.e., it must be located in a dyeing industrial estate, a measure that promotes expansion of this industry and prevents water pollution; and
- Promoting the setting up of a technology development institution for information provision and other activities relative to the industry; solving the problem of the shortage of specialists by

facilitating the procedure of hiring foreign specialists and by providing people with education in textiles, thus providing skilled manpower for the future .

Electronics Industry

Investments in this industry mostly come from abroad or as joint ventures under the control of overseas companies. Almost all Thai producers operate either small- or medium- scale businesses, very small in numbers. Their production lacks linkages and only assembles parts. There are opportunities however, for these industries to expand their exports and create linkages .

Small-scale entrepreneurs who are not given promotional privileges will face problems of tax structure, causing them disadvantages in investment costs.

In the future, this industry must consider using more advance technology if competition for higher quality products is its main objective rather than using the present low wage rates as its advantage. To solve the problem of personnel and infrastructure in technology, earnest action must be taken .

Suggested measures for development:

- Promoting a systematic domestic production of parts through granting promotional privileges to industries that have a manufacturing capacity beyond that of local industries; that projects using electronic products have to use locally -made parts, especially in projects to expand communications;

- Restructuring the present tax structure in an effort to promote the ability to compete with other countries by reducing tax on measuring devices, testing devices, and machinery parts;
- Accelerating education in engineering and technical work; encouraging the private sector to take part in personnel development, especially in electrical, electronic, mechanical, and industrial engineering; and
- Promoting the use of computers in government offices, industries, and private enterprises.

The Metal and Machinery Industry

This subsector of industry comprises the machine industry, vehicles and parts industry, and metal working industry.

These industries are now facing technology development problems. Small-scale industries have low technological ability while large-scale and modern ones rely on imported technology. No earnest attempts in technology development have been made.

Its supporting industry is not strong enough to be an efficient production base.

As regards tax structure, a business tax creates double taxation. Import tariffs for measuring devices, testing devices, and machinery parts are still high, a major drawback to industrial competition.

Protecting the auto industry is a control measure, allowing no free competition and making production less efficient.

Problems also include a lack of technologically-skilled personnel, especially in the fields of mechanical engineering and metallurgy.

Suggested measures for development:

- Reducing import tariffs on machinery and measuring devices, especially on measuring devices and machinery parts.
- Relaxing protection in the auto industry, a measure that discourages importing of cars; encouraging free competition in the country;
- Setting up plans and projects to promote specific aspects of the metal industry to become a strong base for this industry and other related ones. This measure should also promote the capacity of the service units of this industry; and
- Accelerating the pace education in industrial engineering, machinery production and metallurgy.

The Petrochemical Industry

During the adoption of the Seventh Development Plan, this industry should experience substantial growth as by then the basic industries in the NPC I and NPC II projects will be in operation.

Development of this industry over the past years, however, has been under the close control and protection of the government. This tax and import protection has harmed the competitive abilities of the downstream industry and lead to higher costs. While this industry is growing, complexity arises and for this reason, the government

control hinders its development. Entrepreneurs should be given more freedom for investment and setting up of production plans.

This industry, like other capital intensive and modern industries, is short of trained personnel and in need of infrastructure, both of which require assistance from the government.

The upstream petrochemical industry will undergo dramatic expansion largely due to its end industry, in particular the plastic products industry, which is a major user of raw materials from the petrochemical industry. The plastic products industry, although successful in its exports, still has problems, stemming from the entrepreneurs' lack of the technological knowledge necessary for product development. The engineering plastic industry will also have future development potential when the industry sector grows.

Suggested measures for development:

- Reducing the degree of protection on tax and imports, establishing protection time more clearly so the industry can adjust;
- Considering the possibility of less government control to reduce its role in investment, control of production capacity and administration in the Petrochemical Project. The government should play a vital role in the provision of infrastructure, the development of personnel, and the supervision and inspection of pollution and safety measures; and
- Stressing the importance of the plastic products industry through conducting a feasibility study to

set up a Center of Excellence, to equip entrepreneurs with knowledge in technology development, product development and management.

The Iron and Steel Industry

Demands for and imports of iron and steel are now on the rise. The upstream industry for this is thus likely to be developed during the adoption of the Seventh Development Plan. Such development should not be encumbered by government protection that will impede the development of the downstream industry.

Also on the increase is the country's need for scrap. As the world supply of scrap declines, it is likely that a shortage of scrap will result. Production of sponge iron as a substitute for scrap is thus an industry that deserves attention and promotion.

In the past, this industry was under the protection and control of the government, a measure that greatly affected the construction industry which used its products as raw material. Uncertainties relating to volume and the high prices of these raw materials were a result. Thus control and protective policies should be reviewed.

Suggested measures for development:

- Monitoring the implementation of the hot-rolled and cold-rolled production project so that it will proceed as planned immediately on completion. Its activities should extend to include steel making;
- Promoting a sponge iron production project by

allowing the private sector to invest in and implement this project with support in infrastructure and raw materials provided by the government;

- Lifting the import control, production control and using tax as an industrial control; giving entrepreneurs more freedom in investment and production plan formulation; and
- The government should have an important role in providing such infrastructure as water, electricity, and ports and should consider the possibility of establishing an industrial estate grouping factories processing iron on the same site.

II Dispersion of Industries to the Provinces

Framework and Method of Study

The research team used quantitative methods and past research findings to study the trend in industries' location distribution, behavioral patterns of the entrepreneurs in selecting factory sites, and factors influencing the extent of industrial development. Understanding these factors should lead to better measures in promoting the dispersion and development of industries. The classification of types of industries was thus made more precise for this analysis.

Also included in this research was a study on subcontracting and private institutions' roles, an attempt to find possible ways to

make use of these organizations to promote the development of provincial industries.

In addition to the data and statistics from secondary sources, information from TDRI's Factory Survey, 1988 and from interviews with entrepreneurs and provincial authorities in 12 provinces across the country have been used .

Findings

Considering the overall Thailand as a whole, there is an increase in the number of industries dispersing to the provinces when the economy enjoys high growth. The major factors influencing the selection of factory sites were readiness of infrastructure (physical and social), the agglomeration economy and market. The study found that provincial entrepreneurs were mostly local people.

The advantages to establishing factories in the provinces are lower prices of land, proximity to raw material sources, and cheaper labor. The advantages to having factories in Bangkok and its surrounding provinces were the supporting industries, market, availability of infrastructure, and faster and better government services.

Subcontractors prefer to be in Bangkok or its perimeter as they need to be close to factory employers. The problem of decentralizing subcontracting companies to the provinces stems from a shortage of capable entrepreneurs and the greater distance from employers. Those successful in this work are skilled entrepreneurs able to produce quality products on time. Industries that engaged villagers to do subcontracting work are labor-intensive, using cheaper

labor producing standard quality goods. These industries were situated in areas with an abundance of labor . Villagers could earn more when skillful and fast .

As for the private institutions, the study found that provincial entrepreneurs still lack technical knowledge, marketing, production, and management skills. The government's mechanism regarding the promotion of industry is still limited. The provincial Chambers of Commerce and the provincial Federation of Thai Industry though having the potential to help entrepreneurs still have problems, such as lack of money , lack of recognition from government agencies, poor cooperation among committee members and organization members, as well as unclear roles and responsibilities.

Recommendations for developing guidelines for development:

- Developing regional principal industrial cities.
- Accelerating infrastructure provision for provincial industries
- Developing provincial entrepreneurs and labor.
- Decentralizing government authority and services

Developing Regional Principal industrial Cities.

Since infrastructure and services can not be provided equally by the government to each province due to limited resources, it is necessary that a core city with potential for industrial development be considered. The study chose the following provinces as possible principal industrial cities using size, potential in industrial growth, infrastructure, and location as criteria:

North: Chiang Mai, Phitsanulok, Nakorn Sawan

Northeast: Khon Kaen, Nakorn Ratchasima

South: Surat Thani, Songkhla

Central: Saraburi, Ratchaburi

In the study needs for public utilities, transportation systems, and industrial areas for each principal town were specified.

Provision of Infrastructure

- Allocating more budget to the infrastructure development of each province.
- Government service charges for infrastructure in Bangkok and its perimeter should be charged at a rate where such services could be self-supporting, a measure for reducing reliance on government budget
- Solving the problem of electricity fluctuation and blackouts in the provinces should be considered an urgent matter.
- Promoting and planning a town zoning and industrial area in the provinces.

Development of Provincial Entrepreneurs and Labor

- Promoting the private sector's role in the development of entrepreneurs and labor through partial support from the government to Chambers of Commerce and the Federation of Thai Industry for their activities involving developing entrepreneurs, skills, and information dissemination.

- Strengthen the provincial Public-Private Consultative Committee by providing adequate staff and budget and delineating the role and function of the committee.
- Extending technological services and know-how on modern management, quality control, marketing, investment project analysis, preparation of a project feasibility study for credit application and etc., in the form of training, workshops, and educational manuals. The activities should be carried out with the cooperation of the government, private organizations and institutes specialized in the areas concerned.
- Establishing a service center for subcontracting and making use of value added tax to promote subcontracting work.
- Promoting the private sector to participate in the establishment of the curricula of vocational schools, and that of the Institute of Labour Skills Development, and providing training to local plant managers.

*Decentralization of Authority and Distribution of Services
to the Provinces*

- Setting up appropriate service offices for each province, especially in regional industrial cities such as an office of the Board of Investment, the

Thailand Management and Productivity Center and a custom office .

- Delegating more power to provincial authorities to grant permission for business operations, especially by upgrading or setting up regional industrial work offices with authority to make final decision in all except cases where special control and restriction are required.
- Extending the scope of promoting industrial growth to cover more areas with more frequent promotional activities and greater publicity campaign of the promotional services.

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