

**A Summary Report on  
Provincial Industries and Employment**




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**1. INTRODUCTION AND OBJECTIVES**

During the past two decades, Thailand has made remarkable progress in increasing its industrial output and income. The rate of economic growth has been relatively high and the rate of industrialization noticeably rapid. However, there is evidence indicating that the growth of industry has been heavily concentrated in Bangkok and its five surrounding provinces. The economy has, therefore, benefited from the growth only in absolute terms, as the country's industrial expansion has not, to any significant extent, reached the rural poor.

On the other hand, cultivated land is becoming increasingly scarce and the rural labor force is expanding; this, coupled with a downward trend in agricultural prices, implies that the agricultural sector has not been able to offer its work force adequate employment opportunities with fair returns. There is a limit to agricultural expansion. Consequently, there has been significant labor migration from the farm to the city which has resulted in increased urban congestion. The rural non-agricultural sector has also failed to absorb the surplus labor due to the spatially and logistically lopsided nature of industrial development. Although Bangkok is clearly a dynamic economic center, it is not realistic to expect Bangkok to adequately and productively accommodate all this recent influx of labor.

If these trends are allowed to persist, rural poverty will increase, income distribution disparities will intensify, there will be widespread unemployment and associated social problems, especially in urban areas.

This suggests that attention should be focused on rural development in general and on provincial industrialization in particular. Here provincial industries can be seen as part of a strategy to diversify the productive rural employment base. They can serve as vehicles to generate income and employment for the rural sector and to slow down the large-scale urban migration of the rural population.

This research project has as its main objectives the following:

1. To establish and analyze factors explaining the growth of provincial industries and determine the main constraints imposed on provincial industrial development.
2. To define a strategy for accelerated provincial industrialization and to identify areas where interventions are crucial in order to increase industrial activities.

To meet the above objectives, a program of research was designed to address the following three principal policy-oriented questions:

1. How do macro and micro development policies influence the scale, specialization, and the production of provincial industries and affect the behavior of entrepreneurs associated with provincial industrialization, especially with regard to patterns of provincial enterprise formation, expansion, labor management and product marketing?
2. What is the relationship, if any, between the changes in the number, scale, specialization, and production of provincial industrial enterprises with the changes in the distribution of productive factors and how do specific policies influence these relationships?
3. What are the characteristics of provincial, urban (Bangkok), and international demand relationships which currently absorb provincial industrial outputs and, what are the

likely impacts of alternative policies on influencing the demand for provincial industrial outputs?

To satisfy these objectives, the project was divided into eight research components as follows:

1. Policies, Instruments, and Institutions for Rural Industrial Development.
2. The Role of Demand in Provincial Industrialization.
3. The Household Demand for Goods Produced by Rural Industries.
4. A Profile of Provincial Industries.
5. Industrial Structures and Inter-Industry Linkages.
6. Provincial Industry Labor Markets.
7. Finance, Credit and Provincial Industrialization.
8. Dissemination of Information and Provision of Services to Regional Industries.

The term "provincial industry" as used in this report refers to industry located outside the Greater Bangkok, that is, outside Bangkok, Nakhon Pathom, Nonthaburi, Pathum Thani, Samut Prakan, and Samut Sakhon.

The information and data used in the research were obtained from published sources including journal articles, research reports and official statistics. Some of the information has also been obtained from unpublished official documents and direct interviews with experts and those connected with the promotion of provincial industries. The most important information is, however, taken from an interview sample of 989 factories. This sample comprises of 119 firms located in Bangkok, 215 firms in the North, 219 firms in the South, and 218 samples each from the Northeast and from other provinces in the Central region.

The survey samples included only those factories (with the exception of rice mills) which are registered with the Department of Industrial Works, Ministry of Industry. Thus, the survey excludes the so-called cottage industries which either employ workers or use machinery to a lesser extent than that which is required by law to register their activities. During the course of the survey, 756 workers were also interviewed, of which 20 percent were office workers, 30 percent were skilled and semi-skilled workers, and 50 percent were unskilled workers. Questionnaires were also sent to branches of commercial bank located in the sample provinces; 62 of which were returned.

This report contains an attempt to summarize the findings and synthesize the recommendations made in the seven research topics mentioned earlier. The report also takes into account mimeographs written by consultants from the Harvard Institute for International Development. Therefore, for a complete detailed study of the subject, readers are urged to read the original research papers.

## **2. AN OVERVIEW OF PROVINCIAL INDUSTRIES**

### **2.1 Industrial Dispersion**

As noted earlier, although the economic development in the past two decades has registered quite a rapid growth rate, the economic progress has not reached every province in the same manner and at the same rate. An analysis on the sources of growth in each region revealed that the overall growth of the economy was the most significant source factor leading to the expansion of the regional manufacturing sector; while regional factors have not positively contributed to the growth of the region, except in certain industries where regional inputs are indispensable. Thus, it was found that the level of provincial development varied from one province to another. If the proportion of manufacturing value added to the gross provincial product during 1985-87 is used as a measure of the level of industrialization, there are only 8 provinces which could be counted as the most industrialized provinces,

since in those provinces the ratio of manufacturing value added to gross provincial product amounted to more than 20 percent. Thirty one provinces lagged behind, both relatively and absolutely, in industrialization, as their ratio shows a value of less than 5 percent.

From an econometric analysis, it was found that the important factors responsible for determining the degree of provincial industrialization included provincial income levels, the size and density of provincial population, the availability of an adequate infrastructure, as measured by the accumulated expenditures on roads and by the proportion of value added of electricity and water to the gross provincial product, the degree of financial development, and the distance from Bangkok. Generally, these factors vary in both quantity and quality between the provinces and affected the degree of industrialization from one province to another. The most favorable of these factors are, however, available more in Bangkok and its surrounding provinces than elsewhere. Thus, it is natural that industrial activities are found to be concentrated in Greater Bangkok area. Between 1981-1987, about three quarters of the country's manufacturing output was produced in Bangkok and the surrounding provinces. If the manufacturing output of other provinces in the Central region is also taken into account, about 88 percent of total manufacturing output was produced in these areas. Thus implying that the rest of the country was able to account for only about 12 percent of the country's manufacturing activities.

Moreover, there is a clear indication that this concentration of industrial activities in the Central region has increased over time, whether the concentration is measured by manufacturing value added or by the number of firms. Although industrial activities in Bangkok city has been declining, the proportion of manufacturing activities to the total in the provinces surrounding Bangkok has been rapidly increasing. This has basically come about by newly established manufacturing firms locating themselves in these areas during the past 10 years. Between 1981 to 1987, industrial activities locating in Bangkok and other provinces in the central region (excluding the five provinces surrounding Bangkok) registered the highest rate of growth, followed by



the five provinces surrounding Bangkok. Other regions show a relatively low growth rate of industrial activities, with the south having the lowest rate.

## 2.2 Industrial Structure

Most provincial firms are small-scale, as measured by the number of workers they employ. As of the beginning of 1987, 71 percent of firms (excluding rice mills) which registered at the Department of Industrial Works employed less than 9 workers; 24 percent employed between 10 to 49 workers; the rest or about 5 percent were manufacturing undertakings with over 50 workers. The size of enterprises also varied depending on the type of industry: for instance, textile and clothing industries tend to employ the largest number of workers, while machinery and electrical equipment industries and repair shops had the lowest average number of workers.

Provincial industrial firms are limited in type and number, especially in those provinces with a low level of industrialization. Most of the activities are concentrated in food and beverages, the manufacturing of wood and wood products, non metallic and metal products, machinery and transport equipment. Most provincial firms either undertake simple processing of agricultural products or manufacture products used in construction or repairing activities. An analysis on the comparative advantage of these provincial industries confirms that in only a limited range of activities can they successfully compete with firms located in Greater Bangkok. The areas where provincial firms enjoy most comparative advantage over those in Greater Bangkok are confined to food and beverages, other resource based industries, and service industries. A detailed analysis indicated that the northern region has a comparative advantage in the production of paper and wood products and in the lower north, agricultural machinery. The northeastern region competes well in leather and paper products, while the lower northeastern region is strong in the production of rope, net, and agricultural machinery. The south has a comparative advantage in rubber, and rubber and wood products.

In sum, the regional industries are relatively more competitive in resource-based industries particularly the upstream ones. On the other hand, in the non-resource-based industries, especially those with high import content, regional firms are relatively non-competitive. This also holds true when an analysis is done on the ability of provincial firms to compete in the external markets.

Comparing regional firms to those in the Greater Bangkok area using employment data from the registry at the Department of Industrial Works, it was found that regional industries whose inputs are largely drawn from within the region employ more workers than industries in Greater Bangkok and other non-resource-based industries. It was also found that small regional industries are relatively competitive in the labor intensive industries when compared with small industries in Greater Bangkok.

### 2.3 Linkages

Other comparisons between industries in Greater Bangkok and those in the outer region, showed that firms in Greater Bangkok procure about 21 percent of their total raw material requirement from the regions, while imported raw materials accounted for over 39 percent. On the other hand, provincial firms procure about 16 percent of their raw materials from the Greater Bangkok area, 12 percent from abroad, while about 72 percent comes from within the region. The strong links between regional industries, which are largely small and medium sized, and the locality is also reflected in their market. For smaller provincial firms, with fewer than 10 workers, the local markets absorb about 85 percent of their total sales. As the size of the firm increases, there is a decline in the proportion of sales to the local markets, and a relative increase in the sales to Greater Bangkok and the export markets. These firms tend to be in resource-based industries, especially the food industry, and in the manufacture of wood products. Other industries, despite their number in the outer regions, which cannot compete well in the Bangkok and foreign markets, include machinery and equipment, and

metal products. On the other hand, the non-resource-based provincial industries that do have a potential for growth are the labor-intensive industries, such as textile and clothing industries.

The pattern of provincial industrialization in Thailand is quite similar to the industrial development experienced by other countries. That is, the industrialization process usually begins with the development and growth of resource-based industries which having met with a certain degree of success, is further developed towards the labor intensive industries. As previously noted, provincial industrialization in Thailand is in its infancy and therefore, special attention should be given to the development of its resource-based industries. At the same time, attempts should also be made to promote labor-intensive industries, in order to strengthen the industrial base. As any country's natural resources are limited, labor intensive industries can play a very important role in the industrialization process, and can be a means towards establishing a sustained growth path. Many countries have not been successful in their attempts at industrial development because they have adopted policies which are not conducive to the growth of labor-intensive industries.

#### 2.4 Role of Demand

The demand for manufacturing output that has resulted in the rapid expansion of industrial sector in the past two decades, is the domestic demand. Although foreign demand has become of increasing importance in recent years, the demand for industrial goods originated from domestic consumers still play a leading role in the expansion of the manufacturing sector. If the magnitude and changes in national income are reflected in the market of manufacturing output, the remarkable growth of the Thai economy has acted as a significant factor in inducing the rapid expansion in the manufacturing sector.

An analysis of income distribution in 1987 indicated that about half of the national income is held by those who reside in the Greater

Bangkok area, which accounts for only 16 percent of total population. The other half is spread all over the rest of the country. Moreover, the aggregate or the gross regional income of the Greater Bangkok area has been increasing at a faster rate than that of the rest of the country. Thus, not only is the demand, backed by purchasing power, concentrated in Bangkok and its surrounding provinces, but this demand has also been growing rapidly.

One reason responsible for the low levels, and growth of provincial income, is that the provincial economy is closely related to low productivity agricultural activities. Agricultural output not only fluctuates in response to the weather, but it is also subject to fluctuating and declining prices. Further, the implementation of many policies which include agricultural product pricing policies, and certain tax policies, has negatively affected the provincial aggregate income through unfavorably affecting the agricultural terms of trade. Although the bias against agricultural prices has been much reduced in recent years, the effects of policies implemented in the past still linger on today. This has resulted in the low income of provincial rural households, which has acted as a constraint on the provincial demand both for consumption and investment goods.

National income data indicates that more than three quarters of total manufacturing value added comes from the Greater Bangkok region. This implies that most of the manufactured goods purchased by the provincial population are those largely produced in Greater Bangkok. Although the government has introduced policies to encourage the transfer of industrial activities to the outer regions as far back as the Third Economic and Social Development Plan, what has been implemented is primarily the setting up of conditions that would enhance production through lowering costs. There has been little or no consideration of the demand issue. As a consequence, the industrial dispersion has been successful only to a limited extent. It is, however, not difficult to perceive that once a demand for products exists sufficiently to warrant production, the supply would be forthcoming through investment by entrepreneurs, even without additional

promotional incentives. But if the demand is small or uncertain, no one would risk making an investment in a losing activity.

An analysis on the consumption patterns of provincial households reveals that most goods produced by provincial industries have an elasticity greater than one. This implies that when provincial income rises, there will be an increase in the demand for those products, many of which would be increasing more than proportionately. Therefore, the introduction of policies which would lead to an increase in provincial income, should be reflected in a similar increase demand. The analysis further indicated that as provincial household incomes begin to rise, the additional goods bought by the poorer households would be labor intensive items; whereas a household in the city within the same income bracket would purchase additional goods which required a lower labor content or capital intensive products and imported commodities. When the increase in provincial income passes a certain level, the basket of goods purchased would shift from food to non-food items, and from non-durable to durable goods (most non-food and durable goods are produced in Greater Bangkok area). Thus, to meet this increasing and changing provincial demand, attention should be given to structural adjustment in the manufacturing production of provincial industries.

As noted earlier, provincial industries are important buyers of local products as compared to industries located in the Greater Bangkok area who rely heavily on imported goods for their raw materials. Government purchases and direct export of provincial goods are still rather limited.

An analysis of the government budget allocation for supplies and equipment, together with related regulations, shows that government purchases could be used to provide the impetus to generate a significant demand for provincial products. One regulation already states that government purchases should give priority to those goods that are locally produced. The regulation could be easily modified to include goods produced by the provincial industries. This measure, however, will not necessarily lead to any increase in the aggregate demand, even if it is successfully implemented. On the contrary, it may result in a

reduction of the overall economic growth rate, as the aggregate productivity may decline.

## 2.5 Entrepreneurs

Provincial entrepreneurs are generally less well educated when compared to those in the Greater Bangkok area. However, they usually possess some basic business skills before establishing their firm. From the interviews conducted, the majority of entrepreneurs said they gained their knowledge and experience from previous jobs or by assisting with the family business (usually in the same line of business). Over half of the sample interviewed had located their factory in or near their birth place. Those entrepreneurs who had established factories in another province stated that their choice of location was influenced by a long history of business dealings in that province. These findings confirm the hypothesis that familiarity with the location is an important consideration when selecting a site. Thus, an emergence of new manufacturing activities in the outer regions may also be stimulated through developing and supporting local entrepreneurs. This kind of promotion could be aimed at developing small- and medium-scale businesses, especially in those remote provinces where there are few manufacturing concerns. Bangkok residents and foreign entrepreneurs usually confine their investment to the metropolitan areas or regional centers, such as Chiang Mai, Nakhon Ratchasima, and Chon Buri, where economies of scope already exist.

For economic factors underlying the choice of factory location, the survey indicated that the dominant factors included proximity to markets, convenient transportation and communication facilities, proximity to raw materials, the availability of public utilities, low rental prices of land, and availability of a skilled work force. Other factors of relatively less importance included the presence of related industries, access to machinery repair centers, and to government agencies.

## 2.6 Labor Market

Provincial industries are becoming increasingly important in their ability to absorb the rural work force. Employment in provincial industries tends to comprise largely of local workers, that is, about 66 percent of their employees reside in the same province. The rest comes from other locality.

Employment in provincial industries, however, is not stable, as indicated by seasonal movement of workers. This is especially true during the rainy season when the level of employment is low, and during the hot season when the level of employment is high. Moreover, about 52 percent of the workers are employed on a temporary basis or hired on a piece work basis. Once employed, these workers often perform heavy tasks and most of them neither have a holiday nor even a systematic "weekend" off. A closer analysis of the working conditions in provincial industries reveals that the demand for labor is more important than the factors underlying the supply in influencing the seasonal movement of labor. Labor movement can also be influenced to much smaller degree by low wage and income, the prevailing attitude that there is no future in the employment, and the heavy work with no rest days.

Not only are the nominal wages and incomes of unskilled workers low compared to those in other non-agricultural sectors, their real wages and incomes have also increased very slowly. This is partly because of the numbers of unskilled workers has been increasing over the years, while the demand for labor is limited and is increasing only very slowly. On the other hand, the actual wage paid does vary depending on the type of production, working conditions, location, factory size, age, gender, level of education, and experience.

In many locations, especially in the north and northeast, the minimum wage rates as set by the wage committee are much higher than the prevailing market rates. The legal minimum wages in these two regions are rising at a much higher rate than the respective average per capita manufacturing value added, and than those in the Greater Bangkok area

and the Central region, where the average per capita manufacturing value added is increasing at a lesser rate. Such a situation is not attractive to prospective investors in the north and the northeast. The entrepreneur in these regions would have more difficulty in meeting the minimum wage requirements than those in other regions. If this trend should continue, the comparative advantage in the production of labor-intensive products at present enjoyed by the regions, as compared to Greater Bangkok area, would soon diminish.

The survey indicated that the majority of provincial entrepreneurs has not attached a high priority to the issue of personnel management. This is reflected in the lack of selection procedures when recruiting labor. After a worker has been hired, no proper training is offered, nor is there a program to develop or upgrade the worker's skills. There is also no proper channel through which to solve labor problems.

When recruiting workers, entrepreneurs generally give higher priority to experience than to education. This may be because the curricula adopted by the learning institutions do not put any emphasis on the development of manpower for small- and medium-scale industries, of which there are many, while attention has been focused on the development of human resources for large-scale enterprises. Most curricula are directed to prepare workers for the so-called formal sector by, for example, providing students with knowledge in specialized fields, while small-scale enterprises require an "all-around" or "jack-of-all-trades" type of personnel.

Certain industries do have difficulty recruiting skilled and semi-skilled workers. The shortage of trained labor is especially acute in the manufacturing of ferrous and other metal products, transport equipment and repair of vehicles, electrical machinery and repair services, chemicals and plastic products, and paper and wood products, in that order. The scarcity of labor is more of a problem to industries in the South than in other regions, and to small- and medium-scale more than large scale industries.



As for the unskilled labor, the problem lies in the quality more than in the quantity. That is, unskilled workers generally possess very low level of education, lack of experience, are not familiar with industrial work, and lack of industrial discipline. On the other hand, shortage of unskilled labor does not constitute a problem to provincial industries as they can be drawn from the agricultural sector.

## 2.7 Finance and Credit

When establishing a factory, the entrepreneur needs investment capital, both in the form of fixed assets and in the form of operating funds, which fluctuate seasonally. The firms usually obtain capital from retained earnings or from accumulated profits which have been set aside for the purpose. If the amount of internally generated funds are not sufficient to meet the firms' demand, then external funds will be sought. The external sources of funds are commercial banks, other formal financial institutions, and informal money markets. From statistics on commercial banks' lending, industries in provinces are able to obtain less credit from commercial banks than industries located in Greater Bangkok, especially when this is compared to their contribution to the country's overall manufacturing value added. Thus, provincial industries must increasingly turn to other sources for their investment requirements.

From this survey, it was found that approximately 24 percent of the sample firms depended solely on internal funds for their financial needs. Among the sample firms that did use external funds, 89 percent borrowed from commercial banks: of which 68 percent uses only the commercial banks' loans, 5 percent also obtains funds from non-bank financial institutions, and the rest (23 percent) obtained additional funds from informal sources. About 23 percent of the sample firms that use external funds, have financial dealings with informal money market, while 6 percent of the sample firms depended entirely on the informal money market. Small-scale enterprises tended to use a larger proportion of their own internally raised funds. Various obstacles when raising fund from formal financial institutions have caused small-scale

industries to depends less on those funds from the financial institutions.

The major problems encountered by provincial entrepreneurs when applying for loans from commercial banks, are insufficient credit and inadequate collateral. In borrowing from other financial institutions such as Small Industry Finance Office (SIFO) and Industrial Finance Corporation of Thailand (IFCT), the applicants have to prepare a detailed volume of documentation which many provincial entrepreneurs are not prepare to divulge. When raising fund from the unorganized money markets, the major problem faced is that of high interest rates, which is, on average, about 6 percent above the rate charged by formal financial institutions.

Although the large commercial banks have a much more complex administrative structure, as compared to small ones, they are quite efficient in issuing loan approvals. On average a shorter time is needed to authorize a loan and a higher value loan can be obtained. This is because the authority to approve loans is decentralized from bank headquarters to regional and branch offices. Most of the commercial bank branches that were surveyed indicated that the constraints imposed in administering loans included lack of loan personnel and supporting equipment, and, most especially, the limited amount of loan that branch managers are themselves authorized to approve. About 87 percent of loan applications received by commercial bank branches involves an amount higher than that which could possibly be approved by the branches. These applications have to be sent to either other larger regional branches or to the bank headquarters for approval. For other formal financial institutions such as IFCT and SIFO, in addition to having complicated procedures, the approval of loans is only carried out at headquarters.

Loans extended by IFCT and SIFO and the loan guarantee service provided by the Small Industry Credit Guarantee Fund (SICGF) are limited. This is particularly true of the IFCT's loan to small-scale industries, and the reasons for this are largely due to the limited number of branches and personnel. In addition, the source and cost of

fund, the complicated procedure, and the lower than commercial bank rate of interest that the IFCT can charge its customers, all contribute to limiting the service extended to small- and medium-scale enterprises. In the case of SICGF, its inactivity can be attributed to the unwillingness, lack of cooperation, and readiness on the part of commercial banks to pass on the project for loan guarantee.

The main reasons given by financial institutions for turning down loan applications, which are largely those from small-scale industries, are because the proposed projects are either unfeasible or would have a low rate of return, or the unsound financial position of the applicants, or because of insufficient collateral.

The informal sources of funds are generally derived from chit funds, trade credits, check discounts, relatives and friends. These informal sources are very important to provincial industries, especially the small-scale ones. Although these sources are numerous, and have a relatively low operating cost, they charge very high interest rates as compared to those of formal financial institutions. This is partly because the interest rates charged in the formal financial sector are suppressed below the market rate of interest. The informal financial markets are information intensive, thus, their operators enjoy a certain degree of monopoly power and often mobilize funds from formal financial institutions for their lending.

The existence of interest rate ceilings and the subsequent lack of incentive to compete within the system has contributed to the poor performance on the part of commercial banks in providing loans to provincial industries. The situation does not encourage financial institutions to take on greater risks. However, a change in the financial policies of the Bank of Thailand in promoting provincial industries has been taking place in recent years. Although the development financial institutions--comprising of IFCT, SIFO, and SICGF--have contributed to the development of provincial industries, their role still appears to be somewhat limited and demands a substantial structural adjustment in the way they operate before the situation can be improved.

As noted earlier, a bias exists in the way credit has been allocated, such that industries located in the Greater Bangkok area have more access to credit than those in the provincial areas. This situation, however, appears to be improving. Measures adopted by the Bank of Thailand to allocate low cost financial resources to priority sectors via commercial banks, may however, put provincial industries at a disadvantage, as most commercial banks prefer to deal mainly with large-scale industries located in the Greater Bangkok area.

## 2.8 Dissemination of Information to Industries

Appropriate and up-to-date information is an indispensable ingredient in conducting and developing a successful business enterprise. A large number of both public and private organizations exists to provide various services ranging from information dissemination, to training and consultation, and to product analysis, testing and certification. These services are provided both on site and outside the establishment.

In general these services are of the kind and in the form befitting the need of industrial entrepreneurs. However, their availability to and their accessibility by provincial entrepreneurs are very limited because the services are mainly clustered in Bangkok and the larger regional cities. Private organizations also tend to limit their services to members and often the information given are only specific to these institutions. Thus, entrepreneurs who need assistance must first find ways to contact the appropriate organization for the information or the services required. It is usually difficult for entrepreneurs to discover and be aware of the extent to which services are available from each institutions and in many instances, even if the entrepreneurs are acquainted with the services, complicated application procedures somewhat hindered easy access. When the institutions have no local branch offices, more time is needed for the information to be obtained. Being unaware of a central information unit, on the part of entrepreneurs, has been a constraint to access to many kinds of

services, or to full use of those services. In many cases, they even feel put off.

The services provided by some of these institutions are often duplicated in the sense that several institutions offer the same service to the same group of recipients or that several institutions provide the same kind of services to different groups of recipients. They also often lack publicity on the services they provide. The type and extent of services available to provincial industries are much less than that available to enterprises in the metropolitan area and there has been no attempt to study the kind of services demanded. Lastly, although most service institutions are located in Bangkok, there does not appear to be any proper coordination among them. The reason for this could be the lack of agency that could serve as a coordinating body.

On the demand for information and other services from provincial entrepreneurs, the survey indicated that the majority of entrepreneurs did not recognize the importance of official information in various decision making processes. Most appeared to be satisfied with the existing sources of information, which are of an unofficial nature and are basically depended on information to be supplied by peer groups and the mass media. This could be accounted for by the fact that many entrepreneurs are conducting small-scale enterprises, based essentially on their own experience, and they are used to exercising self-reliance. Moreover, many of them would actively avoid coming into contact with public officials, unless it is absolutely necessary.

Thus, in the dissemination of information and other services to provincial industries, it is essential to make entrepreneurs aware of the usefulness of this information in the conduct of their businesses. At the same time, information units must improve their image and prove that they are willing and enthusiastic to provide their services, and find ways for entrepreneurs to have easy access to them.

## 2.9 Policy Biases

Some industrial and other policies that have previously been implemented may have a unintended effect on the development of provincial industries. The direction and the magnitude of the impact depend on the biases of the policies that may accommodate or obstruct provincial industrialization. Although this country has adopted a development objective for provincial industrialization since the Third National Economic and Social Development Plan, it was not until recently that efforts have been made to conscientiously pursue the objective, starting with the formulation of a committee to develop provincial industries in 1988 and the institution of a development plan at provincial level. However, a number of policies exists which tends to bias in favor of those industries locating in the Greater Bangkok area.

The centralized nature of public administration in Thailand makes it difficult for provincial enterprises to participate in the formulation of industrial policies. The centralization of government administration also results in local governments being highly dependent on the central government. Not only do the local governments have much lower budgets at their disposal than the central government, their ability to raise revenue is equally very limited. They have to depend mainly on the transfer of payments and subsidies from the central government for their financial needs. Fortunately, such a public financing system does not prejudice unfavorably against the provincial industries through the collection of business and corporate taxes. As for the trade taxes, there appears to be no direct bias against provincial industries, but indirect impact may be detected especially in the resource-based industries.

Public utilities are not so advanced in various provinces as those in Greater Bangkok. For instance, industries located in the outer provinces are at disadvantage in terms of high tariffs on electricity, and the shortage of water in general, not to mention the public tap water, is a problem often faced by provincial industries. The survey confirmed that provincial firms tend to have higher proportion of water costs in total costs than firms in Greater Bangkok. However, their

electricity costs tend to be proportionally lower, which may be attributable to the fact that provincial firms use a lower level of technology, and in general, requires less electricity, than firms in Bangkok and the surrounding provinces.

In the field of learning, the regional distribution of resources to support higher education than elementary level is rather limited. This is especially noticeable so at university level. As a consequence, the public investment in education has benefited the population living in the capital much more than regional population. It is also found that the proportion of school-age children attending secondary schools in the provinces has declined at an alarming rate. This would certainly have a direct effect on the quality of provincial manpower.

Although the Board of Investment (BOI) since 1983 has instituted programs to disperse industries to provincial areas and to promote provincial industries, the measures appear to be less than effective. This is partly because of frequent changes in the definition of "promoted areas" and incentive schemes provided, which has led to confusion. Moreover, there is also a conflict in the objectives of BOI in regards to the promotion of investment, rendering promotional measures ineffective. As most measures adopted to induce investment are in the form of business and income tax exemption, they are not attractive to many provincial firms since they often dodge paying taxes.

Attempts to promote provincial industrialization through the establishment of industrial estate has not been so effective as expected. This is because provincial firms are small-scale and not enough larger and more modern firms exist to viably support the establishment of industrial estates in different regions.

### 3. POLICY CONSIDERATIONS

There are three approaches whereby provincial industrialization can be achieved. These approaches can be adopted all at the same time, or greater emphasis can be given to one over the others. However, the strategies and approaches can differ greatly. Thus, it is imperative to first clearly identify the relative importance of various target groups before attempting industrialization. Three approaches are as follows:

- (1) Deconcentration of industrial activities away from Greater Bangkok to nearby provinces.
- (2) Decentralization of industrial activities to regional centers.
- (3) Inducement of greater industrial activities, both new and old, in provinces that are less industrialized.

These three approaches would all reduce the rate of increase in congestion in Bangkok and the surrounding provinces. However, the impact on income generation and, hence, on disparities in income and economic and industrial growth in various provinces, would be different. The social cost in the drive toward accelerating provincial industrialization also would not be the same.

In fact, the first approach--deconcentration from Greater Bangkok to the surrounding provinces in the central region--has already been taking place in recent years in response to the increasing congestion in the Bangkok Metropolitan Region. There is, then, no need whatsoever to hasten the process through added financial incentives. Indeed, what the government should pay close attention to is the pollution and environmental issues when industrial activities become concentrated in those provinces.

The second approach, which involves decentralization of industrial activities to growth centers in various regions, also appears to have



taken place in recent years by natural processes. What the government could do to accelerate industrialization, under this approach, is to help equip the growth centers with development of those infrastructures in order to keep pace with rapid industrial development. The government could also help with the dissemination of information on the investment climate in those regions. Furthermore, the government should also provide assistance to regional entrepreneurs in making new investment or expanding existing activities, together with assistance in raising the productivity of provincial industrial undertakings, through various promotional measures.

The promotion of industrial activities in the outer regions, where the degree of industrialization is still limited, as suggested in the third approach, involves income and employment generation and general economic growth of the provinces concerned. The emphasis here lies in the stimulation of industrial activities through local entrepreneurs, and in making industrial undertakings more efficient. Since the industrial activities in these areas are closely linked with the local economy, the attempt at industrialization through this approach can be made lighter if agricultural and rural development are carried out simultaneously.

#### **4. MAIN STRATEGIES**

The main strategies for provincial industrialization incorporating the above approaches can be summarized as follows:

##### **4.1 Development of the Agricultural and Service Sectors together with Provincial Industries**

Research findings have confirmed that provincial industries are closely linked with local economies, both forward and backward. Thus, it is essential, while industrial development is being attempted, to develop the agricultural and service sectors in the rural areas which

contain the majority of the population. A sustained industrialization process in provincial area cannot succeed if there is no simultaneous development of other productive sectors. This is because development of other sectors will not only provide necessary raw materials with quality and regularity, but it will also generate income that will lead to an increase in the demand for provincial industrial output in the form of both consumption and capital goods. Otherwise, the shortage of raw materials and inadequate demand or both can become an important factor hindering the industrial expansion.

#### 4.2 Correction of Policy Biases

The consequences of past development have put provincial industries at a disadvantage compared to industries in Greater Bangkok. They face a shortage of infrastructure and other facilities and are located far away from main markets, up-to-date information and other services; all of these are important for a successful business operation, and in coping with the development of new technology. These natural disadvantages are also compounded by various unfavorable policy biases in such a way that provincial industries are not in a position to adequately compete with Bangkok-based industries and grow at a satisfactory rate. Out-of-town investors who are investing in a new project or expanding old project will not consider locating their new factory far away in the remote regions, unless they are induced to do so. Local investors themselves may not be enthusiastic about expanding their investment.

By definition, economic policies contain an element of intervention in the market mechanism in order to achieve a certain goal or objective. Unfortunately, the impact of the policy is not confined only to the intended objective, but extends to other areas as well. Certain side effects may be desirable, but others may not. When analyzed in terms of the ability of provincial industries to remain competitive and to grow, the research findings point out that many policies implemented by the government have added to the disadvantages already faced by provincial industries. These policies have also reduced incentives to foster the

dispersion of industries. The policies include minimum wage policies that unfavorably affect the comparative advantage in the labor abundant regions, property taxation that leads to low operating costs on the part of Greater Bangkok firms, and an agricultural pricing policy that reduces the purchasing power of a provincial population that depends mainly on the sale of agricultural goods.

The elimination or even a reduction in the number of biased policies, so as to partially remove the disadvantages faced by provincial industries, constitutes a more appropriate measure than provision of direct subsidies or a tax reduction to selected firms. The latter inducements--aimed at inducing investors to disperse their investment from Greater Bangkok--may result in the survival of inefficient firms that need support from the government for an indefinite period.

Further, the removal or reduction of policy biases may have to be supplemented with the provision of necessary infrastructure in the provinces, and across-the-board fiscal incentives to offset the natural disadvantages faced by provincial industries.

#### **4.3 Raising Production Capability**

Research findings have pointed out that provincial industries lack of capability in many areas. This has affected the ability of industries to expand and to adjust themselves to changing market conditions. This strategy, thus, emphasizes assistance and greater effort in the provision of services to provincial industries to enable them to improve their factors of production, and to enhance their production capabilities.

In the financial sphere, the strategy calls for extension of adequate credit to provincial industries through improved, specialized financial institutions, additional financial instruments, greater accessibility of financial services, and a reduction in the emphasis placed on the use of land as collateral. The strategy places importance

on market determined rate of interest. If low-cost credit cannot be avoided, it should be given on the basis of efficient utilization of the fund. The ability to compete in the world market can be used as a criterion in the allocation of low-cost credits.

In the area of human resource development, priority must be given to manpower preparation that accommodates industrial growth requirement and changing technology, even though the result may not be immediately felt. The manpower development will not only increase productive capability of workers, but will enable workers to obtain a larger return to their labor. The private sector can play a greater role in the development of human resources. The entrepreneurs themselves can participate in such activities if are induced to do so, say, by tax incentives.

There is also a need to improve the skill of most provincial entrepreneurs, who generally work in small-scale enterprises. This would involve developing their marketing, administrative, and managerial skills. They are also in need of technological assistance in order to standardize their products and in adjusting output to meet changing demand.

In order to enhance production capability, it is also mandatory to develop and to improve institutions that provide services and information; these institutions perform an important supporting function in the industrialization process. Here the emphasis must be given to greater accessibility to services for a larger public, promptness in obtaining the services, less bureaucratic red tape, up-to-date and correct information, and greater coordination among various service institutions.

#### **4.4 Development of Regional Growth Centers**

This strategy builds on the past development of major cities in various regions. In general, these major cities are already equipped with a fairly extensive economic and social infrastructure. They also

represent a likely choice of location for prospective out-of-town investors. The development of these growth centers would accelerate the process of providing a more complete and improved socio-economic infrastructure, which is a necessary component for provincial industrialization. The aim is to make these cities centers for regional economic development, with transportation and communication links between them. However, the evolution of Bangkok as a development center and the overflow of growth activities into nearby provinces should be taken as a lesson in the development of other regional growth centers, especially with regard to environmental issues.

#### **4.5 Decentralization of Government Authorities**

Research findings have highlighted the high degree of concentration of government authorities in Bangkok. These include the power to tax, to exempt tax, to spend tax revenue, to formulate economic policies, to regulate, and to approve applications. If the local authorities cannot even control and manage their own resources or participate in the policy formulation to a certain extent, it would be too much to expect the locality to have a greater role to play in the development process. At the same time, the concentration of government administration in Bangkok has become a burden and increased the operating costs of provincial industries. Often this burden has affect the establishment and expansion of provincial industries as well as their ability to compete. Thus, the provincial industrialization policy will not be successful unless it is accompanied by a policy to decentralize government authorities and services to a certain extent.

### **5. MEASURES TO PROMOTE PROVINCIAL INDUSTRIES**

In conjunction with the main strategies discussed above, the following measures are recommended to accelerate the provincial industrialization process:

## 5.1 Spatial Neutralization of Policies

### 5.1.1 Policy on Minimum Wage Rate

An analysis of the movements of the market-determined wage rate and the legal minimum wage rate indicates that there exist a number of locations in the outer regions where the actual wage rate of unskilled workers is below the legal wage rate. When changes in the minimum wage rate applied to Greater Bangkok are compared with those in other regions, it is found that the rate of increase in the regional minimum wage rate is higher. This phenomenon would not only lead to a dampening of the comparative advantage enjoyed by labor-intensive provincial industries, but would also affect the choice of input mix for the industrial production. This leads to a utilization of resources that does not reflect the scarcity of resources, which in turn unfavorably affects the growth performance of industrial activities in provinces, as well as in the country as a whole.

Thus, in order to increase productivity, utilize resources more efficiently, reduce wage distortion, and maintain the comparative advantage of labor-intensive provincial industries, the minimum wage rate policy must be modified, if not eliminated, as follows:

In areas where minimum wage rates are higher than market-determined wage rates for unskilled workers, the adjustment of minimum wage rates, which is carried out from time to time, must be such that the growth in the legal rates is lower than the growth in the market wages. The deceleration of the increase in the legal minimum wage must be maintained until minimum and market wages are more or less at the same level.

Alternatively, the minimum wage rate adjustment must take into consideration the basic philosophy in setting up minimum wage in the first place: to guarantee a minimum living standard for workers. Thus, information on living standards and movement of price levels in various locations are essential in the adjustment process. There ought to be, then, studies on living standards for unskilled workers in different

parts of the country, and the information obtained should be updated frequently. On the other hand, the minimum wage adjustment must pay more attention to the movement of prices for products consumed by low-income group and rural household--not the general consumer price index, which is based on expenditure patterns of middle income group. The consumer price indices for low-income group and rural households are available and compiled by the Department of Business Economics in the Ministry of Commerce. However, there is a need to improve such indices in order to have wider coverage both in terms of regional location and products.

#### 5.1.2 Interest Rate

Interest rate policy that sets a ceiling on the rate which financial institutions can charge their customers has the effect of restraining credit, even though liquidity is high and the market rate is below the ceiling rate. This is because financial institutions ration out their funds to customers with low lending costs and low risk before they consider lending out to those with higher lending costs and higher risk. They will not consider lending to loan applicants with very high risk, since the lending cost is more than the interest rate that can be legally charged. Thus, with a ceiling on the interest rate, financial institutions will normally ration out credit to large enterprises. The extent to which smaller enterprises will receive credit will depend on the state of liquidity that exists at the time. Further, financial institutions will not be interested in providing longer term loans, since they cannot demand a higher premium beyond the legal rate.

When the interest rate ceiling applies, the financial resources appear to be cheaper than would otherwise be the case. There thus tends to be a greater utilization of capital than appropriate. Those who obtain credit would tend to choose their factor mix in a proportion that does not reflect resource scarcity. This distortion extends to the utilization of other resources as well.

Although the effect of an interest rate ceiling on the provincial distribution of credit is not clear, research findings indicate evidences showing that the ceiling is biased in favor of large

enterprises, which are relatively numerous in Greater Bangkok. These findings lead to the conclusion that small industries, especially those in the provinces, have less accessibility to financial services. While the reasons for this low level of accessibility are numerous, the interest rate ceiling is certainly one of them.

If provincial industrialization should focus on the development of local enterprises, which are mostly small-scale, the denial of access to financial services to these enterprises would limit their contribution to overall regional growth and the generation of rural employment. The outcome would then be contradictory to the objective of provincial industrialization.

It is true that once the interest rate is allowed to float or to be determined by market forces, provincial industries may have to spend more on interest than their counterparts in Greater Bangkok. At the same time, though, additional provincial enterprises will have access to financial services at a cost lower than what they would otherwise pay in the informal financial market.

Thus, it is appropriate that the interest rate be floated in order to get rid of distortions in the utilization of resources and to increase accessibility of capital for smaller scale enterprises.

The recent experience of the increase in the interest rate ceiling from 15 to 16.5 percent on March 16, 1990--aimed at countering inflationary pressures, indicates that under the present financial administrative system, an attempt to raise the ceiling is politically very difficult and time consuming. Once the ceiling is adjusted, the new ceiling may no longer be appropriate, as economic and financial conditions may have already changed. The economy will have to bear this cost of delay in the decision making.

If the recommendation to float the interest rate does not meet approval within the near future, there ought to be a reassignment of the authority to set and to adjust the ceiling. This would avoid losses that might befall the economy as a result of conflicts between



organizations dealing with monetary matters. Since the Bank of Thailand is entrusted with the responsibility of maintaining financial stability and controlling inflation, it must also be equipped with the tools and instruments to swiftly carry out the duty. The interest rate ceiling, if it exists, is an effective instrument in the allocation of financial resources. The Bank should therefore be solely charged with the authority to adjust the ceiling. Accordingly, the charter of the Bank of Thailand should be revised to allow for greater autonomy in its financial and monetary management.

#### 5.1.3 Financial Assistance through Rediscount Facilities

Financial assistance for industrial undertakings in the form of rediscount facilities from the Bank of Thailand is currently available in three different forms: export packing credits, industrial undertaking, and small-scale industries. The statistic on the use of these rediscount facilities indicates that the financial services are utilized mostly by large enterprises located within the Greater Bangkok area. About 90 percent of the rediscount services are in the form of export packing credits.

Financial assistance through low-cost credit distorts the productive use of resources (although the assistance is for the purpose of trade, as money is fungible). Also the way the assistance is implemented is biased in favor of enterprises located in Greater Bangkok. Thus, it may be appropriate to readjust the financial assistance provided to industries by the Bank of Thailand in the following manner:

An attempt to stimulate exports should be neutral, and not in a form that promotes certain enterprises as seen fit by commercial banks. The export promotion measure should apply equally to all firms and all types of activities if those firms are in a position to compete with foreign goods in foreign countries. The appropriate measure in this case is not the extension of low-cost export packing credits through rediscount facilities, rather it is an exchange rate policy that maintains foreign exchange at the rate in which locally produced goods

are kept competitive in the world market. Under such an exchange rate policy, export packing credit facilities could be done away with.

Once packing credits are revoked, there is no reason for commercial banks to stop providing credits to enterprises that have been utilizing the export packing credit services, as their past record with the bank would still classify them as preferred customers. The commercial banks, on the other hand, will put greater emphasis on providing other financial services to compete against other institutions, and will not have to rely on rediscount services to draw in customers. This would, in turn, add to the efficient operation of the banking system.

By the same argument, because firms have a past record with the banks, the banks will continue to provide credit to enterprises that have been utilizing the rediscount services, after the rediscount facilities for industrial undertakings have been also repealed. Attention must be given, however, to smaller scale enterprises, especially those located in outer provinces, which have no easy access to financial services. Because of the market failure in this case, these small-scale enterprises should continue to receive financial support, both through industrial undertaking credits and, especially, export credits. Thus, rediscount facilities for small-scale enterprises would be the only one out of the existing three measures that would still apply. There must also, however, be an accompanying improvement in bureaucratic procedures and public relations. As for the procedures, there should be a reduction in the number of documents required, and the processing of applications should be streamlined and carried out quickly. In addition, the interest rate margin should be widened to induce commercial banks to accept more applications for the facilities. To improve public relations, greater effort must be made to publicize the facilities and procedure for obtaining the service--to both bank branches and entrepreneurs.

After the repeal of packing credits and industrial undertaking credit facilities, the financial assistance to industries from the Bank of Thailand can still be kept at the existing level by channeling the

fund used in the rediscount to a specialized financial institution that should be created and will be discussed later in this report.

#### 5.1.4 Incentives Provided by the Board of Investment

In selecting a factory location, entrepreneurs attach a priority to proximity to markets, convenience in transportation and communication, proximity to raw materials, accessibility to public utilities, the price of land, and the price and availability of labor. Entrepreneurs choose to locate their factory within the Greater Bangkok area because of these considerations. Normally, only larger firms and expanding small-scale enterprises relocate their factories away from the city center.

An examination of the pattern of industrial dispersion away from Greater Bangkok reveals that firms still do not choose to locate very far from the city center. Thus, firms tend to locate in the provinces surrounding Bangkok. This is because firms still derive benefits from being close to the city, which is well equipped with desirable factors mentioned above. This type of industrial dispersion is commonly found in other countries.

Accordingly, any attempt to induce firms to locate in areas where favorable conditions do not exist will require additional incentives, in order to offset the high cost of locating far away from a desirable location. Such incentives are not only uneconomical, but firms also operate at lower efficiencies. In Korea, for instance, firms given large incentives to settle far from the economic center have lower productivities than they used to enjoy.

There exists, however, a large number of factories that are set up in outer provinces, in the absence of any incentives. These factories have place a premium on the special characteristics of the location. These include the existence of raw materials that are either perishable or form a large proportion of the total raw material requirement, and the availability of workers with very specialized skills. As a consequence, it is not necessary--and is uneconomical--to provide incentives to disperse these firms to outer regions.

Thus, the designation of areas or zones with different incentives, depending on the distance from the city center will only induce some footloose firms to move to a location just far enough to reap the promotional benefits. These firms, however, may not consider a location further from the center with the same promotional benefits. For example, firms will choose to locate in Ayutthaya and not in Ang Thong, which is further away from Bangkok, while both provinces might be in the same zone and hence bear the same benefits.

It is a misconception that various fiscal incentives can be an effective instrument in the dispersion of industries. Accordingly, no incentives should be invoked for the purpose of dispersing industries.

It may be true that incentives could be effective in the promotion of infant industries that exhibit ability to grow and compete with foreign producers. In this case, it is necessary to make sure that these infant industries possess a high potential of developing into mature industries within a short period of time, and that, without promotional incentives, they may not be able to survive competition during their infancy. Once these industries are given special privileges, it should be up to the entrepreneurs to locate their factory where it is most suitable for the industries. An attempt to use incentives to influence firms' decisions to locate will not only fail to strengthen the industries but may even be harmful.

On the other hand, special incentives are often utilized to induce foreign investment. Again, the same instrument should not be used to disperse industrial locations.

Indeed, fiscal incentives awarded to enterprises are promotional measures in the form of taxes that are waived or not fully collected. While it may be possible to impute the value of taxes foregone, it may be more appropriate to switch the promotional incentives into the form of a direct subsidy of equal value. In this case, the measure becomes an expenditure item open to close scrutiny by the public, the government and the parliament.

In short, incentive measures should not be used for the purpose of industrial dispersion. However, if such measures are to be used, they should be switched from a reduction or waiving of taxes into a direct cash subsidy.

An attempt to disperse industries that works in conjunction with entrepreneurial behavior in locational choice as mentioned earlier, may give a more satisfactory result. In this case, the role of the government would be in line with the market process and limited, for instance, to providing economic and social infrastructure and promoting efficient factor markets.

#### 5.1.5 Economic and Social Infrastructure

Research findings have pointed to a positive correlation between the level of provincial industrialization and investment in public utilities and other infrastructure. It is evident that the distribution of infrastructure is uneven across regions. In fact, a comprehensive economic and social infrastructure that best facilitates industrial operations can only be found in the city of Bangkok. However, the infrastructure in Bangkok has become inadequate to accommodate the rapid expansion of economic activities in the city. While there have been attempts to enlarge the infrastructural services in Bangkok, there is also equal need to build up the economic and social infrastructure in other areas. If the expansion in industrial activities were to remain in the near future at the rate experienced during 1986 and 1989 (i.e., 11.9 percent per annum on the average as measured from the growth rate of manufacturing value added) the industrial output by the end of the Seventh Plan would be more than double the current output. Such a rapid increase in industrial activities call for the development of various economic and social infrastructures. If, furthermore, the industrial growth is to come proportionately from areas other than Greater Bangkok, there is a urgent need to accelerate the development of infrastructure in the outer regions. Otherwise, provincial as well as overall industrial growth may be strangled.

Thus, in the short run, every province must step up the drawing of its town and city plans and must set up its own industrial zones. The industrial zones could be divided into zones for small-scale industries, for large-scale industries, and for industrial activities in general--depending on the capacity for industrial development in the province. Further, each province will have to evaluate, using information obtained from the city plan and industrial zones just mentioned, together with the economic development trend of the province, the necessary requirement for additional infrastructure. The National Economic and Social Development Board will, in turn, have to consolidate all requirements and determine the feasibility and priority in the building of infrastructure in the provinces.

However, an analysis of the general demand for infrastructure reveals that shortage of water, aside from processed piped water, is a problem often faced by provincial industries. The provision of water for industrial use should, therefore, receive high priority among various types of infrastructure. In the case of electricity, the problems of accessibility and outages must be urgently addressed. In the area of transportation where much research has focused, it is found that distance from Bangkok, which is an important market and the largest center for economic activities, can affect the level of provincial industrialization. Although distance from Bangkok cannot possibly be reduced as such, the costs of transporting raw materials and finished products can be reduced with a modern and convenient transportation network, and by reducing the road congestion that is commonly found these days. Accordingly, the construction of an adequate road network and container centers will surely aid the acceleration of provincial industrial development.

For export industries, conveniences in the location of warehouses, transport centers, and customs facilities will help reduce operating costs. Moreover, it is expected that border trade will grow rapidly when the political atmosphere in the neighboring countries improves. It may therefore be necessary to plan for customs and export clearance facilities along the border.

In dispersing economic and social infrastructure to the provinces, it must be recognized that there exists a certain scale of investment necessary for the effective use of the infrastructure. The participation of the private sector in the provision of certain infrastructure can step up the dispersion of its services faster than relying upon public investment alone. Thus, the role of private sector in this area should be encouraged.

The provision of basic infrastructure, by itself, will stimulate the growth and expansion of industries, linked, both backward and forward, to the construction of the infrastructure. Further, investment in the infrastructure will also generate income to the locality, which is an important ingredient to an increase in demand, especially for industrial goods.

#### 5.1.6 Pricing of Public Goods and Others

This study has made the observation that the pricing of public goods and services rendered by both the government and public enterprises should truly reflect their economic cost. This is to avoid distortion in the use of productive resources. In many instances, attention must be paid to their social costs as well. Meanwhile, the government can utilize the pricing of public goods as a measure to achieve certain desirable objectives.

In the case of electricity tariffs, the study indicates that provincial industries had, until recently, been paying a higher rate for electricity than industries in Greater Bangkok. The rates are now equalized across the nation. In the same manner, if the rates of other public utilities, such as water, were to be the same over the country, the natural disadvantage of provincial industries would be partially offset.

Compared to the cost of production, it appears that users of water supply in provinces are paying a subsidized rate, although the rate is still much higher than what the metropolitan water users are paying. This reflects a high per-unit cost of production in the provinces.

Thus, there is much room for improvement in the operation of the Provincial Water Works Authority, through an increase in productivity and a subsequent reduction in the cost of production. The expansion of the tap water network to cover a much wider area will not only perform a service to the community but will also greatly facilitate industrial operations, since provincial industries depend on water for a relatively large proportion of their total input.

The research indicates that educational fees at all levels are set very low. This means that the government must bear a large burden of the cost of public education. The low school fees also fail to stimulate private schools to improve their quality. In the past, when a majority of the population was illiterate, it was appropriate for the government to bear a large part of the burden of education. At present, however, when economic and social development in large cities and especially in Bangkok, has reached an advanced stage, there is less need for the government to bear such a high burden. Consequently, the control of educational fees should be relaxed. This could be first applied to the public universities, where tuition fees should fully reflect the cost of the education. The Ministry of Education should follow suit by gradually adjusting tuition fees in schools under its administration. The educational institutions should, at the same time, set up scholarship systems for needy students.

The abolishment of control over education fees will enable educational institutions, especially private ones, to improve their quality and expand their services. It will also enable the government to reduce its growing subsidies to concerned learning institutions and utilize the savings to extend education into rural area. This will improve the quality of rural education and upgrade the skill level of those entering the industrial labor force--which will be discussed later.

As for the price of gasoline--an important factor determining the cost of production for many types of provincial industries and the cost of transportation of both raw materials and final products--there exists a difference between the retail price in Bangkok and that in provinces,



equal to the cost of transporting the gasoline from the oil refinery to the province. The government sets this transport cost, as well as the marketing margin and the retail price in Bangkok. In determining the transport cost, a calculation is made using means of transportation that are not of the lowest possible cost. On the other hand, the marketing margin does not reflect the actual cost of marketing, as it does not take into account regional differences in rental of service stations, wages, etc. between Bangkok and the rest of the country. Consequently, the price of gasoline is implicitly lower in Bangkok than in other areas. Such a situation would put provincial industries at a disadvantage vis-a-vis industries located in Bangkok. It is thus recommended that the government do away with the fixing of the marketing margin and gasoline transport costs, and let the gasoline price float. This would result in lower gasoline prices in the provinces, due to greater competition and lower costs.

## **5.2 Measures to Raise Production Capabilities**

### **5.2.1 Finance and Credit**

#### **5.2.1.1 Establishing A Specialized Financial Institution**

To alleviate the shortage of credit and to facilitate financial services for small- and medium-scale provincial industries, it is recommended that a specialized financial institution be created. This institution should have a role similar to that of the Industrial Finance Corporation of Thailand (IFCT), but the target customer should be limited to only smaller scale enterprises, say, with fewer than 50 employees or fixed assets of no more than 10 million baht.

The main characteristics of this specialized institution should be as follows:

- (1) to provide both short- and long-term loans;
- (2) to emphasize deposit taking as a source of loanable funds;

- (3) its lending rate must not be lower than that of commercial banks or must be determined by the market;
- (4) to provide credit guarantee and charge service fees at a rate that reflects the risk of borrowers;
- (5) to accept fixed assets, other than land and buildings, for collateral, especially for short-term loans; second mortgages would also be accepted;
- (6) to set up branches in all provinces in order to provide better services and better access to information on customers;
- (7) for branches whose activities grow to a certain level, branch officers should be able to approve loans themselves; and
- (8) to provide other financial and advisory services, for example, project analysis, bookkeeping, financial management, and, more important, equity financing and venture capital.

This new financial institution could be a spin-off of the small-scale industry operation of IFCT which would become a major shareholder. Other shareholders could include foreign development financial institutions. The Ministry of Finance could provide initial capital to support the establishment of the institution. In addition, the Bank of Thailand could utilize this institution as a channel for the provision of financial assistance to provincial industries in lieu of the rediscount facilities mentioned above.

In spinning-off from IFCT, the institution should also annex the Small Industry Credit Guarantee Fund (SICGF) into its operation--especially since the institution cannot avoid the imposition of a ceiling on the lending interest rate. However, SICGF can still provide its services to small-scale industries through other financial institutions. There should, on the other hand, be an adjustment in the SICGF operation to reduce administrative procedures in the provision of its services.

A major reason for the creation of this specialized financial institution is that the existing financial system fails to accommodate an expanded network of financial services for smaller-scale industries, especially those located in outer provinces. An attempt to modify and

expand the operation of the Small Industry Finance Office (SIFO) faces difficulty, as an administrative adjustment that leads to a separation from governmental system seems to be an uphill task. Thus, the operative flexibility, and the ability to provide financial services are quite limited. As for IFCT, although it does not face the same problem as does SIFO, it is so loaded down with the role of providing financial services to other industries that it cannot direct its resources to cater to the smaller scale enterprises in outer provinces. Further, there is a conflict of interest between the views of the shareholders and objective of being a financial institution dedicated to the development cause. Thus, the existence of a specialized financial institution to provide financial services to small-scale industries with an emphasis on provincial industries, will constitute an important step forward in the promotion of small- and medium-scale provincial industries.

#### 5.2.1.2 Small Industry Finance Office

The small Industry Finance Office (SIFO), which is a type of specialized financial institution, was created to provide credit to small- and medium-scale industries. In the past, SIFO was able to distribute a slightly higher proportion of its services to provincial industries than to industries located in Bangkok and the surrounding provinces. Its role as a provider of credit is minimal as compared to other financial institutions. All this is because its ability to expand its services is constrained by several factors, including its legal status, capital fund, personnel, and servicing points.

Thus, once the specialized financial institution mentioned above is established to cater to small-scale industries, SIFO could be merged into the new institution. However, almost half of SIFO's total credit has been provided to enterprises with fewer than 9 employees, and over 80 percent to firms with fewer than 20 workers. This suggests that SIFO should continue to concentrate its financial services to micro enterprises, especially the household or cottage industries where special financial assistance is needed (in contrast, the new financial institution will be lending at the market rate of interest). While

targeting its operations more toward cottage industries, SIFO should coordinate closely with the Department of Industrial Promotion, especially regarding micro industries.

In this way, SIFO could become an operating unit under the Department of Industrial Promotion (DIP), and together with the Office of the Revolving Fund for Cottage and Handicraft Industries, provide financial services in the manner that supports the technical operations of other cottage industry promotion units. This will facilitate the rendering of technical services to various micro industries of the DIP, so that its effort is no longer restricted by lack of finances.

At any rate, no matter what new form SIFO would take, it should be an authorized agency for the use of SICGF's credit guarantee services. In this way, more entrepreneurs would have the opportunity to access financial services provided by financial institutions.

#### 5.2.1.3 Leasing Activities

To alleviate the shortage of capital or long-term credit, which restricts the expansion and birth of provincial industries, it is recommended that support be given to leasing and hire-purchase activities to expand their operation to outer provinces. The availability of leasing services will reduce the need for investment in buildings, machinery, and equipment, as these can be leased or purchased on time from leasing firms. In Taiwan, leasing activities have played an important role in the growth of small-scale industries.

Until now, leasing businesses have not taken any significant part in Thailand's industrial development. This is partly because of taxes which are based on income that includes both leasing services and the value of properties involved in the leasing. In all fairness, the value of assets that are put up for leasing should not constitute the basis for a tax calculation. As a consequence, leasing firms must pay higher income and business taxes than they ought to, and industries do not derive as much benefit as they could from the leasing services.

It is anticipated that the value added tax, which is to be introduced in the near future in place of the business tax, may partly reduce the tax burden felt by leasing businesses. But even before the new tax would take effect, the Ministry of Finance ought to adjust the tax base for this type of business, in order for the leasing activities to play an increasing role in the industrialization process. At the same time, the Ministry should also set up regulations for the leasing operations in order to regulate and supervise the activities; as they can be considered to be a kind of financial institutions.

#### 5.2.2 Development of Human Resources

Our survey of employees in provincial industries showed that workers who first enter the labor market lack basic knowledge of working in the industrial environment, lack work discipline, and possess an educational background not directly related to what is required by the employers. The survey also found a shortage of certain skilled labor which could become a bottleneck in the expansion of provincial industries. Those who are already employed also fail to upgrade their skills. This has led to low and unchanging labor productivity, which, in turn, has been reflected in the low income and standard of living of the workers.

Therefore, the recommended measures to develop human resources will include both measures to prepare the industrial labor force and measures to upgrade industrial workers.

##### 5.2.2.1 Preparation of the Industrial Labor Force

In preparing industrial manpower, the following approaches could be adopted:

- Secondary education should be made available to a much wider proportion of the rural population by the Ministry of Education. There ought to be an effort to create opportunities for school-age rural children to continue their education at the secondary level.

- There should be at least one course in the school curriculum that imparts knowledge, understanding and experience of industrial work.

- At the vocational and college level, the Ministry of Education and Ministry of University Affairs should make a greater effort to turn out more graduates in mechanics and engineering, which are in short supply.

- In mechanical vocation and engineering curricula, emphasis should be given to job training that simulates actual situations observed in factories. This kind of training could be under a school project designed to provide services to the community, such as doing repair of machinery and equipment and producing parts for local enterprises.

- To enable private educational institutions to improve the quality of the education they provide, especially in fields in which public schools are weak, the government should reduce its control over private institutions, especially with regard to tuition fees. The public institutions should also be encouraged to provide community services; so that they could utilize this experience in teaching and obtaining financial resources for further development. However, this should be carried out in cooperation with other public and private agencies that deal with industrial promotion.

- There should be an expansion of projects offering short-term vocational training to prepare new workers for industrial works, undertaken by several institutions such as the National Institute of Skill Development, various regional Industrial Promotion Centers, the Department of Public Welfare, Department of Non-Formal Education, etc.. Even the Ministry of Defence might consider providing mechanical training and industrial work experience to military recruits as an alternative to the training in agricultural activities that is currently provided.

#### 5.2.2.2 Skill Upgrading

Upgrading work skills is an activity carried out by several institutions, such as the National Institute of Skill Development, Industrial Promotion Centers, Industrial Productivity Division, and the Department of Non-Formal Education. Although the training offered by these institutions is very useful and satisfactory, its scope is quite limited. Thus, it is recommended that the scope be extended to cover a wider area, with more trainers, and improved curricula that emphasize subjects in line with the need of local industries.

However, our survey indicates that entrepreneurs are not really eager to provide training to upgrade the skills of their workers. They may feel that, with better skills, workers may not continue working with them. Thus, from the entrepreneurs' point of view, the upgrading of work skills constitutes an investment on which there may not be any return. Therefore, workers should take the initiative to upgrade their own skills. For the general skill level, however, the government may have to share a part of the training costs. For instance, the Ministry of Education may set up short-term vocational training projects to upgrade the skills of workers on holidays or in the evenings at local schools and institutes of technology and vocational education. A budget may be allocated to these institutions so that tuition does not have to cover the full cost of the training. However, for specialized skills such as computer programming, there should not be any tuition subsidy, and the trainees should bear the full cost of their education.

#### 5.2.3 Development of Entrepreneurs

To induce the establishment of industries, especially of small-scale ones, in outer provinces, special emphasis should be given to the promotion of local entrepreneurs. This is because these entrepreneurs have, in general, less education than their counterparts in Greater Bangkok, and lack a knowledge of management and administration suitable for a competitive industrial activities.

The development of these entrepreneurs includes the provision of consultation, training, and information. Encouragement and support should also be given to the entrepreneurs to organize themselves so that they will be in a position to help one another.

Many institutions have been providing training to entrepreneurs, including the Department of Industrial Promotion, Institute of Management Education Training Foundation, and other private organizations, such as the Thai Chamber of Commerce, Provincial Chambers of Commerce, Federation of Thai Industries and its branches. However, the extent to which the training is carried out should be further expanded to include more small-scale entrepreneurs, and a wider area. The training curriculum should also be modified to emphasize the development of the ability to analyze and tackle problems, and to include administrative knowledge, such as personnel management, production management, marketing and financial management.

There ought to be a training program to develop new entrepreneurs so that they would be aware of the procedures necessary to set up factories and locate sources of information and various service centers, in addition to possessing the administrative knowledge and the ability to analyze problems, alternatives, and to select appropriate alternative.

If these training organizations are encouraged to operate in association with regional learning institutions, they will not then be constrained by the shortage of training personnel. The learning institutions will also be encouraged to play a greater role in industrial development.

The Provincial Industry Offices should take responsibility for ascertaining the needs of entrepreneurs, relaying these needs to the training units, and publicizing training schedules to entrepreneurs.



#### 5.2.4 Dissemination of Information

The promotion of industrial activities can be pursued by providing information concerning investment opportunities, factors of production, potential industries, modern technology, maintenance of machinery and equipment, productivity increase, cost reduction, sources of funds, laws and regulations, local and foreign market, and changes in demand.

Although there exist organizations responsible for the dissemination of this type of information, the services are mostly confined to the Greater Bangkok area. The lack of adequate information services in the outer provinces is not only due to the lack of resources on the part of the organizations involved, but also because provincial entrepreneurs do not recognize the importance of information in their business operations.

Thus, it may be necessary to extend the services of existing institutions that provide information to the outer provinces, and at the same time, to find ways and means for local entrepreneurs to acknowledge the importance of business information in the decision-making process, and to be aware of institutions that offer such information services.

In the expansion of the activities of information service units, it might be more economical for one central unit to serve as a clearinghouse for all types of information. Such function is currently performed by the Rural Industry Information Service Center, Department of Industrial Promotion. However, the Center should develop its activities so that they are better coordinated with those of various organizations in outer provinces. The Center may provide information to entrepreneurs at the request of these organizations or may advise specialized institutions to supply the information.

As for other service institutions, there is a need to index their information so that it could be readily retrieved and publicized.

To convince entrepreneurs of the importance of information and to make them aware of information service units, the units, especially, the

Department of Industrial Promotion, should step up the publicity of themselves through various mass media. In the past, there existed interesting television programs on industries made by the Department of Industrial Promotion, the Industrial Finance Corporation of Thailand and the Federation of Thai Industries. It is too bad that these programs are aired only occasionally. Indeed, such programs should be shown on a regular basis; the air time does not have to be lengthy. The television programs should emphasize new technology, cost reduction techniques, and methods to increase productivity. In fact, the materials used in various training courses can become a basis for the television programs. The video tape and picture slides with sound track used to introduce various institutions can also be modified to make up a television program for the public.

In order to achieve greater efficiency, to avoid duplication, to extend the availability, and to increase accessibility to the information, it is recommended that a committee be set up to coordinate various efforts, to plan, and to determine the optimal pattern of information dissemination by both public and private organizations.

### 5.3 Creation of Markets

An increase in the demand of goods is an important factor inducing rapid growth in the manufacturing sector. In an econometric analysis of the determinants of the industrialization level of each province, it was found that demand variables (as measured by per capita provincial income and distance from a large market, i.e., Bangkok) are significant in determining the level of industrialization of each province. A similar conclusion was also reflected in the factory survey. The entrepreneurs interviewed indicated that in determining the location of their factory, they gave priority to the market for their product. Thus, an attempt at provincial industrialization must not overlook the importance of the market for industrial goods.

Creation of a market can be pursued in several ways, for instance, bringing producers and consumers together, an increase in consumers'

purchasing power, sales to attract buyers, etc., Below is a discussion of the first two approaches.

#### 5.3.1 Producers Meet Consumers

To bring producers and consumers together, the Provincial Industry Office, the Provincial Commercial Office, the Provincial Chamber of Commerce, and the Federation of Thai Industries' local office may put together a directory of producers in the province that would contain information pertaining to their products such as details on where they are sold and their production capacity. The Ministry of Commerce and the Thai Chamber of Commerce should then serve as a center for dissemination of the collected information.

The establishment of permanent exhibition halls for provincial manufactured goods, both handicrafts and others, in Bangkok and other regional economic centers can effectively create a marketing outlet for those goods, opening up opportunities for producers to introduce their products to prospective consumers and other producers. Besides the exhibition of products for the sale, there ought to be, at the exhibition place, a booth to disseminate information on the products being exhibited. This would open up channels whereby bulk sales and especially subcontracts to produce goods can take place.

#### 5.3.2 An increase in Consumers' Purchasing Power

As provincial industries are closely linked with local economy, the discussion on consumers' purchasing power here will be limited to that of the local economy. The maintenance of the country's purchasing power depends on the overall rate of economic growth and the overall stability of prices, which will not be dealt with here.

##### 5.3.2.1 Development of the Agricultural and Service Sectors

Since provincial economies are largely based on agriculture and most consumers are largely from agricultural household, rural and agricultural development is essential to raise provincial income and

purchasing power. Further, our research findings indicate that demand for provincial manufactured goods, and the resulting demand for labor, is of a seasonal nature. This is because agricultural production, which is the mainstay of the provincial economies, generates income to the community households in line with the production season. Consequently, the agricultural households' demand for goods and purchasing power exhibit corresponding seasonality. Thus, rural development must emphasize ways to increase productivity during the production season and employment opportunities during the rest of the year. This would not only increase provincial income but also lead to a greater stability of income throughout the year.

There has been an attempt to modify the structure of agricultural production so as to reduce the risks and costs of production, to increase its productivity, to introduce appropriate technology, and to equip farmers with knowledge of product and marketing management. However, such an attempt should be carried out intensively and extensively.

If the structure of agricultural production could be adjusted to accommodate the industrial demand for raw materials, then both agricultural and industrial development could be achieved at the same time. Thus, the participation of private business enterprises in the adjustment of agricultural production should be encouraged.

One reason why the agricultural sector has remained where it is now is partly because past policies and measures have placed priority on the development of cities and non-agricultural sectors. These policies, which include agricultural pricing policies, export tax policies, and overvalued exchange rates, have negatively affected the development of the agricultural sector. Although many of these policies have long been annulled and the rest have only a small negative impact on the agricultural sector, they should never be revived in the future.

The service sector which is a large production sector, normally grows with the economy. It is thus difficult to stimulate this sector independently of the growth of the economy, with the exception of

tourism. This sector in effect "exports" its services to out-of-town consumers and can become a reliable source of income and employment generation to the locality. Thus, the conservation and the development of tourist attractions as well as the improvement of tourist facilities --including transportation, travel safety, accommodation and information --will all broaden the opportunity to raise local incomes in the provinces.

#### 5.3.2.2 Increase Government Expenditures in Outer Provinces

Government expenditures, if allocated more to the provinces, can be an effective measure to stimulate an increase in provincial income and employment. However, the magnitude of the increase in income will depend on the extent to which the allocated budget is spent to buy goods produced in the locality. That is, if the budget is used to buy imported goods or goods produced outside of the locality, the benefit derived, in terms of the overall increase in income, will not be fully reaped. On the contrary, if it is an expenditure on goods produced within the locality, the provincial income will expand accordingly.

Expenditures can be classified as current and investment expenditures. If investment expenditures are in the form of construction of roads, dams, and other infrastructure, which requires local manpower and raw materials, this will also stimulate an expansion of local industries that would support the construction of infrastructure, such as cement, tools and other equipment.

In the construction of colleges, university, schools, hospitals or government offices in the provinces, not only are the initial expenditures required in the construction of buildings, but there will also be current expenditures to operate those institutions and offices. This will, in turn, generate income for the locality on a continuous basis.

By the same token, the Rural Employment Generation Program and the Green Northeast Program also help generate income in the outer provinces.

In utilizing government expenditures as a means of stimulating the growth of provincial industries, the Ministry of Finance may stipulate that priority be given to government purchases of supplies and equipment that are produced in provinces in the same manner that preference is to be given to locally made products over imported ones.

## **5.4 Institutions and Decentralization of Administrative Power**

### **5.4.1 The Role of the Board of Investment**

As mentioned above, the Board of Investment should play down its role in the provision of fiscal incentives to disperse investment toward the provincial areas. The Board, however, should give priority to its role of providing information on investment opportunities in various provinces. The Board can also act as a mechanism for investors to meet one another for the purpose of making joint investments, and to facilitate their investment. In fact, its role as a publicizers and a facilitator of investment opportunities should be given priority over the provision of fiscal incentives.

With such important new roles, the Board would collect and maintain information on provinces and regions, including information on the nature of productive factors, raw materials, natural resources, and markets that are essential in making investment decision. Moreover, the Board could explore investment opportunities that use local natural resources and disseminate this information to prospective investors.

In addition to acting as a medium for investors to meet one another for the purpose of making joint investments, the Board could arrange for entrepreneurs to meet one another to exchange their experience and technology. Further, the Board could play a leading role in the training of new provincial entrepreneurs as discussed earlier.

#### 5.4.2 Industrial Estates

Industrial estates, as they currently exist, are rather small and scattered over the country. It is thus difficult to provide proper supervision and to economically bring public utilities and other infrastructure to industries located in the estates. Thus, it may be necessary to require that the estates be located within the industrial zones designated by each province. The government then must be stern in regulating the industries within and outside the estates that violate the rules and regulations regarding pollution and environment protection.

Since the government has been providing infrastructure and at the same time supervising and regulating the industrial operations and especially the operation of industrial estates, the government should not participated in the establishment and running of estates itself. The task should be left to the private sector. Thus, the role of the Industrial Estate Authority of Thailand (IEAT) should be limited to that of a supervisor and regulator, and to provide assistance in the establishment of private estates. Once the estates have been set up and sold, the IEAT must see to it that there is a body responsible for their proper operation. On the other hand, if the IEAT is to establish industrial estates--which is not a desirable objective--the IEAT must be vested with financial resources large enough for making investment on its own, with the capacity to raise funds through borrowing in the financial markets, and with autonomy in its operations. Further, the IEAT must relinquish its regulatory and supervising role.

#### 5.4.3 Provincial Industry Office

The Economic and Social Development Administration Project of the Thailand Development Research Institute has conducted a study on the Ministry of Industry with the purpose of making a proposal for improving the administration of the Ministry. While the study should be consulted for the details of its proposal, what follows below is a discussion on the results of the study, conducted by the Rural Industries and Employment Project.

It is recommended that the operation of the Provincial Industry Office should be expanded to include a division that facilitates the establishment of factories and a division that is responsible for collecting and disseminating industrial and other information.

In facilitating the establishment of factories, the Office should be authorized to accept and approve applications to set up and expand factories, and to issue and to extend operating licenses. If the case requires, the Office should coordinate with other government offices in the granting of permission to operate factories in order to hasten the process of establishing factories.

With regard its task of providing information, the Office should collect data and information on provincial economies and problems and prospects of investing in the provinces, and should disseminate the information to other concerned organizations such as the Industrial Economic Division, the Department of Industrial Promotion, the Office of the Board of Investment, the Provincial Chamber of Commerce, the Thai Chamber of Commerce, and the Federation of Thai Industries. On the other hand, the Office of Provincial Industry should also maintain listings of and information about organizations that provide services to industries, and make this information available to entrepreneurs. In many cases, the Office could contact the service organization for information directly in place of entrepreneurs.

In addition, the Office should relay information on the needs of entrepreneurs for various services to organization responsible for providing the services, for example, the demand for upgrading specific labor or entrepreneurial skills.

#### 5.4.4 Department of Industrial Promotion

The Department of Industrial Promotion was also mentioned in the report for the Economic and Social Development Administration Project. In addition to the need to expand its operation to cover a wider area, the Department should place more emphasis on town-based industries over



the so-called cottage or household industries which are located in outer provinces. It is true that the Department has operation centers in all regions. But their coverage does not include every province and area under their responsibility. Their emphasis has also been on handicraft and household industries. This recommendation does not, however, mean to redirect their operation to targets other than the household industries, but rather to call their attention to the importance of other industries. Furthermore, the Department must step up its publicity and make known the availability of its various services. It should also provide information of interest to industrial operations through the mass media as discussed above.

The research findings point to a change in the provincial demand for industrial products as the economy develops. That is, as income increases, the demand pattern tends to change from food to other consumers' goods and from non-durable to durable products. This can lead to a change in production structure in provincial industries. Consequently, there ought to be a research unit--possibly the Industrial Economic Division with cooperation from the Department of Business Economics--monitoring provincial consumers' behavior. The information should then be passed on to the organizations that promote investment and production, especially the Department of Industrial Promotion, so as to facilitate changes and adjustments in the industries concerned.

#### 5.4.5 Decentralization of Administrative Authorities

In order to achieve rapid provincial industrialization, it is necessary to decentralize various government services to the regions in order to support industrial operations. These include infrastructure, education, information, and other services. The extent of decentralization should, however, be related to the need for the services.

The concentration of government offices and associated administrative authorities in Bangkok has inevitably affected the growth of economic activities around the capital city. Although the survey has found that entrepreneurs attach little importance to convenience in

contacting government offices in making their locational choice, it cannot be denied that many entrepreneurs have benefited by locating their offices where the administrative power is concentrated.

Thus, in an attempt to disperse governmental services, it is also necessary to decentralize the administrative authority to the corresponding offices in the provinces or in the regions. The research findings reveal the delay in the approval of various applications from offices located in Bangkok, ranging from approval for the establishment of factories, to the approval of tax reductions, and loans. Thus, the decentralization of administrative authorities will no doubt help reduce operating costs of provincial industries and induce investment in the provinces as well.

Furthermore, it may be necessary to stimulate local governments to play a greater role in the development of their locality. This means that more power should be allocated to them. This includes the power to raise revenue by themselves in a greater proportion than at present, and the power to spend that revenue. However, the readiness of local governments to accept added responsibility varies, and the variation is often marked. Thus, the decentralization of political power may have to be gradual, starting with the granting of greater autonomy to the local authorities in their administration while the central authorities allocate a larger budget to them. The government could also consider returning tax revenue to the location in a proportion that would offset the deterioration of natural resources used in the consumption and export (for instance, of oil in the northeast and for production of export goods). This would furnish the locality with adequate resources so that they could take a leading role in their own development.

## 5.5 Regional Economic Centers

As the resources at the government's disposal are rather limited, compared to provincial demand for infrastructure and other supporting services, it is necessary to allocate resources to the localities which have potential to become economic growth centers, instead of

distributing the little resources to all areas--which would result in each locality having inadequate resources to develop an effective infrastructure.

In each economic center, there ought to be an adequate infrastructure suitable for a metropolitan city to attract investment from both within and outside the center and to stimulate expansion of industrial activities. The infrastructure and other facilitating services should include water, electricity, telephone, roads, transportation and communication within the city and with other economic centers, waste water drainage, garbage and other solid waste disposal, public health service, educational service, trucking depots, and developed retail and wholesale markets. The infrastructure plans for these regional economic centers must be in line with the city plans and industrial zones designated by the respective provincial authority.

Further, special attention must be paid to the environmental problems that are bound to occur in these growth centers. The government must take stern action against the violators of various pollution laws. For new factories that are suspected of generating pollution, operating licenses should only be issued if they are located in the designated area. The government should be firm and insistent in the relocation of old polluting firms, even to the point of offering incentives for the relocation.

On the other hand, the government should consider collecting high operating fees for industrial undertakings, based on the area where the factory is located. The revenue could be used to help fight pollution and congestion, and to provide better infrastructure. The industrial operation fees could first be collected from the growth centers that are well developed, e.g., Bangkok. In the longer run, the government must consider adjusting land and building taxes as well as the local development tax. The assessment of land must be realistic and in line with the market value, and the tax rate must be progressive, so as to encourage the effective use of land and to discourage land speculation, which is a cause of the current increase in land prices.

## 6. SUMMARY OF MEASURES

Based on each strategy listed earlier, the following summarizes measures discussed above. Priority of each measure in terms of its importance and phase for the implementation is also given, with 1 signifying a high priority and 2 implying a lesser priority.

Measure	Activity	Institution	Priority
<u>Measures to Neutralize Policy Biases</u>			
Minimum wage rate	To decelerate the rate of increase in minimum wage	Ministry of Interior	1
	To study minimum living standard	Office of the National Economics and Social Development Board	2
	To improve consumer price indices for low income group and rural household	Department of Business Economics	2
Interest rates	To abolish interest rate ceilings	The Bank of Thailand	1
	To enact legislation allowing the Bank of Thailand to have autonomy in the monetary management	Ministry of Finance	2
Rediscounting facilities	To revamp the facilities such that only those for small-scale industries are in effect	The Bank of Thailand	2
	To widen the rediscounting margin	The Bank of Thailand	2
	To step up publicity of the facilities	The Bank of Thailand	2
Investment incentives	To avoid using fiscal incentives to disperse industries	Office of the Board of Investment	2
	To switch from tax incentives to direct subsidy	Ministry of Finance Board of Investment	2

Measure	Activity	Institution	Priority
Infrastructure	To speed up town/city planning and to specify industrial zones	Concerned authorities in every provinces	1
	To determine needs for infrastructure within the frame of industrial zones and city plans	Concerned authorities in every provinces	1
	To consolidate needs for infrastructure and set priority for its construction	Office of the National Economics and Social Development Board	1
	To contrive sources of industrial water	Department of Mineral Resources The Royal Irrigation Department	1
	To set up customs facilities near large industrial areas and along the border	Ministry of Finance	1
	To support the establishment of trucking carrier centers and inland container depots	Office of the Board of Investment	1
Pricing of public goods and others	To deregulate tuition fees of both public and private schools and universities	Ministry of University Affairs Ministry of Education	1
	To float prices of gasoline	The National Energy Policy Office	1
	To improve the operation of provincial water works	The Provincial Waterworks Authority	2
	To apply one tariff rate for tap water for the whole country	Ministry of Interior	2

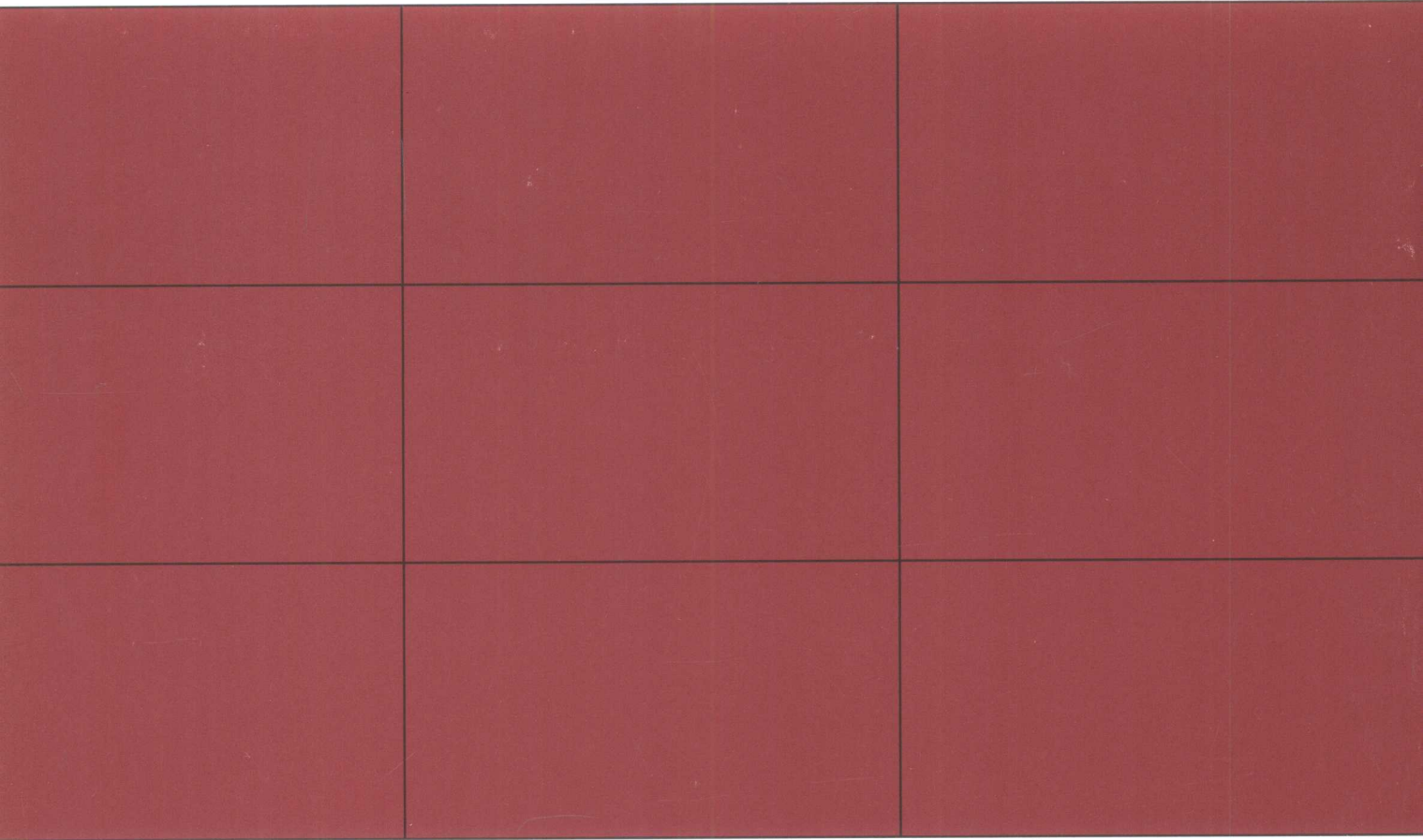
Measure	Activity	Institution	Priority
<u>Measures to Promote Production Efficiency</u>			
Greater access to financial facilities by small-scale industries	To create specialized financial institution for small- and medium-scale industries	Ministry of Finance	1
	To enable SIFO to use SICGF facilities	Ministry of Finance	1
	To adjust tax base for leasing business	Ministry of Finance	1
	To set up regulation for the leasing operation	Ministry of Finance	1
Manpower development	To spread secondary education to the rural areas	Ministry of Education	2
	To encourage school-age children to continue their education at the secondary level	Ministry of Education	2
	To add a subject on the understanding of working under industrial environment in the school curricula	Ministry of Education	2
	To produce more graduates in mechanics and engineering, with an emphasis on practical training	Ministry of Education Ministry of University Affairs	1
	To induce public learning institutions to provide services to the community, which include evening courses to upgrade labor skills, and projects on "factory in school"	Ministry of Education Ministry of University Affairs	1
	To expand projects on short-term vocational training and skill upgrading	Department of Labor Department of Industrial Promotion Department of Non-Formal Education	1

Measure	Activity	Institution	Priority
Development of entrepreneur	To instill knowledge of working in industrial environment to military enlisted personnel	Ministry of Defence	2
	To extend coverage of training of industrial entrepreneurs to include those from small-scale and provincial enterprises	Department of Industrial Institute for Management Education for Thailand Foundation Chambers of Commerce Federation of Thai Industries	1
	To induce universities to play an active role in the training of entrepreneurs	Ministry of University Affairs	2
	To set up training for new entrepreneurs	Department of Industrial Promotion Office of the Board of Investment	2
Dissemination of information	To expand the operation of Rural Industry Information Service Center	Department of Industrial Promotion	2
	To set up information service unit within Provincial Industry Offices	Ministry of Industry	1
	To index available information and services that the respective service institutions possess	All institutions dealing with the industrial promotion	1
	To publicize the institution and interesting industrial information through various mass media	Department of Industrial Promotion	1
	To set up a committee to coordinate and to plan on the dissemination of information and the provision of services	Office of the National Economics and Social Development Board	2

Measure	Activity	Institution	Priority
<u>Measures to Create Markets for Industrial Output</u>			
Meeting between producers and buyers	To publish listing of manufacturers and associated information and to regularly update the information	Provincial Industry Offices Provincial Commercial Offices Provincial Chambers of Commerce	1
	To establish permanent manufacturing product displaying centers	Department of Industrial Promotion Provincial Commercial Offices Regional Chambers of Commerce	2
Increasing purchasing power of consumers	To pursue structural adjustment in the production of agriculture and rural agricultural household	Ministry of Agriculture and Cooperatives	1
	To rehabilitate and improve tourist spots and attractions and to provide adequate tourist infrastructure	Provincial Authorities The Tourism Authority of Thailand	2
	To allocate budget such that more will be spent in remote provinces	Ministry of Finance	1
	To disperse income to rural area through rural development projects	The National Rural Development Committee	1



Measure	Activity	Institution	Priority
<u>Institutions and Decentralization of Administration Authorities</u>			
	To enlarge the role of facilitation to prospective investors	Office of the Board of Investment	1
	To modify the operation of Industrial Estate Authority of Thailand so that the regulatory and supervisory role is emphasized over its participation in the establishment of estates	The Industrial Estate Authority of Thailand	1
	To equip Provincial Industry Offices with authority to approve licenses to establish factories and to create information service unit in the offices	Ministry of Industry	1
	To expand operation of various Provincial Industrial Promotion Centers for a wider coverage of area and targeted industries	Department of Industrial Promotion	2
	To study consumer behavior of rural population	Industrial Economics and Planning Division Department of Business Economics	2
	To adjust fees for the industrial operation	Ministry of Industry	2
	To allocate budget to the locality in proportion to natural resources used in the production	Ministry of Finance	2



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