

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

DEPARTMENT OF INDUSTRIAL PROMOTION,
MINISTRY OF INDUSTRY
THE KINGDOM OF THAILAND

**THE FOLLOW-UP STUDY
ON
SUPPORTING INDUSTRIES DEVELOPMENT
IN
THE KINGDOM OF THAILAND

(SUMMARY)**

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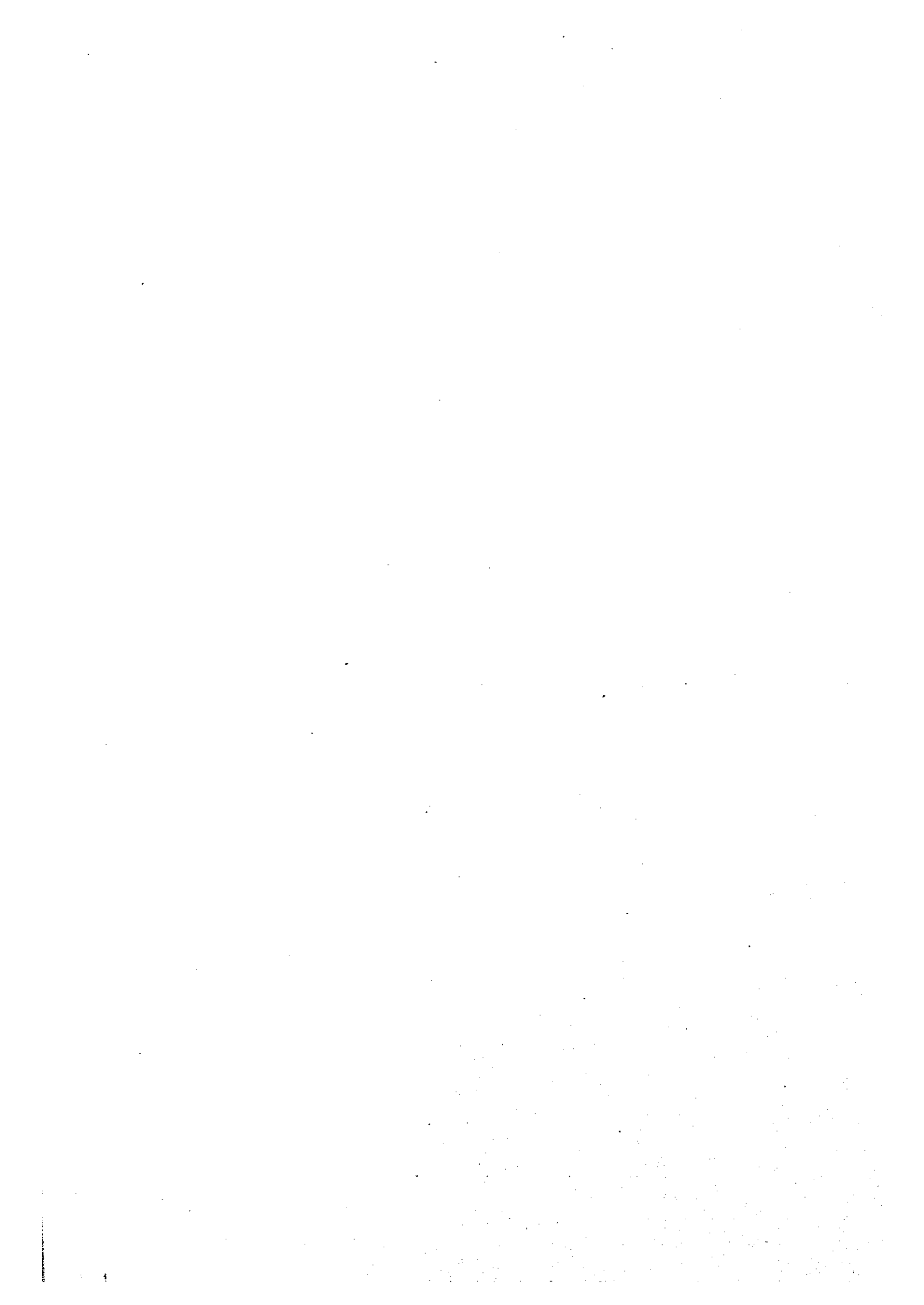


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SEPTEMBER 1999

**UNICO INTERNATIONAL CORPORATION
INTERNATIONAL DEVELOPMENT CENTER OF JAPAN**

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EXECUTIVE SUMMARY

1. Core Problems Confronting SMEs

After the economic crisis happened in July 1997, finished product manufacturers including firms in the automotive and electric/electronic industries are switching their emphasis to marketing for export, against the background of contraction and in some cases collapse of the domestic market. The parts industry of Thailand is not able to keep up with this trend and is losing market share to imported goods. In other words, the parts industry of Thailand is inferior in international competitiveness in Quality, Cost, Delivery performance and Development (QCDD), and the majority of local enterprises in the parts industry are bound to vanish, unless swift and drastic steps are taken.

Meanwhile, the general consumer goods industry has been polarized to two groups. One is the group of export-oriented enterprises with competitiveness, and the other is a group of domestic-market-oriented enterprises requiring modernization. If the latter as a group of suppliers fulfills as it were daily demand in a certain area, it may be able to survive for some time. In the flow of liberalization of trade, however, there is a possibility that inexpensive imported goods (including even sundries) from China and other nations in the neighborhood will make substantial inroads in the Thailand economy. As the result of field survey, the Team founds that many companies were already encountering stronger competition, from goods exported by China and some other countries in the vicinity of Thailand, in the low-grade products market.

It is important to recognize that the SMEs of Thailand have been thrown into the market of international competition, regardless of whether they like it or not, in the flow of liberalization of trade. Today, when employment of protectionism cannot be expected, enhancement of each of the key components of competitiveness - Quality, Cost, Delivery performance and Development (QCDD) - should be attempted without hesitation. This conclusion indicates the present situation of Thai SMEs, whereas many of the managers the Team met emphasized "we wish our products would sell." That means, the core problem SMEs are confronting after the economic crisis can be narrowed down to the following:

Core problem: "Sales of SMEs products are in a slump."

And the direct causes or origins of the core problem are the following two.

- 1) SME products lack for competitiveness.
- 2) Access to markets doesn't go well.

The first cause is an internal problem SMEs are confronting. The second cause partly includes a factor internal to the SMEs. However, we take it mainly as an external factor. Even if SMEs are attempting to switch their marketing target to exports, however, the means for switching are inferior. In other words, the direct causes for the core problem are both internal and external.

2. The Concept of SMEs Development and Development Strategies

(1) The concept of SMEs development

The Team finally set the concept of SMEs development based on the relation of cause and effect of the problems as follows. This provides what is termed the concept of SMEs development in the present study.

SMEs Development Concept:

To enhance competitiveness bringing it up to the level of global standard of QCDD.

In addition another words to the SMEs development concept, it will be SMEs recover from the slump and further grow toward the global standard through strengthening of competitiveness.

The development concept defined above is such that economic recovery and recovery of SME sales alone are not recognized as amounting to a solution to the basic problems. In other words, the concept of development means that SMEs should grow to the world level through acquisition of true international competitiveness by strengthening the physical constitutions, using the economic crisis as a point of change.

(2) Development strategies

Grouping together of similar root problems is called an approach and then five approaches to materialization of the concept of development are indicated below.

- 1) Finance
- 2) Technology and management (T & M)
- 3) Human resources (Human)
- 4) Marketing
- 5) Business environment

Below, each "approach" is called "strategy" as the concept according to group specific recommendations for expressing the development concept.

Strategy 1	Strengthening of SMEs financing
Strategy 2	Upgrading of technological and managerial capabilities of SMEs
Strategy 3	Development of human resources of SMEs
Strategy 4	Securing of markets for SMEs
Strategy 5	Improvement of business environment for SMEs

Table 1 indicates the framework of the master plan for development of SMEs. Five strategies for achievement of the concept of development were created as a result.

Table 1 Framework of Master Plan for SMEs Promotion

ROLE OF SMEs

SMEs play important roles in socio-economic development of the country as key players;

- (1) to ensure market economy with competition in the market,
- (2) to modernize industrial structure penetrating new markets,
- (3) to create job opportunities,
- (4) to contribute to improvement of the balance of payment of the country, and
- (5) to contribute to socio-economic development in regions.

DEVELOPMENT CONCEPT

To enhance competitiveness to bring it up to the level of the global standards

SMEs will recover from the slump and further grow towards the international standard through strengthening of competitiveness quality, cost, delivery and development.

STRATEGIES

Strategy-1. Strengthening of SME financing

To ensure SMEs financial facilities equipped with high liquidity.

Strategy-2. Upgrading of technological and managerial capabilities of SMEs

To upgrade technology and management toward international standard levels.

Strategy-3. Development of human resources of SMEs

To educate and train management, engineers and skilled labor.

Strategy-4. Securing of markets for SMEs

To provide SMEs with measures to access domestic and international markets.

Strategy-5. Improvement of business environment for SMEs

To support SMEs preparing institutional infrastructure.

3. Strategies and project Selection

Development strategies are prepared to achieve SMEs (mainly in manufacturing sector) development concepts and aims. Concrete implementation plans are required to achieve the aims of the strategies, and they are called "projects" in this report. The eighteen recommended projects are listed in Table 2.

The process of selection of the projects is as follows.

Method 1: Those projects, implementation of which was already decided by the Government of Thailand, without opportunity for review by the Team, were added to the proposed projects, as requested. The projects in this category are:

- Establishment of a Factory Evaluation System (Project 2.1)
- Establishment of the Institute for SMEs Development (Project 3.1)
- Setting-up of the Thailand Automotive Institute (Project S.1)
- Setting-up of the Electrical and Electronics Institute (Project S.2)
- SIC-Tool and Mold Technology Development Project (Project S.3)

The Government of Thailand is preparing implementation plans for Project 3.1, and as for Project S.3 is decided an implementation plan so that with only reports on the current situation of project is given in this document. The other three projects are in the stage of transition to the implementation stage according to the Action Plans proposed by the Team.

Method 2: The Government of Japan dispatched Mr. Shiro Mizutani, who is an ex-official of the Ministry of International Trade and Industry, as a senior adviser to the Minister of Industry and Minister of Finance of Thailand, based on a request from the Government of Thailand. Team members provided assistance in the creation of the concepts for the projects examination of which was requested to Mr. Mizutani the Government of Thailand. These projects are also included as projects proposed by the Team. Three projects related to finance, indicated below, belong to this category.

- Restructuring of the Credit Guarantee System (Project 1.1)
- Strengthening of the SMEs Banking System (Project 1.2)

Establishment of an Equity Participation System for SMEs (Project 1.3)

Method 3: Ten proposed projects other than the above were selected by following the procedure indicated below.

- 1) Projects related to promotion of SMEs adopted in the IRP and SMEs Promotion Act (draft) were reviewed.
- 2) Project ideas proposed by Team experts were collected.
- 3) All of the above projects were combined in a list of project ideas, amounting to 80 projects. They were classified by type of strategy, and those which overlapped with others and those which are of themes which were judged to be too large or too small were eliminated
- 4) Then, the projects were finally selected through discussion with Mr. Mizutani.

Moreover, a narrative summary of the Project Design Matrix (PDM) resulting from the taking of the SME development master plan in its entirety as a single project, is presented as Table 3. The rationale for project selection is as related in Chapter 5 in this summary. For outlines of each project, refer to the Project Profiles appended to the main report, and for additional details also see Annex III of the Main Report.

Table 2 Selected Projects to Achieve Aims of Strategies

Strategy 1. Strengthening of SME Financing
1.1 Restructuring of the Credit Guarantee System
1.2 Strengthening of the SME Banking System
1.3 Establishment of an Equity Participation System for SMEs
Strategy 2. Upgrading of Technological and Managerial Capability of SMEs
2.1 Establishment of a Factory Evaluation System
2.2 Introduction of an On-site Technical Guidance System
2.3 Development of Total Quality Management System of Thailand
2.4 Provision of an Assistant Package for Incubation of SMEs
2.5 Enhancement of Technology Transfer from LEs to SMEs
Strategy 3. Development of Human Resources for SMEs
3.1 Establishment of the Institute for SME Development (ISMED)
3.2 Institutional Supports for Securing Manpower for SMEs
3.3 Establishment of a Certified Skill-standards in Cooperation with the Private Sector
Strategy 4. Securing of Markets for SMEs
4.1 Introduction of a Preferential Purchasing System of SME Products by the Public Sector
4.2 Strengthening of Export Promotion Activities
Strategy 5. Improvement of Business Environment for SMEs
5.1 Development of Information Networks for SMEs
5.2 Improvement of Standards and Conformance Infrastructure to Promote export
Supporting Industries
S.1 Setting-up of Thailand Automotive Institute (TAI)
S.2 Setting-up of Electrical and Electronics Institute (EEI)
S.3 SIC-Tool and Mold Technology Development Project

Note: See Annex III for detailed information on these projects.

Table 3 Narrative Summary of Overall PDM for SME Master Plan

Overall Goal – Role of SMEs

1. Functioning of the market economy is ensured.
2. Industrial structure is modernized.
3. Job opportunities are created.
4. Balance of payments of the country is improved.
5. Regions and rural areas are socio-economically developed.

Project Purpose – Development Concept

Competitiveness of SMEs is brought up to global standards in terms of quality, cost, delivery and development (QCDD).

Output – Strategies

1. SME financing is strengthened.
2. Technological and managerial capability of SMEs is upgraded.
3. Human resources available for SMEs are developed.
4. Markets are secured for SMEs.
5. Business environment is improved for SMEs.

Activities – Projects

- 1.1 Restructure the credit guarantee system.
- 1.2 Strengthen SME banking system.
- 1.3 Establish an equity participation system for SMEs.

- 2.1 Establish a factory evaluation system.
- 2.2 Introduce a circular technical guidance system.
- 2.3 Develop total quality management system for Thailand.
- 2.4 Provide an assistant package for incubation of SMEs.
- 2.5 Enhance technology transfer from LEs to SMEs.

- 3.1 Establish of the institute for SME development.
- 3.2 Support SMEs for securing manpower.
- 3.3 Establish a certified skill-standards in cooperation with the private sector.

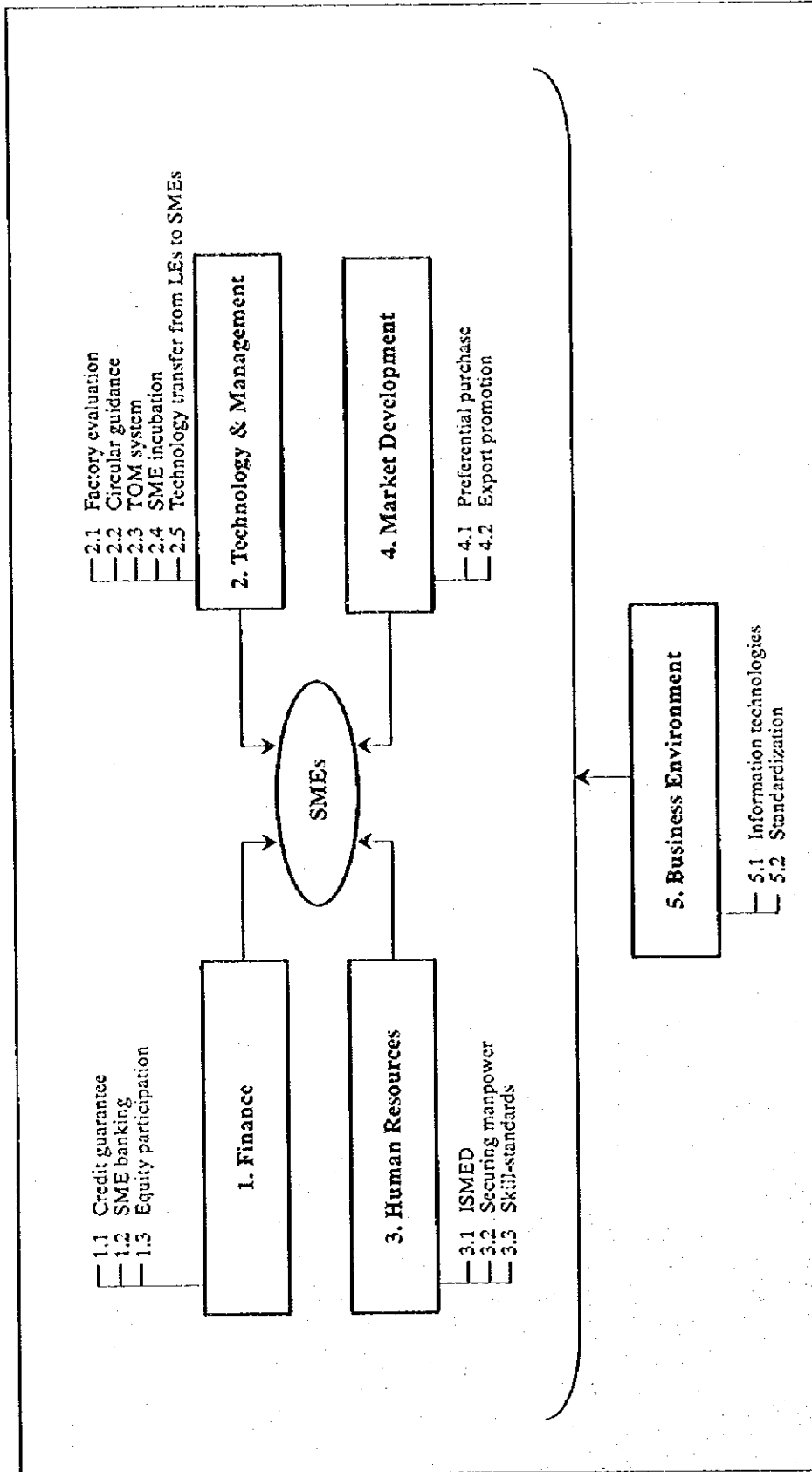
- 4.1 Introduce a preferential purchasing system of SME products by the public sector.
- 4.2 Strengthen export promotion activities.

- 5.1 Develop information technologies and networks for SMEs.
- 5.2 Improve standards and conformance infrastructure to promote export.

4. Composition of SMEs Master Plan

Figure 1 illustrates how each Strategy or Strategy Cluster is positioned within the framework of a master plan. As this shows, Strategy Clusters 1, 2, 3 and 4 are designed to directly support SMEs, and Strategy Cluster 5 aims to develop the business environment of SMEs so that it will indirectly contribute to SMEs promotion. Each project of a Strategy Cluster will entail concrete measures and hence we call them "action plans." The master plan has been formulated with due consideration given to IRP projects and other undertakings by the government. Consequently, it is believed that there would be a great impact on SMEs development in Thailand through the synergistic effect of the projects proposed herein by the Team and the ongoing IRP projects.

Figure 1 Schematic Diagram of Master Plan for SME Promotion



5. Comprehensive Scheme for Implementation

Four recommendations are made for effective implementation; they are:

- 1) A centralized implementation arrangement
- 2) A regional implementation arrangement
- 3) An arrangement for promotion of policy awareness
- 4) An agency to facilitate implementation of the proposed projects

(1) A centralized implementation arrangement

An arrangement within the central government for national, coordinated control of comprehensive development policy and programs for SMEs is needed. It is desirable that the policy-related divisions of the government, including the Ministry of Finance, all participate in this arrangement. At present there is no organization that can be given this function, but it would be desirable for the SME Promotion Office (SMEPO), to be established under the SME Promotion Act, to be at the center of the new scheme.

According to informed sources, the draft plan for SMEPO did not envisage it as an implementing agency, but rather as being concerned with policy recommendations, adjustment of policies and certain activities including management of the SME Fund. It is necessary, in the judgment of the Team, that the functions of monitoring of performance, follow-up to policy implementation, guidance, dissemination of policies as well as performance evaluation and feedback to the rest of the government be added. This would avoid the need to establish a new and redundant entity for the said activities.

The SMEPO Executive Committee is to have at least five members representing the private sector. They must include the representatives of FTI, TCC and Bankers Association that were established on own laws.

(2) A regional implementation arrangement

The required functions that would be assigned to a regional policy implementation agency are as follows. In this connection, it is important to note that in Thailand administration at the regional level is not done by local autonomous bodies but relies on budget allocations of the Ministry of Interior

and transfers from the central government, leaving little potential for localized tax or revenue collection as a source of funds for regional development.

- 1) Promotion of regional SMEs based on the region's own efforts at development.
- 2) Diffusing awareness at the regional level of all SME policies of the central government.
- 3) Ascertaining regional development needs and reporting same to the central government.
- 4) Percolating through to the regions of SME development measures, programs and projects.

The existing arrangement for SME promotion at the regional level is as described below (see also Chapter 2, 2.5 of the main report).

Agencies of the central government (example, for MOI)

- The Industrial Promotion Center (IPC), implementation agency of the DIP, has eleven offices nationwide.
- Provincial Industrial Offices (PIO) under the MOI, of which there are 75, one in each province (excluding Bangkok), and which are concerned primarily with administrative matters related to factories; primarily oversight bodies.

Joint public-private bodies

- KORLOROR, the Joint Public/Private Consultative Committee

Private bodies

- Federation of Thai Industries (FTI)
- Chamber of Commerce (CC)

SME financial institutions

- Four branches of SIFC and 23 branches of IFCT

What is missing from this arrangement for promotion of SMEs at the regional level are agencies rooted in the regions themselves that plan and carry out activities for regional development. It is necessary to establish bodies that are

dedicated to promoting development of regional SMEs (e.g., named "Regional Development Agency".) They should be established either at the eleven locations of IPC/DIP or to serve clusters of provinces (14), or in all 75 provinces (excluding Bangkok), but the most expedient choice from the viewpoint of promotion of industrialization would be to start with the eleven locations where there are DIP offices.

(3) An arrangement for promotion of awareness of policies and measures

Only about one company in three is aware of MOI policies and measures for promotion of industry, according to study findings of the World Bank. Thus few Thai companies are aware of the benefits received from such policies and measures. It is a greater challenge to ensure that SMEs that are the objective of a new set of policies be made aware of the policies and benefits therefrom. It is necessary therefore to set up a system for building awareness of industrial promotion policy within the SME sector.

1) Policy dissemination

- (i) The SME Promotion Office would collect and categorize information about SME activities and methods of approaching policies from each ministry. The information would be revised annually. On the basis of the information a SME Policy Handbook and a Manual for Use of SME Policy Measures would be compiled.**

The Handbook would be sold in order to achieve wide distribution, and both the Handbook and the Manual would be available at the windows set up at Chamber of Commerce or other offices, for use by SMEs and reference in providing assistance to them.

The windows could be opened at Chamber of Commerce offices, FTI branch offices, PIOs, IPCs, and provincial or ministerial offices.

- (ii) Public information pamphlets and other publications would be offered to SMEs at village, town or other regional government offices.**

(iii) A website devoted to SMEs and featuring information about policies and how implementation of them can benefit the companies would be created and in connection with this an industrial database would be made.

2) Augmentation of Chamber of Commerce functions for SMEs

Access by SMEs to all Chamber of Commerce offices would be improved and SME-related services offered there would be augmented. Expenses related to these changes would be covered by the SME Promotion Fund.

(i) One-stop service

- Handling inquiries related to laws, regulations, policies and institutions related to SMEs.
- Assistance in preparation of documents for and making contact with appropriate government offices.
- Assistance in contacting the competent government office for specific advice and information, or resolution of problems and complaints.
- Handling of complaints, petitions and requests from SME owners or managers.

(ii) Guidance and advice windows

Managerial advisors, and in some locations technological advisors and evaluators, would be stationed at the offices.

- Advice, guidance or assistance would be offered to SMEs when company representatives visit, write or call the office, regarding managerial, technological, production, transactions, finance, taxation, labor management, information and other matters.
- Evaluation (analysis) of relatively simple technological and managerial problems would be provided and recommendations made on the basis of the analysis. A workable solution at the outset would be to station fledgling evaluators at these offices. After this arrangement becomes established and the nature of demand for this service is known in some detail, a Certified Factory Evaluator could be stationed at the office and the quality of service could be upgraded.

- Provision of instruction on accounting and recordkeeping.
- When a major problem is identified, the chamber of commerce office would assist in making use of the on-site Factory (or Corporate) Evaluation System, or the office would facilitate contact with the appropriate institutions.
- The information obtained through performance of the above services would be compiled, analyzed and recorded so that it is of use in determining the actual requirements made of the administrative system. Reports would be sent to the SME Promotion Office, that would submit them to the appropriate ministry or other department of government.

(iii) Lectures, study meetings and the like

3) Developing human resources for guidance and advisory activities

Training would be provided for employees of public or private sector bodies who are engaged in SME promotion activities, at ISMED. The training would cover (1) the laws, regulations, policies and institutions relevant to SMEs, and (2) basic matters essentially for providing window counseling as described above.

(4) An agency to facilitate implementation of the proposed projects

The Ministry of Industry is to be deeply involved in the implementation of all the projects and programs proposed in this report. In particular, the Department of Industrial Promotion is presumed to play the leading role. Table 4 shows the likely implementing and managing bodies and supporting bodies for each of the projects. Concerning the implementing and managing bodies, the Team has named several entities which it considers should implement the projects or play the leading role in the implementation of a particular project. Some of the projects, such as Establishment of ISMED, and Strengthening of Export Promotion Activities, have already been started. For those projects, the Team has mentioned the implementing bodies that are actually implementing the projects.

Table 4 Implementation Agency by Projects

Proposed Project	Implementing Agencies	Supporting Agencies
Strategy 1. Strengthening of SMEs Financing	(SICGC)	MOF, MOI, FTI
1.1 Restructuring of the credit guarantee system	(SIFC)	MOF, MOI,
1.2 Strengthening of the SME banking system	(Newly established)	MOF, MOI, SIFC, SET
1.3 Establishment of an equity participation system for SMEs		
Strategy 2. Upgrading of Technology and Managerial Capability of SMEs		
2.1 Establishment of a factory evaluation system	BSID, TPA	MOI, ISMED
2.2 Introduction of a circular technical guidance system	BSID	each Institute of MOI
2.3 Development of Total Quality Management System for Thailand	Thailand Productivity Institute	MOI
2.4 Provision of an assistant package for incubation of SMEs	BSID	SIFC, ISMED
2.5 Enhancement of technology transfer from LEs to SMEs	BSID	BSID, OIE
Strategy 3. Development of Human Resources for SMEs		
3.1 Establishment of the Institute for SME Development	DIP, Thammasat Univ.	MOI, affiliated universities
3.2 Institutional supports for securing manpower for SMEs	DOE (Department of Employment)	MOLSW, MOI
3.3 Establishment of a certified skill-standards in cooperation with the private sector	MOLSW	MOI, FTI
Strategy 4. Securing of Markets for SMEs		
4.1 Introduction of preferential purchase of SME products by the public sector	BIPA	MOI
4.2 Strengthening of export promotion activities	DEP (Department of Export Promotion)	MOC, MOI, FTI, TCC
Strategy 5. Improvement of Business Environment for SMEs		
5.1 Development of information technologies and networks for SMEs	BIPPP	MOI
5.2 Improvement of standards and conformance infrastructure to promote export	TISI	MOI, MOC, MOSTE
Supporting Industries		
S.1 Setting-up of Thailand Automotive Institute	TAI	MOI, FTI
S.2 Setting-up of Electrical and Electronics Institute	EEI	MOI, FTI
S.3 SIC-Tool and Mold Technology Development Project	BSID, MIDI	MOI

Note: See "List of Abbreviation" as required.

Chapter 1 Background, Objectives, and Scope of the Study

1.1 Background

The present study has been planned and implemented as a follow-up to the "Study on Industrial Sector Development-Supporting Industries," a practical, policy-oriented research study done on behalf of the Thai Government by the Japan International Cooperation Agency (JICA). The latter study was started in September 1993; the final report was submitted to the Thai Government in March 1995. Following completion of that study, the Ministry of Industry of Thailand has implemented various measures to promote its industries, some of which are in accordance with proposals made in the JICA study report. However, the economic crisis that occurred in July 1997 revealed the fragility of the domestic industries of Thailand, and especially that of the small and medium-size enterprises (SMEs). To deal with the crisis and its aftermath, the Thai Government established the Industrial Restructuring Plan Subcommittee, led by the Ministry of Industry, with the mandate of preparing a basic policy document for the strengthening of domestic industries. Further, the government formulated some urgent national measures, and cooperation was obtained from the international community. With the intention to cooperate on behalf of these efforts, JICA dispatched a Project Finding Mission to Thailand in November 1998. After discussions with the Ministry of Industry of Thailand, JICA decided to carry out a follow-up study to its previous study, particularly to support the Industrial Restructuring Plan (IRP) that was then being promoted by the Thai Government.

1.2 Purpose of the Study

The purpose of the present study is two-fold: to formulate a long-term (five-year) master plan, and to identify short-term action programs, giving due consideration to the current severe economic conditions, in both cases to promote small and medium-size enterprises, especially in the supporting industries.

1.3 Scope of the Study

The study focused on SMEs in the manufacturing sector only. The three regions covered are Greater Bangkok, the Eastern Seaboard, and Nakhon Rachasima. The study concentrates on the following 11 industries, in keeping with the Industrial Restructuring Plan and industrial makeup of the SMEs sector.

- | | |
|------------------------------------|--|
| 1) Food and Animal Feed | 7) Plastic products |
| 2) Textile and Garments | 8) Ceramic and glassware |
| 3) Footwear and Leather | 9) Electrical appliances and electronics |
| 4) Wooden products and furniture | 10) Vehicles and parts |
| 5) Pharmaceuticals and chemicals | 11) Gems and jewelry |
| 6) Para rubber and rubber products | |

1.4 Method and Schedule of the Study

A combination of interviews and observations at selected companies, a questionnaire survey of a larger number of companies, and discussions at government offices, as well as at government-related institutions, was employed. The numbers of institutions and business enterprises the survey team visited and the number of enterprises that have responded to the questionnaire survey are as follows.

- | |
|--|
| (1) Visits to government-related agencies24
(including educational/training and financial institutions) |
| (2) Visits to business enterprises/factories97
(by members of the survey team) |
| (3) Questionnaire survey of business enterprises244
(by a Thai consultant) |

The names of the business enterprises the survey team visited are shown in Annex IV of the Main Report. Analysis of the compiled data in the questionnaires, by industry type, is also described in detail in Chapter 1.2 of the Main Report.

The schedule for field surveys and the reports made so far are as follows.

Field surveys

1st field survey (explanation and discussion on Inception Report)	March 1-26, 1999
2nd field survey (full-scale survey)	April 18 - May 27, 1999
3rd field survey (explanation and discussion on Interim Report and supplementary survey)	June 23 - July 11, 1999
4th field survey (explanation of the draft final report)	August 3-10, 1999

Reports

Inception Report	March 1, 1999
Progress Report	March 25, 1999
Progress Report II	May 24, 1999
Interim Report	June 28, 1999
Draft Final Report	August 4, 1999

Chapter 2 Current Situation and Problems of SMEs Policy in Thailand

2.1 Current SMEs Policy

(1) The Definition of SMEs

There is no official or legal definition of SMEs in Thailand yet. Different institutions use their own definitions as appropriate to the given situation. The SMEs Promotion Act bill, which is being discussed in the national assembly, will provide a definition of SMEs. The Act is expected to distinguish between four sectors, namely industry, service, trade (wholesale, retail) and others. The numerical criteria used for definitions in the Act are still tentative, but it is expected that fixed assets will be used, as follows.

Maximum Value of Fixed Assets, in Millions of Bahts

<u>Sector</u>	<u>Small Size Enterprise</u>	<u>Medium Size Enterprise</u>
Manufacturing	50	200
Trading	50	200
Wholesaling	50	100
Retailing	30	60

Meanwhile, current definitions used by leading institutions are as follows (as of April, 1999).

Table 5 Definitions of SMEs

(Unit: Million bahts; persons)

	Small-scale		Medium-scale	
	Assets	Employees	Assets	Employees
DIP	(F) less than Bt.50		(F) Bt.50 - Bt.200	
TCC	(F) less than Bt.50		(F) Bt.50 - Bt.200	
FTI	(F) less than Bt.20	up to 50	(F) Bt.20 - Bt.100	50 - 200
IFCT	(T) Bt.25 - Bt.100		(T) Bt.100 - Bt.1000	
SIFC	(F) less than Bt.50			
SICGC	(F) less than Bt.50			

Remarks: (T): Total assets (F): Fixed assets
 DIP: Department of Industrial Promotion, Ministry of Industry
 TCC: Thai Chamber of Commerce
 FTI: Federation of Thai Industries
 IFCT: Industrial Finance Corporation of Thailand
 SIFC: Small Industry Finance Corporation
 SICGC: Small Industry Credit Guarantee Corporation

If the government bases its policy for the SMEs solely on the amount of the assets, it may fail to grasp the whole picture of the SMEs which include many different kinds of companies. It is believed that the definition of SMEs should also include the number of employees.

(2) DIP's Basic Policy for the SMEs

According to DIP's "Outline of Policy and Measure for SMEs Promotion" (April 1998), its policies and means are as per these three headings:

- 1) Promotion of SMEs' management skill and management efficiency
 - a) Enrich the management skill training for SMEs executives
 - b) Expansion of credit services and functions of the Small Industry Finance Corporation
 - c) Improvement of SMEs' technology in order to create the qualified subcontract and linkage system
 - d) Promote domestic and overseas business transactions
 - e) Support consultation for SMEs who have been damaged by the economic crisis

- 2) Encourage SMEs' dispersion to provinces, and help to strengthen the business environment in the provinces
 - a) Support the expansion of the industries to provinces by promoting the RIDP project
 - b) Promote the infrastructure and arrangement to support industry dispersion to the local cities.
 - c) Promote SMEs incubation project in the local cities
 - d) Promote the subcontractor relationship through factory transfer

- 3) Strengthening the DIP's function and capability
 - a) Accelerate the presentation of the SMEs Development Plan
 - b) Improve the working and coordinating system between each unit both in central and regional
 - c) Preparation of the information network for SMEs development
 - d) Develop the office staff that can serve aggressive industrial development works
 - e) Promote cooperation with foreign institutions to implement projects.

(3) SMEs policy system

The goal of the SMEs policy as implemented today is, as stated in DIP's basic policy, "strengthening the management foundation," "industry's dispersion to local area," and "supporting the industrial restructuring," of which the latter in particular has been given great attention since the economic crisis. To list some concrete instances of implementation, we can cite recent financial support plans represented by the 35 billion bahts fund package, and many support plans for technological improvement and human resource development that are introduced in IRP projects. Other departments and institutions than the DIP but are also implementing similar activities.

Support for SMEs information-oriented infrastructure, organizational reform, and product market development, however, have hardly been dealt with yet. But what became clear through interviews at the companies visited is that what SMEs are seeking the most are their own technological improvement and support for market development. The generally recognized problem of insufficient availability of capital cannot be solved without recovery of sales, which makes the support for market development an urgent item for the policy

agenda. To achieve this, support for development of information-oriented infrastructure, and organizational reform, cannot be avoided.

Also, even among SMEs, the small size companies have very conspicuous management instability, against which the present policy and measures will be insufficient. Especially in the regions, measures for small size companies are carried out, especially by DIP but DIP has an insufficient number of officials and insufficient budget to cope with many different types of business and of problems that those small companies have. In this field, special policy needs to be developed, on addition to the general SMEs policy, for which the utilization of cooperation from overseas will be expedient.

(4) Organizational structure

One new organization to promote the SMEs has been formed this year and another will be formed by early next year. The first is the SMEs Development Institute, which has been started in June 1999. The second is the SMEs Promotion Office, which is to be provided for the SMEs Promotion Act. Both organizations deal with not only the small and medium size industries but also with all SMEs including the commercial and service industries. The central purpose of the organizations, however, is to support industrial development. The SMEs Promotion Office is to make policy for growth of SMEs, and is to coordinate work by related institutions, while the SMEDI is to support human resource development and management skill development. These two organizations are to become the core of government activities for promotion of the SMEs apart from financial matters. If these two organizations fulfill their intended functions well, they are expected to yield great results in growing and developing the SMEs.

Regarding financial support for the sector, not only SIFC and IFCT, but also commercial banks are moving in the direction of accommodating the needs of the SMEs. MOI and MOF are working together to strengthen the present SMEs financing system, and compared to the past this system is making progress. But problems exist in the provincial cities where system implementation has been delayed (due to the absence of financial institutions in many locations, and the time consuming procedure to get approval from the head office and the insufficient credit supplement system).

(5) SMEs Organization

Federation of Thai Industries and Thai Chamber of Commerce are representative non-governmental organizations in Thailand, but there are almost no private organizations dedicated to the interests of the SMEs. There is no organization in which small size companies can unite in lobbying activities, or secure business opportunities through joint efforts, or work together to improve the status of the small size companies. One recent movement, however, is that the graduates of the "Entrepreneurship Development Program" sponsored by DIP are getting together to form an organization of SMEs based on the spirit of mutual support, and are currently trying to expand its function.

Association of Thai Small and Medium Entrepreneurs (ATSMEs) started in 1997 as an official organization under the auspices of DIP. It has a membership of about 2,000 companies. The organization fields of activity, include:

- Human Resource Development
- Trade and Investment Promotion
- Foreign Affairs
- Member Relations
- Information Service

Thus far the organization has been holding seminars and company visits for purposes of familiarization, and hosting periodic meetings where members exchange opinions. One of the purposes for the organization is to strengthen the ties among SMEs, and to correct their disadvantage in competition. It remains to be seen what kind of relationship the organization will develop with the government or other institutions.

The ATSMEs is an organization intended to foster mutual friendship. However, what is needed is to promote cooperation among small companies so that they might aggressively achieve higher productivity to a scale of merit.

2.2 Outline and Issues of the SMEs Promotion Act

(1) The expected contents of the law

SMEs Promotion Act is the first law in Thailand specifically concerning the SMEs, which include all small and medium-size enterprises regardless of sector. At the time of preparation of this report, the Act was being discussed in the national assembly, and after being passed by the Upper House, it will take till the first part of the year 2000 for the Act to be enforced. By April 1999, the first reading in the Lower House was completed. The Act is composed of the following sections:

- 1 SMEs Promotion Committee
- 2 SMEs Promotion Office
- 3 SMEs Promotion Fund
- 4 SMEs Promotion Action Plans
- 5 Government Support
- 6 Cancellation of Support or Promotion
- 7 Punishment

From the draft of the Act the Team identified the following issues that demand attention.

1) The Concept of the SMEs Promotion Office

Little information about the organizational structure and the scale of the SMEs Promotion Office (SMEPO) is available as yet. SMEPO will be unique as a governmental organization. It is to only make policy proposals, and will not be involved in implementing those policies. If it is a promotion policy for the industrial sector, the Office will need to cooperate with OIE or the Planning Section of DIP. SMEPO will further need to consult with BOI and the Ministry of Commerce, and for this reason the Executive Committee includes representatives from MOF and MOC. It will be necessary to have personnel from these organizations on the SMEPO staff to maintain a close relation and joint have fruitful discussions. One of the problems concerning SMEs promotion in Thailand is the vagueness or weakness of their -- the SMEs -- common understanding about SMEs promotion. As a result, they

have not achieved good cooperation with the government to make their promotion plans, and have taken much time merely to make adjustments. Therefore, the role of the SMEs Promotion Office is going to be very important.

Even if the SMEs Promotion Office only proposes policies, and will not be the implementing institution, there should be established at least the following sections having the responsibilities shown.

Finance Policy Bureau	Policy planning for SMEs Bank, venture capital companies, credit guarantees
Industry Policy Bureau	Policy planning for SMEs development, factory diagnosis, ISMED, human resources development
Business Development Policy Bureau	Deregulation, restructuring, coordination, consultation for SMEs, one-stop services
Regional Industry Development Bureau	Development of regional SMEs, handicraft & cottage industry, coordination of regional industry development

Also, how to utilize the newly founded SMEs Development Institute (ISMED) as the databank and research institute for the SMEs requires examination.

2) SMEs Promotion Fund

Decision on the utilization of the SMEs Promotion Fund will be made in the SMEs Promotion Office. It is written clearly that the purpose of the Fund is to support SMEs or a group of SMEs. The concept of a "group of SMEs" will be defined in detail in the near future. For present purposes it is assumed that it refers to a united body of entrepreneurs, such as an industrial (sectoral) association. For those companies handling small scale parts or making a special product based on local raw materials and traditions, attaining a reasonable size business and improving productivity by making a group is a subject that deserves

attention. To make it possible to achieve these goals, legal provisions should be made to provide for financial support of SMEs group. As potential users of the Fund, the small size companies are certain to evidence an increase in the amount of money they would seek from the Fund. Though it is necessary to complement the commercial financing such as DIP's Revolving Fund, a facility loan project and a small size companies mutual aid project are worth examining as a possible usage for the Fund.

3) SMEs Promotion Action Plans

Some of the Action Plans intended to help industry grow and develop have been previously recommended in the IRP, but SMEs promotion plans for other sectors will be also needed. For the industrial sector, there may be some plans which IRP does not adopt this year. Therefore, in making Action Plans, there is need to once more discuss the definition of the SMEs and the target promotion sectors. Then after clarifying the purpose of each Plan, arrangements must be made to balance implementation of all the plans in short, medium and long term.

Execution of expost evaluation for each Action Plan is also very important. The following evaluation measures are recommended:

- (1) To compare two SME groups, one supported by an Action Plan and the other not so supported, in terms of sales, number of employees, the amount of taxes and so on.
- (2) To measure the degree of SMEs satisfaction with Action Plan results.

2.3 Progress and Issues of the Industrial Restructuring Plan

(1) Progress of IRP

Since April of 1999, 24 projects have been implemented, but even more are still in the preparation stage, while some projects which have been implemented since before the IRP are yet to be expanded in scale as provided by the IRP. DIP has responsibility for 11 projects out of 24. Each DIP bureaus assigned an implementation task has started its work, but a full-scale implementation has been expected no earlier than June of 1999. It can be

said that almost the same situation exists for other projects by different departments and institutions.

At the present, the IRP Sub-committee has discussed additional projects for the year of 2000, and about 140 candidate projects have been selected so far. Funding for implementation of these additional projects is still an open question, but at least part of the required funds will be sought from foreign financial institutions or governments.

(2) Issues

1) Cooperation with the Private Sector

Some projects were originally planned to be implemented by private institutions such as the Federation of Thai Industries. The government, however, can not give funds to private institutions for implementing government plans and projects. Therefore government institutions were subsequently assigned as the responsible agencies for all selected projects. These projects must have a cooperation of the private sector for effective implementation, so the government implementation agencies have to maintain close contact with and provide financial support to the private sector, while the private sector has to take the initiative in implementation of projects.

2) Continuation of Projects

In general, IRP projects are to be implemented over a period of 5 years, but some will be accomplished within one year or two or three years. Project budgets are made on an annual basis, and the its performance of each multi-year project will be evaluated by the Executive Committee. There are questions regarding the criteria and methods for evaluation, but it is of greater importance to consider how effective a project will be when it has achieved its final goal, and to consider what is needed to ensure continued smooth implementation. Implementing agencies shall have to pay attention to modification and unification of projects for further continuation.

3) Coordination with non-IRP projects

The newly establishment SMEs Development Institute (ISMED) was

started at almost the same time as the early IRP projects. Regarding implementation of the factory diagnosis evaluation system project, Bureau of Supporting Industry Development (BSID) is ahead of SMEs Development Institute. In this way some IRP projects overlap other projects but are complementary to each other. Therefore coordination by the government agencies concerned has become more important.

2.4 Actualities of SMEs Finance in Thailand

(1) Overview of financial reform

The financial sector is now undergoing reforms and restructuring based on the guidelines of the IMF and Thai monetary authorities. However, the speed of restructuring has been slower than expected because of delay in the preparation of laws and regulations related to bankruptcies, and in liquidation of collateral. The delay of commercial banks restructuring is an important factor related to the recovery of the real economy.

Strict policy regarding the existing loans classification has helped make banks reluctant to extend new loans and is becoming an important source of a credit crunch. The World Bank estimates the ratio non-performing loans of Thai commercial banks to be over 50%. It is hard to imagine the recovery of commercial banks without the government's financial support. Other than this support, the following are recognized as important issues to be improved.

- 1) Banking supervision system modernization
- 2) Restructuring of financial institutions
- 3) Revision of small financial institutions, including but not limited to restructuring, change in their roles, way of management, etc.
- 4) Preparation of laws and regulations to facilitate investment private sector, including foreign investors, in the financial sector
- 5) Revision of bankruptcy law
- 6) Rescheduling and restructuring of corporate debts

(2) Restraints on supply of credit to SMEs

The following points are widespread restraints on the supply of credit for SMEs.

- 1) SMEs' lack of collateral
- 2) Lack of information on business activities and financial status of SMEs
- 3) Functional limitation and size limitation of the credit guaranty scheme
- 4) Lack of incentives to promote SMEs loans (interest, commission, credit guaranty, etc)

To resolve these problems, better information and improvements related to development of the credit guaranty scheme, and of the SMEs Bank as well as other sources, like venture capital investors are desired.

(3) Problems of the credit guaranty system for SMEs

There are two main problems regarding the system of credit guaranty for SMEs: insufficient government support, and risk exposure.

1) Lack of official support for credit guaranty

The Small Industry Credit Guaranty Corporation (SICGC) is the only institution which is providing credit guaranty services. SICGC started the operation in February 1992. The initial capital was 400 million bahts and the capital has never been increased. This small scale of capitalization is a constraint the supply of guarantees. Another constraint is the lack of a government support system, such as the credit insurance system of Japan.

Under these conditions, the following functions are recommended:

- Credit Guaranty System to facilitate the loans to SMEs.
- a credit insurance system to support the credit guaranty system

Actually it can be pointed out that the above 2 functions do not exist in Thailand.

2) Risk Exposure

SICGC has a status of public corporation, owned by commercial banks, MOF and governmental financial institutions. By this situation, they have a role to satisfy the equity shareholders. Also their size is limited due to limited capital amount. From this situation, it can be pointed out that credit guaranty system is not achieving services of public interests.

For the equity shareholders of commercial banks, they do take double credit risk, providing loans and guaranty on them. There is few incentive for commercial bank to utilize the services of SICGC due to such situation.

It is recommended for commercial banks to be minimum shareholders for such credit guaranty corporation.

2.5 HRD Issues In the Context of Industrialization

(1) Points of the Issues

Despite its rapid economic growth attained by industrialization, Thailand's HRD has continued to be based on a bottom-up educational and training system which aims to raise the levels of knowledge and skill of workers. HRD intended to improve the international competitiveness of Thai industry through training in practical techniques has been implemented with the support of foreign companies and development aid-supplying countries. Thus, there are two different forms of HRD in the country. This dual system has been in place for more than 20 years. As a result, even today, when the entire industry is obliged to advance to higher levels in order to recover from effects of the economic crisis, the education and training of workers cannot readily meet the consequent demand. For the education of managers, one educational program of the Ministry of Industry is all that the Thai government offers now. This program is far from sufficient to advance the modernization of management on a nationwide basis.

HRD issues in Thailand can be summarized as follows.

- 1) It is necessary to develop human resources that satisfy the requirements of the industrial world.**

Whether formal or informal, education closely related to the industrial world needed. In particular, in order to improve international competitiveness and meet international standards, much more than is being done at present by way of the development of human resources in terms of both quality and quantity is called for. This applies equally to the development of managers, or the education for modernization of management.

2) It is necessary to perceive specific needs of the industrial world from the following viewpoints.

- Needs of industries which require improvement of basic technology
- Needs of industries which are obliged to attain international standards
- Needs of industries whose international competitiveness must be improved further
- Needs of supporting industries
- Needs of new businesses and entrepreneurs
- Requirements for modernization of management

(2) Further Direction

In view of the above, the development of human resources in Thailand will require the following viewpoint and specific measures.

1) Measures related to technology, production management and business administration techniques:

When the above diagnostic system is established, it will become possible to implement the following specific measures.

- Projects for improving the various types of business administration and production management techniques stated in the IRP
- Technical support based on international levels.
- Improvement of quality control
- Support for improvement of technical levels
- Technology transfer from LEs to SMEs
- Establishment of incubators and mechanisms for bringing together investors and companies seeking venture capital for SMEs
- Fostering of model enterprises

2) ISMED

Detail activity of ISMED is explained in ANNEX III of the Main Report.

3) Other HRD related matters

After ISMED is established, the following measures should be taken.

- a) Enactment of legislation on various qualification systems and establishment of certifying bodies for the promotion of SMEs

- b) Standardization of educational/training programs of public and private organizations which provide SMEs with education and training services
- c) Development of personnel who provide guidance in manager education, support to entrepreneurs, and engage in promotion of SMEs
- d) Human resource development activities for persons who work on the various IRP projects.

Chapter 3 Institutional Building

3.1 Issues of Institutions

(1) Thailand Productivity Institute, FTPI

Originally, FTPI was recommended to concentrate on profit-oriented activities, such as consultation. In practice, the main activities concentrate on the activities in the public interest, such as human resources development, publication and productivity improvement. One problem that has been identified is that FTPI is not responding to the demand from the industry since the demand is so strong and wide. It can be pointed out that it would be more effective to consider instructors training than direct consulting to companies.

(2) Thai-German Institute, TGI

TGI has a training facility which has capacity for 3,000 trainees. The utilization rate however is only 10%. The break-even point for the TGI facility is around 1,000 trainees per year. In 1999 TGI expects around 800 trainees, it had 400 in 1998. The average term of training is 5 days and training fee is from 3,000 to 19,000 bahts.

The reason for the low usage of the TGI facility is a matter of the attitude of Thai business owners who prefer to not invest in employee training. It can be pointed out that efforts to change this attitude of entrepreneurs would be necessary.

(3) National Food Institute, NFI

Part of TISI Bampoo's testing equipment were transferred to NFI. Food industry demand for NFI's activities is strong. However, the Food Industry Association is not very supportive of the activities of NFI. Because of this situation, NFI lacks financial resources and human resources. Therefore the actual activities of NFI have been concentrated on the coordination of industry and government, which is not a good response to the needs of industry. It could be considered that demand on food testing services would be strong and equipment and human resources should be strengthened.

(4) Thailand Textile Institutes, TTI

MOI approved establishment of TTI in October 1996 and it started operation in June 1997 with 3 persons. JICA supported its operations. Activities are concentrated in the coordination of industries, and testing and inspection services. TTI is not satisfying the expectation of textile industries in regard to coordination due to the deteriorated situation of textile industries themselves. It is expected that TTI will contribute to transformation of the industries from being cheap labor oriented to production of high value added goods.

(5) Thailand Automotive Institute and Electrical and Electronics Institute

Although the MOI's main responsibilities are policy-making, budget allocation and monitoring, it is also deeply involved in service activities directly affecting the industries, such as research, inspection, testing and human resource development and training. In turn, the giving increasing attention to these activities, main responsibilities were somewhat left behind. In order to focus on the policy-making, budget planning and distribution and monitoring, the MOI has been promoting institution building in order to transfer some of the ministry's activities to those institutes, that are expected to work closely and effectively with private industry.

The Cabinet approval was announced for this year's budget allocation for Thailand Automotive Institute and Electrical and Electronics Institute in July 1998. Also, 5 years of budget support (1999-2003) was approved by the government. However it is expected that both institutes will become financially independent, strengthening their function, organization, personnel and equipment after these five years. Details for both new institutions are described in ANNEX III of the Main Report.

3.2 Core Functions of the Institutes

At the outset the core functions of the institutes had not been sharply defined. With the purpose of proposing specific roles that should be taken by the institutes, the Team held a Project Cycle (PCM) Workshop. Details of the results of the Workshop are provided in Annex I. Given below are the proposed specific core functions, based on the Team's studies and analysis,

including the Workshop. Each institute, in the considered opinion of the Team, should have four core functions refer to Fig. 2).

(1) Core functions

1) Policy Making Support and Coordination

- Recommendation for R&D policy and for industrial policy
- Coordination between the private sector and government
- Coordination among institutes
- Coordination with institutes in overseas countries which are dedicated to similar activities
- Information collection, analysis and publication services

2) Testing Services and Products Certification

- Product certification and testing based on TISI standards
- Product certification and testing to support exports
- Testing and calibration services for measurement equipment

3) System Development and Human Resource Training for the Development of Technology and Certification and Accreditation

Quality System Management and Certification

- To support the development of manufacturers to be competitive in international market
- Consulting services to assist companies to get ISO 9000/14000 certification
- Support and promote good performance companies, like the Malcolm Baldrige National Quality Award, and Business Management Award in Japan.

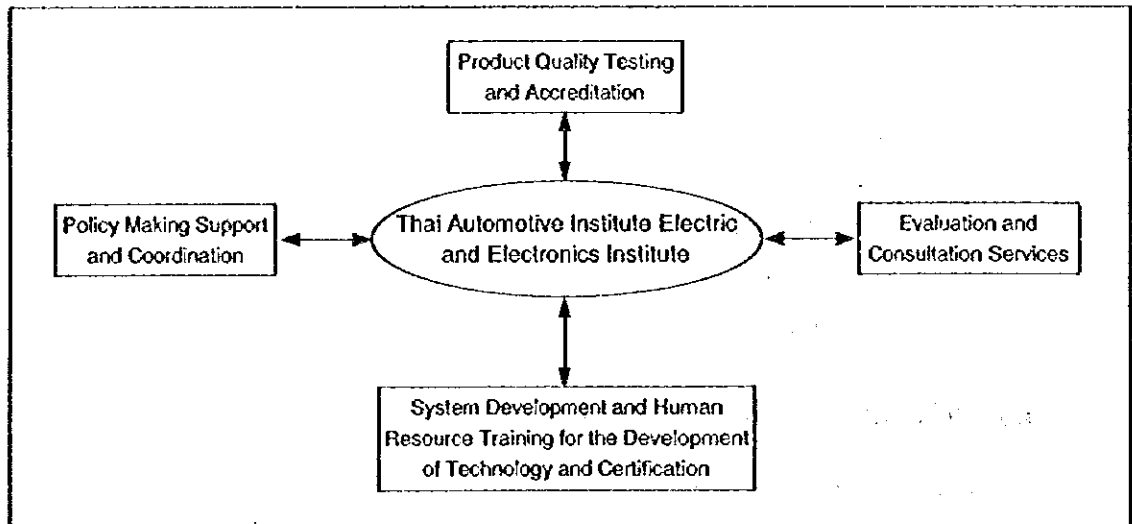
Technology Development

- Introduction systems that promote technological development, like an awards program
- Holding seminars and human resources development programs
- Coordination with other institutes

4) Evaluation and Consultation Services

- Consultation Services and evaluation of factory operation, enterprises etc.
- Comparison with companies in other countries
- Suggestion System by expert sending to companies and it's follow up
- Data base establishment and up-date system about available experts

Figure 2 Four Main Functions of Institutes



(2) Requisites for Support for the Activities of the Institutes

1) Positive support from industries

Based on the experiences of existing institutes, the original intention of institutes to support the industries has not been well executed. The first step could be to clarify the demand of large scale companies to try to involve them much more in the activities of institutes. This will improve the ability of the institutes to support SMEs.

2) Harmonization with international standards

It is essential to harmonize domestic standards with international standards in order to be competitive in the international market. Product certificates and a quality system management certification system are among the principal activities of the institutes. However, the harmonization of the certification system is not satisfactory from an international viewpoint. There is a possibility that the certification system of Thailand as it now is

will be not be accepted in international market.

To improve this situation, the following measures are recommended.

Short Term Measures

- Accreditation of Laboratories of each Institute under ISO Guide 25 by TISI
- In addition to above accreditation, each Institute should try to be accredited by overseas accreditation bodies, such as NATA (Australia), NVLAP (USA)

Long Term Measures

- Establishment of a Traceability System in Thailand
- Coordination with NIMT (National Institute of Metrology Thailand)
- Effort to make mutual recognition agreement between accreditation bodies, like TISI and overseas accreditation bodies

3.3 Way of Coordination Among Institutes

(1) Classification of Institutes Based on their Establishment

The seven institutes under the Ministry of Industry (TGI, FTPI, NFI, MSCl, TTI, TAI and EEI) have been keen on coordination with each other, and the heads of the institutes meet once in a month exchange information. Among them some are ready to and have agreed to open their clients database to other institutes to help the latter develop a solid client network. Since each institute has its own advantage and specialization depending on its mission and capability, however, the potential of such efforts may be limited. On the other hand, some of the activities of EEI and TAI has a close relationship with or duplicate those of the Thailand Productivity Institute, the Thai-German Institute and ISMED. In order to satisfy the client demand and maximize their capability, coordination among the institutes is advisable.

Depending on the purpose of their establishment the existing institutes including private, government and public are classified as follows;

1) Specific sector targeted

- Electrical and Electronics Institute

- Thailand Automotive Institute
- National Food Institute
- Thailand Textile Institute

2) Productivity and management improvement

- Bureau of Supporting Industry Department
- Thailand Productivity Institute
- Thai-German Institute
- The Management System Certificate Institute
- Institute for SMEs Development

3) Testing, calibration and product certification services

- Thai Industrial Standards Institute, (MOI)
- National Institute for Metrology (Thailand), (MSTE)
- Thailand Institute of Scientific and Technological Research, (MSTR)
- Technology Promotion Institute

4) Policy support and recommendation and studies

- Thailand Development Research Institute

(2) Activities of Institutes and Coordination

1) Necessity for coordination of activities

There are now eight institutes under MOI and it is expected that more will be created. It is not necessary for all institutes to cooperate with each other or for any given institute to cooperate with a number of other institutes, but those institutes having the same or similar activities should cooperate with each other.

Table 6 shows the activities of the institutes engaged in industrial promotion according to the following five-part classification of functions. As a matter of course any given institute will have more than one of the following.

- a) Policymaking support
- b) Information services
- c) Testing and certification services

- d) Technical guidance
- e) Human resources development

Table 7 subdivides these five functions into component Activities and the Activities were classified into categories of those with high need for coordination or cooperation between institutes and those for which there would be low need. The criteria for judging necessity were the following three; when it was judged that there is low need for cooperation on the part of the other institute, the Activity was eliminated.

- a) No close relation between the industries of the two.
- b) Institute is highly specialized.
- c) Some necessity is recognized, but conditions 1 and 2 above override it in importance.

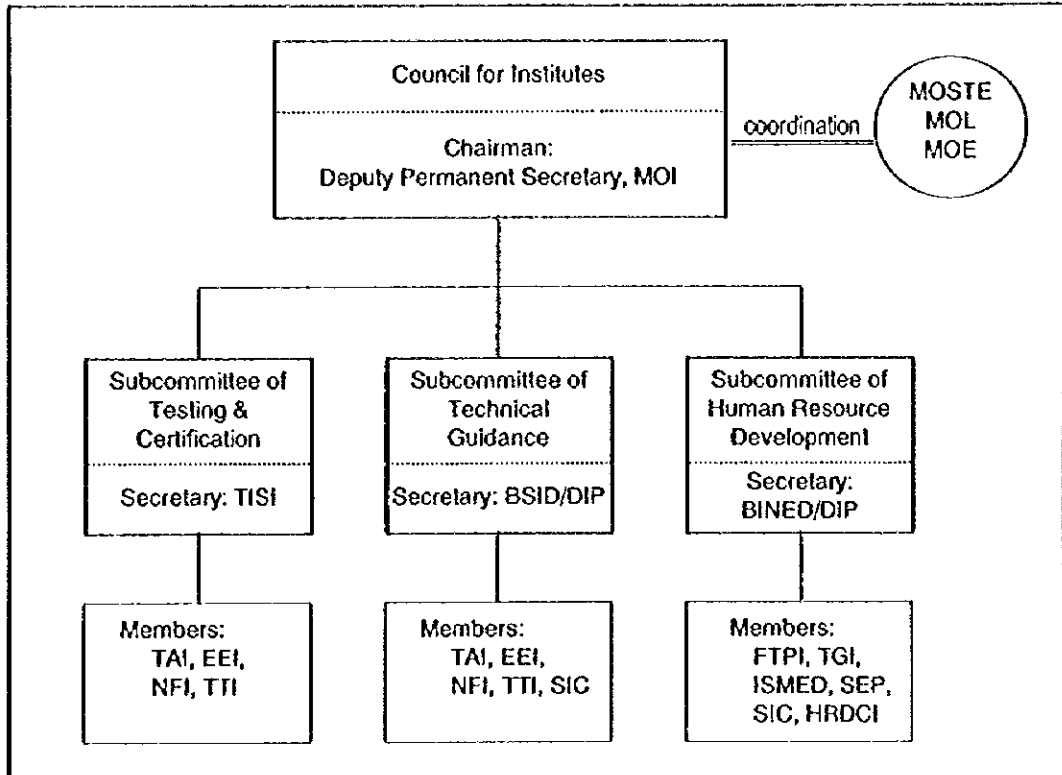
The Team determined by means of the screening using these criteria that, as shown in Table 7, that there are three functions where coordination is required.

- Testing and Certification
- Technical Guidance
- Human resource Development

2) Mechanisms for inter-institute coordination

A classification of projects related to either the seven MOI institutes (excluding SCRI) or to institutional functions, according to the above three functions, is provided as Table 8. There are three projects having institutional functions, the SIC and CEP projects of the BSID and the Human Resources Development Centers for Industry project of the Industrial Estate Authority. As can be seen from the table, these institutes are relatively new and are not yet functioning to the fullest extent intended. The institutes are presently under the administrative control of Deputy Permanent Secretaries of the MOI. Because of the importance of coordination by the institutes the Team recommends that a Council for Institutes to be established for the purpose and be under the control of a Deputy Permanent Secretary. The Council would have three subcommittees, for testing and certification, technical guidance, and human resources development. The scheme would be as shown in Figure 3.

Figure 3 Organization for Coordination of Institutes and Similar Organization



The tasks of the Council would be these:

- 1) Coordination with other ministries and departments of the government, especially on behalf of a workable, continuing scheme for institutes or other entities related to the above but administratively controlled by MOSTE, MOLSW, and MOE.
- 2) Facilitating matters related to sharing the facilities, equipment and personnel of MOI-affiliated institutes.
- 3) Development of joint service-supplying activities so that a private firm can accomplish multiple objectives by a single visit to an institute.
- 4) Joint efforts for improvement of educational curricula and educational facilities.
- 5) Working on behalf of sustained, successful operation of the institutes through representing them to the rest of the government.

If necessary, arrangements should be made for the use of institute membership fees and the SME Promotion Fund in order to finance activities.

Table 6 Activities of Institutions

Function Activities	Policy Making Support			Information Services		Testing and Certification Services			Technical Guidance			Human Resources Development						
	Policy Recommendation Studies	Sector Studies	Standards Development	Internal and International Coordination	Data Base Development	Information Publication	For Domestic Products	For Export Products	Calibration Services	Accreditation Services	Factory Evaluation	On-site Technical Guidance	Consultation for ISO 9000 etc.	Training for Productivity Improvement	Training for TQM/ISO up-grading	Training for Technology up-grading	Training for Management	Official Approval for Qualification
EEI	○	○	○	○	○	○	○	○			○			○				
TAI	○	○	○	○	○	○	○	○			○	○		○				
NFI	○	○	○	○	○	○	○							○	○			
TTI	○	○		○	○		○							○	○			
FTPI					○								●	○	○			
TGI														○	○	○		
MASCI	○	●		○	○	○			○		○		○					○
ISMED	○	○		○	○	○							○	○	○			○
TPI				○	○	○	○	○	○					○	○	○		○
TISI			●	○	○	○	○	○	○					○	○	○		○
NIMT				○	○	○			○									
TDRI		○		○	○	○			○					○	○	○		○
TISTR	●		●	○	○	○	○	○	○					○	○	○		○
OCS	●				○	○	○	○	○					○	○	○		○
BSID	●	●			○	○	○	○	○					○	○	○		○
HRDCI					○	○	○	○	○					○	○	○		○

● = Ongoing Activities ○ = Planned Future Activities

- MOI: Ministry of Industry
- EEI: Electrical and Electronics Institute
- TAI: Thailand Automotive Institute
- NFI: National Food Institute
- TTI: Thailand Textile Institute
- FTPI: Thailand Productivity Institute
- TGI: Thai-German Institute
- MASCI: The Management System Certificate Institute
- ISMED: Institute for SMEs Development
- TPI: Technology Promotion Institute
- TISI: Thai Industrial Standards Institute, MOI
- NIMT: National Institute of Metrology (Thailand)
- TDRI: Thailand Development Research Institute
- TISTR: Thailand Institute of Scientific and Technological Research, TISTR
- OCS: Office of Commodity Standards, Department of Foreign Trade, Ministry of Commerce
- BSID: Bureau of Supporting Industry Department, MOI
- HRDCI: Human resource Development Center for Industry, IEAT

Table 7 Coordination among Institutions

Conceptual Function	Activities	Level of Necessity	Not Necessary	Reason
Policy Making Support	Policy Recommendation Studies		*	Sector oriented
	Sector Studies		*	Sector oriented
	Standards Development		*	Sector oriented
Information Services	Internal & International Coordination	3		
	Data Base Development Information Publication	3	*	Sector oriented
Testing & Certification Services	For Domestic Products	1		
	For Export Products	1		
	Calibration Services	1		
	Accreditation Services		*	Sole function
Technical Guidance	Factory Evaluation	1		
	On-site Technical Guidance	1		
	Consultation for ISO 9000 etc.	1		
Human Resources Development	Training for Productivity Improvement	1		
	Training for TQM/ISO	1		
	Training for Technology Up-grading	1		
	Training for Management	1		
	Official Approval for Qualification		*	Function oriented

Note: Necessary Level

1= Very Important

2= Important

3= Not so important but necessary

Sector Oriented = Sector Specific Activities

Function Oriented = it would be good to have various institutes or organizations to offer opportunities to the public for specific function, such as issue oriented training & consultation.

Table 8 Main Roles of MOI related Institutes

A. Testing and certification services

TISI : Testing, certification and accreditation

NFI : Testing and certification of food products (*)

TTI : Testing and certification of textile products (*)

TAI : Testing and certification of automobiles and their parts (*)

EEI : Testing and certification of electrical and electronics appliances and their parts (*)

B. Technical Guidance

EEI : On-site technical guidance to electrical and electronics parts suppliers (*)

TAI : On-site technical guidance to automotive parts suppliers (*)

SIC¹⁾: Technical guidance to metalworking and plastic processing industries

C. Human resource development

FTPI : Training for improvement of productivity (KAIZEN)

TGI : Training of factory automation technology

CEP²⁾ : Fostering of certified management advisors (*)

ISMED : Education and training of entrepreneur and management (*)

HRDCI³⁾ : Vocational training within industrial estates (*)

(Note):

1) assumes a combined function of old MIDI and Supporting Industry Center (SIC) that is under construction as a facility of BSID.

2) means the Corporate Evaluation System Production being carried out under BSID.

3) Human resource Development Center for Industry being planned in two industrial estates of IEAT by the OECF yen credit.

(*) means those functions which under planning or just started.