

Chapter 4 Summary and Conclusion from Factory Diagnosis

4.1 Summary of Factory Diagnosis

(1) Automotive and Auto Parts Industry

- 1) The assemblers, who focussed on the domestic market before the crisis, have been shifting to exports with 1-ton pick-up trucks as the main product. There are plans for assemblers to strengthen the real export oriented operation, and/or the production increase plan.
- 2) The Thai automotive parts industry is now obliged to supply global standard parts including the parts for domestic use (particularly for 1-ton pick-up trucks). The abolition of the local contents regulation will accelerate this trend.
- 3) Assemblers and global suppliers recognize that parts made in Thailand are cost competitive compared to imported parts, and the environment for the automotive industry development is being improved. Because of this, they are willing to increase the ratio of parts bought from Thai companies. But they are not satisfied yet with the parts provided by local suppliers in terms of quality, delivery, and development capability.
- 4) Whether the Thai automotive industry will become an export oriented industry supported by competitive parts suppliers, or just remain to be an export base for assemblers who rely on the global suppliers and imported parts, will be decided within five years.
- 5) From the above observation, we conclude that the desirable direction for promotion of the Thai automotive industry is to improve the competitiveness (quality, cost, delivery performance, and development capability) of the local suppliers.

Both the government and private sectors must clearly and fully recognize the danger of elimination of the local industry companies because of weak competitiveness relative to global suppliers and imported parts after the year 2000.

(2) Electrical and Electronics Industry and Electrical and Electronics Parts Industry

- 1) The electrical and electronics industry in Thailand is dominated foreign capital enterprises, and Japanese investors in particular. This industry is polarized to two groups, i.e., export oriented enterprises, and domestic market oriented joint venture enterprises plus local large sized enterprises. The former group is composed of enterprises having a relatively short history, having been established as investments in Thailand as a good location for production of goods for export.
- 2) The quantities produced by export oriented enterprises are overwhelmingly greater than those of domestic market oriented joint venture enterprises. Procurement of parts in Thailand by export oriented enterprises is extremely minor. Many of these enterprises have the nature of being an assembly plant rather than an enterprise, as they are based on the pattern of "import of parts" → "assembly in Thailand" → "export."
- 3) Domestic market oriented enterprises, including both joint venture enterprises and local capital enterprises, have suffered greatly from the economic crisis, but they are taking export expansion measures in their effort to maintain production levels. It is generally believed in the industry that recovery of the domestic market to the level before the economic crisis is unlikely to occur for two to three years.
- 4) Local parts manufacturers, which are mainly small-to-medium sized enterprises, were unable to deliver parts of export grade to those buyers who were making a transition to expansion of exports. The market demand for this group's products dropped to a level of 50% to 60% of the level before the economic crisis. The direction of promotion of the electrical and electronics industry in the future should be how their products can be produced as parts of global standard like parts of automotive vehicles.

(3) Consumer Goods Manufacturing Industry

1) Textiles & garments

- a. Shift from the present quality assurance system based on inspection of finished products to a process quality control system.
- b. Enrichment of in-house education and training for development of human resources.
- c. Shift from the present commission production system to an original brand production system with own sales channels.
- d. Renewal of obsolescent production equipment and introduction of pollution control technology.

2) Ceramics

- a. Reduction of percentage defective in processes and improvement of basic technology through introduction of new techniques to impart better qualities to products.
- b. Development of design capacity and reinforcement of marketing
- c. Diversification of ceramic products for exports (development of new products other than ornaments).

3) Wooden furniture

- a. Improvement of quality, design, and technology
 - Spread of furniture durability test
 - Establishment of quality standard of export furniture and guidance in conformance to quality standard
 - Promotion of Thai designs through design registration system, etc.
- b. Development of new customers
 - Review of times to hold a furniture fair and reinforcement of sponsorship
 - Avoidance of competition in low-grade goods markets with neighboring countries and formulation of strategy for entering medium- to high-grade goods markets
 - Formulation and execution of strategy for improving the value of Thai-brand wooden furniture

4) Gems & jewelry

- a. For the moment, enrichment of in-house training and public training institutes.
- b. As a medium- to long-term challenge, narrowing-down of the quality gap with Italian counterparts. Introduction of advanced equipment and fostering of capable operators to narrow the gap. Formation of a pyramid having specialized raw materials suppliers at its base.

5) Leather

- a. Providing model companies with concentrated technical support to present a model of modern production control to the industry and spread modern production control techniques.
- b. Improvement of quality of domestically-tanned leather to reduce imports of foreign-tanned leather.
- c. Reinforcement of technical training schools to supply manpower having certain levels of skill.

6) Foods

- a. Improvement in measurement, evaluation, and guidance for checking processes from the viewpoint of food sanitation, and establishment of an organization implementing the improvement.
- b. Promotion of savings of resources and energy (this industry is energy-intensive). Providing food processing plants with on-site (mobile) diagnosis service and financial support for equipment improvement.

7) Plastics

- a. Companies which can design molds for themselves are increasing in number. They are encouraged to become able to design products too for themselves.
- b. Shift from production of parts to production of sub-assemblies to increase value-added. This is also advantageous to the purchaser in that it simplifies the purchase procedure.
- c. There is urgent need to foster skilled workers as higher accuracy and more sophisticated functions have been required of plastic products.

8) Rubber products

- a. This industry involves extensive fields of inspection, testing, and research that concern rubber composition, strength, pressure resistance, polishing, chemical resistance, etc. They need to be improved through reinforcement of public testing institutes, etc.
- b. This industry consumes much energy and tends to cause the working environment to deteriorate. Therefore, it is important to promote the improvement of the factory environment and the saving of energy. Providing factories with on-site diagnosis service and financial support for equipment improvement is desirable.

4.2 Analysis of Results of the Questionnaire Surveys

To identify the problems SMEs are confronting, the most practical and accurate means is to ask them directly. Referring to the results of three questionnaire (one done in 1994, one by the Team and one by the World Bank) relevant matters are summarized below.

(1) Results of the questionnaire survey conducted by the Team

The results of the two questionnaire surveys (see Chapter 1 of the Main Report, Section 1.2 for details) shown Table 9 and Table 10 indicate that subjects related to "the market" are ranked in first place as a field requiring support from the government and in second place as an urgent problem for business management as far as replies from SMEs concerned. Particularly regarding the latter, it is noteworthy that whereas this item was in eighth place in 1994, it rose to second place this time. Subjects related to "financing" are ranked in third place and fourth place respectively, and "human resource development" is ranked sixth and first respectively (the item of the sixth place as an urgent problem for business management is also related to financing). Subjects related to "technology" are ranked fifth as a field requiring support from the government. As urgent problems for business management, items in third and fifth place are related to technology.

Table 9 Areas Requesting Support from the Government - Answering methods, two choices; No. of question: Q:G (1) -

Order	Particular	Replies from SMEs	%	Replies from LEs	%
1.	Marketing and sales promotion	87	43.3	14	38.9
2.	Tax incentives and subsidies	74	36.8	25	69.4
3.	Easy access to financing	74	36.8	10	27.8
4.	Reliable and continuous SME policy	58	28.9	12	33.3
5.	Technology up-grading	42	20.9	4	11.1
6.	Human resource development	35	17.4	3	8.3

Table 10 Urgent Tasks for Management - Answering methods, three choices, ranking; No. of question: Q:E -

	Score in 1999	Order in 1994	SMEs' Score in 1999	LEs' Score in 1999
① Manpower development	271	①	221	44
② Marketing development	263	⑧	224	30
③ Machinery and equipment	213	②	196	12
④ Financing	185	⑤	165	14
⑤ QC technology	167	④	123	38
⑥ Purchasing or raw materials and parts	109	n.a.	89	19
⑦ Export promotion	105	⑥	70	33
⑧ Production technology	80	③	63	15
⑨ Management skills	12	⑦	9	0
⑩ Production cost reduction	9	n.a.	8	1

(2) Results of World Bank questionnaire survey

Table 11 indicates the top five reasons for decline in output (production) and exports caused by the economic crisis, as extracted from results of a questionnaire survey conducted by the World Bank (see Chapter 1 of the Main Report, Section 1.3 for details). This table tells us that what small-size enterprises (of up to 150 employees in this case) consider as the largest problem for both output and exports is decline of demand. The next reason is rapid decline in the value of the baht, that is related to unstable political conditions. The next reasons are cost and financing, and these two factors constitute the third group of influences the economic crisis has exerted on small-size enterprises.

Table 11 Top Five Reasons of Decline for Small Industries

(Unit: % of the responding enterprises)

Decline of output	Decline of exports
(1) Domestic demand: 74%	(1) Poor demand: 64%
(2) Currency depreciation: 73%	(2) Unstable political condition: 62%
(3) Labor cost: 56%	(3) Price competitiveness: 56%
(4) Costly loans: 53%	(4) Exchange rate volatility: 55%
(5) Heavy debt burden: 41%	(5) High import costs: 49%

Chapter 5 Recommending Projects and Implementation Schedule

5.1 Strategic Objectives and Reasons for Recommending Projects

Strategy 1: Strengthening of SME Financing

[Aim]

To facilitate the flow of funds to SMEs through strengthening and reorganization of financial institutions and through introduction of new schemes.

Dissatisfaction with regard to the availability of and conditions for credit has a high score comparable to that of the problem of market development, according to results of questionnaire surveys and hearings. Unsatisfied requirements of working capital are a serious problem. According to the results of the questionnaire survey made for the previous study (1994), the number of enterprises requiring equipment funds was 80.2% of the total, and the number of enterprises requiring working capital was 57%. The targets of the previous study were small and automotive vehicle parts makers and electrical and electronics companies. In these two industries demand for working capital is stronger this time (80.6% as compared to 58.3% for equipment funds), indicating that the economic crisis has made fund raising by SMEs more difficult than before.

The financial problem SMEs of Thailand are confronting is that neither short-term nor long-term funds are flowing to SMEs in large part due to reluctance on the part of financial institutions. The reason why financial institutions are reluctant to provide loans to SMEs is their non-performing loan position and the Bank of International Settlements rating issue. Financial institutions themselves were forced to adopt management policy emphasizing self-protection, due to the economic crisis. Of course the fact that the earnings and collateral values of SMEs have dropped and the risk of lending to SMEs thus has increased is another cause for the tight credit market. This lack of

liquidity cannot be withstood by the SMEs for long. This situation can be said to be an inevitability of market principles, but it can also be considered to be a failure of the market if promotion of SMEs has to be made a priority item of economical development.

There are three basic methods for supporting SMEs in the area of financing.

- 1) Credit guarantees and insurance that compensates for the risk to financing institutions
- 2) Institutional SME banking
- 3) Equity participation

This report proposes a project for each method, as described below.

Project 1.1 Restructuring of the Credit Guarantee System

The purpose is to reorganize and improve the credit guarantee system so as to facilitate financing by commercial banks, the largest source of SME credit, or from government financial institutions.

Project 1.2 Strengthening of the SMEs Banking System

Private-sector financial institutions should play the core role in the supply of credit for SMEs. Government financial institutions for SMEs should play an important role to complement credit creations by private-sector financial institutions. Specific target loans, long-term loans, low-interest-rate loans and easing of collateral requirements, for instance, can be provided by these government financial institutions.

Project 1.3 Establishment of an Equity Participation System for SMEs

This project, proposed by the Thai Government, seeks to establish of a governmental venture capital fund and of a capital market for SMEs. Since this is the kind of project that requires long-term vision, and several difficult issues are involved, feasibility of this project should be carefully examined while considering the scale of the demand that this project could satisfy.

Strategy 2: Upgrading of Technological and Managerial Capability of SMEs

[Aim]

To establish methods and mechanisms for technology transfer to directly upgrade technological and managerial capabilities of SMEs in the field of production, and to support entrepreneurs in the SMEs sector.

This strategy seeks to work directly in the field of production to achieve the development concept, i.e., "to strengthen competitiveness bringing it up to the goal of the global standards." The importance of this strategy can be largely validated by Chapter 3 of the Main Report, Industry Promotion Plan for Each Sector (mainly in supporting industries).

The textile industry, apparel industry and food processing industry have considerable export competitiveness, but are facing competition with products made in China. Even in the electrical and electronics industry, parts manufacturers of small to medium scale do not have sufficient competitiveness except for larger companies in this bracket that are 100%-foreign-capital and export-oriented. In the automotive parts industry, it is already evident that manufacturers cannot keep up with the changes in market requirements (for lower cost, higher quality, better delivery performance, better ability to develop products). The supporting industries (parts manufacturers) for durable consumer goods and capital goods play a vital role of supporting the foundation of the industrial structure -- but their competitiveness is inferior when measured by the global standard. Four aspects are used here gauge the competitiveness of SMEs: quality, cost, delivery time, and research and development power.

It is widely accepted that for SMEs as opposed to LEs the personal qualities of the corporate owners and managers are the keys to success of the company. Similarly, unlike LEs, growth achieved by means of organizational power cannot be expected of SMEs. To overcome the handicap of lack of such organizational power, re-education of SME owners and managers is needed, may be required. Vitality of SMEs is maintained and modernization and

advancement of SMEs are achieved particularly by the unending metabolic cycled birth, growth decline and disappearance of enterprises.

The Team recommends the following projects based on the viewpoints above and on the current situations.

Project 2.1 Establishment of a Factory Evaluation System

Implementation of this as a priority project is called for by the IRP, based on the grand design of its implementation plan proposed by the Team. The project has two objectives: to create a suitable number of qualified SME consultants who are to first trained and then certified by a qualifying examination for evaluation of technical and managerial aspects of SMEs, and to start to implement evaluation of SMEs in parallel with developing the skills of these consultants. Further, this project also intends to facilitate financing by using evaluation results and reports when introducing enterprises to financial institutions.

Project 2.2 Introduction of an On-site Technical Guidance System

This project is aimed at establishing a truly effective technology transfer technique. Considering that this method was successful in a number of nations, its adoption on a substantial scale is expected. The basic concept is to transfer core technology by dispatching to factories professional having experience and knowledge of theory acquired by at least 20 years of work. Model enterprises would be selected as the first targets, to obtain a demonstration effect.

Project 2.3 Development of a "Total Quality Management" System of Thailand

The objectives of elevating the grade of Thai manufacturers and improving competitiveness will require many changes in corporate management. Overcharge believed to be particularly important in the widespread adoption of a systematic approach to quality management. Such an approach, known as Total Quality Management, encompasses production floor Quality Control and considerably more. It is judged not feasible to attempt an as-is adoption of an American, European or Japanese TQM system. This judgement is shared by

Thai business managers as well as managers of foreign-owned enterprises in Thailand. It is anticipated that when Total Quality Management and production management which is arranged for Thai is established, it alone would significantly contribute to upgrading of competitiveness. This is a long-term undertaking that must start with a fundamental study.

Project 2.4 Provision of an Assistance Package for Incubation of SMEs

This project is proposed based on the viewpoint that activation, modernization and advancement of SMEs will be achieved in good part by birth of new enterprises. A number of entrepreneur support programs are available in Thailand. But this project is a package program to support entrepreneurs requiring initial equipment funds of a considerably large amount, and the program thus includes financial aspect.

Project 2.5 Enhancement of Technology Transfer from LEs to SMEs

It is important to consolidate that part of the business environment that facilitates procurement by LEs of locally-produced materials parts, and components as a strategy for promoting subcontracting enterprises. It should be possible to support technology transfer from LEs to SMEs by a method that is advantageous to both, with combinations LEs and SMEs having business relations to each other as the objectives. Identical projects have been implemented in several nations. A balanced method that provides advantages to both sides, such as a tax incentive, could be efficacious. Consideration is merited for measures that provide incentives to large enterprises to provide guidance to subcontractors (SMEs) over the long term. Such measures may be tax incentives based on the LEs' efforts as evidenced in the dispatch of expert advisers, or the long-term supply of equipment, to SMEs.

Strategy 3: Development of Human Resources for SMEs

[Aim]

To secure human resources for SMEs and to eliminate inequity to SMEs workers, through development of human resources, i.e., managers.

The most urgent problem facing corporate managers at the time of the earlier questionnaire survey was "manpower development." This is absolute after the economic crisis, signifying that the quality of workers is clearly the most important problem for SMEs.

What are important for present purpose are (1) methods for implementation of manager education, job training and practical skill testing and (2) the system to supply suitable human resources to SMEs. Regarding manager education, efforts have been made by the Bureau of Industrial Enterprise Development, Department of Industrial Promotion, for a long time, now the but Institute for SME Development was established to expand these efforts. Vocational training is implemented by various entities. But the common problems are that training does not necessarily match needs in the private sector, training equipment is either insufficient or obsolete; and trainers are in short supply. Similarly, problems are being encountered regarding improvement the skill standards certification scheme. The three projects below can be seen as follow-up to projects proposed during the previous study. Strengthening of public education was excluded from the scope of this study.

Project 3.1 Establishment of the Institute for SME Development

This project was proposed by the Government of Thailand, and the institute was established this year. The concept of this institute is based in part on that of The Institute of the Japan Small Business Corporation in Japan. At this early stage, there are some aspects of ISMED which have not yet been well organized, but it is expected that they will receive due attention at an appropriate time. The basic concept is that eight universities, including Thammasat University, will cooperate with ISMED to train business managers, executive trainees and entrepreneurs, as well as performance of study and

research on SMEs. There is a long-term plan to train SME consultants (evaluators) at ISMED in the future. This report introduces the concept of the Government of Thailand without further analysis or comment.

Project 3.2 Institutional Support for Ensuring of Manpower Supply for SMEs

Enterprises replied that finding workers to hire became easy after the economic crisis, according to results of the questionnaire survey. Job hopping, which had been a managerial headache before, has been reduced because of the recession. In a long-term view, however, measures to facilitate matching demand and supply of workers are needed. Both workers and employers would benefit. The purpose of this project therefore is to establish an information network mainly for SMEs to use to secure human resources. Continual monitoring of the labor market and reporting of the findings to relevant organizations constitutes a priority project of the IRP. It is also a basis for proposing this project.

Project 3.3 Improvement of Skill Standard Certification in Cooperation with the Private Sector

An identical proposal was made in the Supporting Industry Study Report in 1995. It included key aspects. One was to extend the target categories of skill certification from repair to essential technologies (casting, metal stamping, plastic resin processing, mold production) of manufacturing. Another was outsourcing of certification to the private sector. It appears, however, that the desired results were not necessarily obtained. Subsequently the scope of the standards was expanded to include inspectors, and testing equipment was improved, but results overall have not been particularly noteworthy. It is therefore proposed to improve the system by adopting outsourcing, whereby, certificates of course completion or technical qualification issued by a private company would under predetermined conditions be recognized by the government as the equivalent to receiving official certification. Therefore, the Team now proposes going one step further, to grant public skill certification to those who have finished training courses of private-sector enterprises for training their employees.

This proposal is based on the fact that certificates of the completion of training courses issued by the training institute of a certain global enterprise in Thailand are highly valued when workers seek to progress in their careers by seeking a new job. What determines success or failure of this project narrows down to what incentives the government can provide for LEs to perate their own training institutes. This is because, the beneficiaries, would include the government (that can enjoy an advantage in that the public burden of training in reduced) and the workers (who acquire public qualification). Even if designed differently from the present proposal, such a system whereby upgrading of technique and technology of workers gives them the promise of a better life in the future while it contributes ot the effort to improve the technological and quality levels of Thai products should be introduced.

Strategy 4: Securing of markets for SMEs

[Aim]

To support securing of product markets, which has become an urgent problem for the majority of SMEs after the economic crisis.

According to the questionnaire survey results, with regard to white collar workers, maximal importance must be attached to ensuring that SMEs have adequate access to markets. Access to markets, moreover, was of first-place importance with regard to what is desired of the government.

SMEs are currently facing management difficulties due to contraction of domestic markets. There are not many supporting measures which can be taken by the government regarding recovery of the markets, as the market mechanisms can hardly be controlled. In the domestic market, however, preferential access of government demand to SMEs can be considered; and regarding the export market, addition of incentives and improvement of channels to foreign markets can be considered. The former practice is adopted by many governments, in both industrialized and developing countries.

Project 4.1 Introduction of Preferential Purchase of SMEs Products by the Public Sector

SMEs are inferior in the market-developing ability in general and they are not blessed with opportunities for bidding for large-scale contracts compared to LEs. The public sector can more fairly open the market by granting more opportunities to SMEs when the government itself contracts for the purchase of goods and services. This conforms with the objective of promotion of SMEs. This is a common practice, but is subject to certain international rules. Moreover, once the regulatory legislation is in place and administrative preparations are completed, the desired effects would be quick to come.

Project 4.2 Strengthening of Export Promotion Activities

The sharp drop in domestic demand consequent to the economic crisis has plunged the SME sector, that is primarily dependent on domestic demand, into a state of great danger. Makers of assembled goods, however, have benefited from the weaker baht, that has increased earnings a result thereof. Under prevailing circumstances, Government support is justifiable for companies that have export potential but cannot realize that potential without aid. The reason for this is that SMEs are at the absolute limit in terms of their ability to develop a foreign market. Development of export markets, to these companies, is a daunting task. This project consists of two points that are recommended to the Government for implementation, namely,

- 1) Informing the foreign customers and overseas wholesalers of export products available from Thailand.
- 2) Supply of information on overseas markets to Thai SMEs.

Strategy 5: Improvement of Business Environment for SMEs

[Aim]

The purpose of this Strategy Cluster is to improve the business environment for SMEs.

If improvement of the business environment of SMEs is taken in its broadest meaning, then all projects in these clusters or groups could be classified as being in this category. But here are included projects that are difficult to classify, or cover a very broad field or are very generalized in nature.

This Strategy Cluster encompasses institutional measures including tax incentives, a variety of preferential measures, and measures to improve the infrastructure. Tax incentives and preferential finance are of major importance among them. Regarding tax incentives, the questionnaire survey indicated that there were problems related to delays in the refunding of VAT and irrational aspects of the import duties system. Regarding these measures, significant results are to be expected of the forthcoming SME Promotion Act and the three finance-related projects described in Strategy 1 above.

Below are two infrastructure projects that are recommended for implementation. Project 5-2 is not limited to SMEs in scope but is an urgent matter that covers to industry as a whole.

Project 5.1 Development of Information Networks for SMEs

One of the largest problems in business management for locally-based SMEs is how to acquire valuable information. It is the same in any nation in general. In Thailand, for the Greater Bangkok region is the nations largest market products and procurement of industrial raw materials. Enterprises which do not have a base in this area are greatly handicapped. It is identical in the case of investment, and such circumstances have contributed to centralization of both economic and financial activity, and information, in the region.

Recent advances of information technology provide a means for improvement of this problem. The Ministry of Industry identified the matter of promotion of local information technology as one of the IRP projects. Ministry officials are planning to create a database of information relevant to local industry and to disclose the information at a website. It is expected that preparation of data and hardware are executed for some time from the viewpoint of promotion of investment. When it is extended to market development, finding of partners, etc. in the future, it will become possible to reduce the costs (personnel expenses, travel expenses and other expenses), which are currently born by local SMEs for acquisition of information, and the time can be saved in addition.

Project 5.2 Improvement of Standards and Conformance Infrastructure to Promote Export

In general, most developed countries have their own safety standards for the electrical and electronics products and require all such products to meet those standards. This system aims at not only to protect the people's safety and property in daily life but also to improve the production technology of the local manufacturers. In the world market today, there are more and more imported electric and electronic products from China, Russia, Italy and Turkey being sold, at lower prices than those of products of Thailand. But some of those products are not well guaranteed as to safety, in connection, for instance, with flammability, mechanical strength, radiation of electromagnetic waves and so on. No safety standard for electric and electronic now exists in products in Thailand. Establishment and dissemination of safety standards in Thailand is required to promote export of these products from Thai to the developed countries. Once a Thai manufacture could meet the Thai safety standard, it would then become easier to export.

Special Projects for the Supporting Industries

The two institutes introduced below were separated from the Thai Industrial Standards Institute, of MOI. The Team proposed a basic plan, by working closely with the responsible persons of the institutes. Staffing of the institutes was commenced based on the proposal of the Team, as of May 1999.

Project S.1 Thailand Automotive Institute

Thailand Automotive Institute (TAI) was established in July 1998 as an independent and non-profit organization under the Industrial Development Foundation, MOI. The automotive related activities which Thai Industrial Standards Institute has been offering are as follows:

- 1) Provides testing for automobiles, automotive parts as well as raw materials
- 2) Provides automotive-related information, consultation and training to elevate the standard of Thai automotive industry to the international level.
- 3) Coordinates and cooperates among related agencies, including governmental and private and local and international agencies, to ensure systematic development of the Thai automotive industry.
- 4) Conducts research on automotive-related topics in order to make recommendation on policies, strategies, and development plans for the industry.

Project S.2 Setting up of Electrical and Electronics Institute

The Electrical and Electronics Institute (EEI) is an independent and non-profit organization under the Industrial Development Foundation, MOI and was established in July 1998. It has the objective of strengthening the competitiveness of Thai electrical and electronics industry in the international market. Activities and functions of EEI are mostly the same as those of TAI.

Project S.3 SIC - Tool and Mold Technology Development Project

In July 1999, JICA agreed with DIP to supply equipment and dispatch experts in connection with the SIC project for tool and mold development. BSID

would be the implementing agency. The purpose is to promote the domestic production of better-quality tools and molds for the plastics industries. By thus combined a technical center for the plastics industry with the metalworking enter functions already existing at MIDI, the BSID will acquire a broadbased institution that will support the financial sector.

5.2 Implementation Schedule

(1) Project Evaluation at the Workshop

Concerning all the proposed projects, the Team held a workshop during the third field survey and had the opportunity to hear opinions of the Thai persons concerned. The workshop was attended by people of MOI departments and bureaus, NESDB, SIFC, etc. At the end of the workshop, the Team asked the attendees to evaluate the "necessity," "urgency," and "feasibility" of each of the proposed projects and "effects" of each project when implemented. The evaluation results are shown in Table 12. The evaluations by 14 Thais are shown, together with the evaluations by 11 members of the Team.

In the table, the figures indicate the numbers of people who evaluated any of the above four qualities (a total of 14 persons on the Thai side and a total of 11 persons on the Japanese side). Each item was evaluated using a 3-point scale (generally, 3=highest; see below). Needless to say, the persons who did the evaluations differ in the degree of understanding of the contents of each project and to some extent in the implied meaning of the points of 3 to 1. Therefore, the Team used the evaluation results more as a reference in determining priority of each of the projects on the basis of the general trends reflected in the evaluation results.

The following points may be derived as general trends from the evaluation results.

- 1) Both the Thai and Japanese agreed on the high "necessity" of most of the projects. This is evident from the fact that more persons give 3 points and less persons give 1 point than for any other items. In particular, Credit Guarantee System (1.1), Export Promotion (4.2), and Establishment of ISMED (3.1) received high sources.

- 2) With respect to "feasibility," there is a wide variance in opinions of the Thai and Japanese workshop participants. In this evaluation item, point 3 means that the feasibility is high. The projects that were given point 3 are Factory Evaluation System (2.1), Establishment of ISMED (3.1), and Export Promotion (4.2). By contrast, the projects that were considered less feasible by relatively many persons are Equity Participation System (1.3) and Technology Transfer (2.5). Characteristically, the Thai side regards Project 2.5 less feasible.
- 3) With respect to "urgency," the Thai side and the Japanese side give nearly the same evaluations. This also applies to results of evaluation of the individual projects. The projects that were highly rated are Credit Guarantee System (1.1), SME Bank (1.2), and Export Promotion (4.2). These projects are regarded as particularly effective.
- 4) As to "effects" of project implementation, the Thai and the Japanese differ most in evaluation. The Japanese gave low scores, indicating that they expect the effects to be not very large. The projects that were highly rated are Credit Guarantee System (1.1), Establishment of ISMED (3.1) (especially by the Thais), and Export Promotion (4.2).
- 5) In overall terms, of the individual projects, Export Promotion (4.2), Credit Guarantee System (1.1), and Establishment of ISMED (3.1) are highly evaluated. In particular, the fact that Strengthening of Export Promotion Activities (4.2) received the highest evaluation coincides with the results of field surveys.

Generally speaking, apart from budgetary measures, projects which are strongly related to existing measures (or projects that are in the IRP) and which require less coordination with other parts of the government or organizations have a higher possibility of early realization. That is, since the necessity of the individual projects is recognized, the results of evaluation of the degree of urgency should be used as an indicator of the priority of projects. In this context, the following three projects are judged the most urgent ones as a result of the workshop.

- Restructuring of the credit guarantee system (1.1)
- Establishment of the Institute for SME Development (3.1)
- Strengthening of export promotion activities (4.2)

Of these, implementation of the ISMED project has already begun.

(2) Projects which Require Enactment/Revision of Legislation

Implementing of the projects requires legal and other adjustments. The projects can be classified by these preconditions requirements as follows.

- 1) Projects which require enactment or revision of legislation for implementation
- 2) Entirely new projects which do not require enactment or revision of legislation
- 3) Projects which are extensions of existing measures and which utilize or reinforce them

Table 13 shows the conditions and characteristics of all projects. Of the 17 projects, those which require enactment of new laws or revision of existing laws and systems are as follows.

- Restructuring of the credit guarantee system (1.1)
- Strengthening of SME banking system (1.2)
- Establishment of an equity financing facility for SMEs (1.3)
- Provision of an assistant package for incubation of SMEs (2.4)
- Establishment of the Institute for SME Development (3.1)
- Establishment of a certified skill-standards system (3.3)
- Introduction of preferential purchase of SME products by the public sector (4.1)

Some projects will probably call for new ministerial decrees or other action. It is uncertain how long it will take to prepare for the implementation of those projects. At any rate, the government agencies concerned should be requested to prepare for the enactment or revision of laws, decrees etc. at the earliest possible date. The reason for this urgency is that the greatest danger

in the stage of implementation of a project of this sort is that the optimum timing of implementation is missed due to a delay in legal procedures. Similar projects have been carried out overseas. It is recommended that necessary legislation be prepared referring to those projects and giving due consideration to the domestic conditions of Thailand.

(3) Priority of Projects

In the present survey, the Team supposed formulated a long-term (five-year) plan and a short-term or emergency measures plan. The term "emergency measures plan" as used here refers to a project which can be started up quickly and produces immediate effects.

In this context, it is necessary to expedite the ISMED project that was started last June and implement at the earliest possible date the export promotion measures that the Ministry of Commerce has hammered out since the beginning of 1999. The Factory Evaluation System (2.1) project too may be included in projects of this sort since it has already been started as an IRP project. It may be said that though the above projects call for great urgency, they should be continued for a long time. With respect to capital liquidity measures, several measures are to be taken but no specific program to improve the financial guarantee system is provided. Though such measures take considerable time to start up and require long-term responses, they are positioned as a project that should be started as early as possible.

All the other projects are recognized to be necessary and should be given most favorable consideration. Namely, all the 18 proposed projects should be incorporated in the master plan. In view of operational realities when some of the projects are in the same Strategy Cluster or implemented by the same body, they may be started at different times.

From the above viewpoint, provisional priority of the projects for implementation has been proposed as in Table 14. Criteria for assigning priority in Table 14 are based on the evaluation results at the workshop, judgment of the operational capability of the implementing agencies which have more than two projects, and project conditions as given in Table 13. Two projects which are ranked in third place are entirely new projects but

involve many institutions so that it will take more time for coordination, and have the lowest rank in the workshop evaluation. Among the remaining projects, there are no substantial differences between first and second, so that the projects which have already been started or are higher ranked BSID projects are given first priority for the present.

Table 15 shows the timetable for implementation of the 18 projects based on the above.

Table 12 (a) EVALUATION OF PROPOSED PROJECTS

Project No.	(1) Necessity						(2) Urgency						(3) Feasibility						(4) Impact						Total Point of Level 3			
	3		2		1		3		2		1		3		2		1		3		2		1		Thai	JICA	Total	
	Thai	JICA	Thai	JICA	Thai	JICA	Thai	JICA	Thai	JICA	Thai	JICA	Thai	JICA	Thai	JICA	Thai	JICA	Thai	JICA	Thai	JICA	Thai	JICA	Thai	JICA	Total	
1.1	12	9	2	2	0	0	10	9	4	2	0	0	6	2	5	9	3	0	10	6	3	5	1	0	38	26	64	
1.2	9	8	5	3	0	0	9	9	5	2	0	0	4	4	7	6	3	1	6	3	7	8	1	0	28	24	52	
*1.3	7	4	5	2	1	5	6	3	4	3	3	5	3	1	5	6	5	4	5	1	6	7	2	3	21	9	30	
2.1	8	6	6	2	0	3	7	4	7	5	0	2	7	5	4	4	3	2	8	4	5	4	1	3	30	19	49	
2.2	9	6	4	4	1	1	6	4	8	6	0	1	7	3	7	7	0	1	7	3	7	6	0	2	29	16	45	
*2.3	7	4	7	6	0	0	5	2	8	6	1	2	4	0	8	8	2	2	8	2	5	7	1	1	24	8	32	
2.4	8	3	5	6	1	2	5	0	7	7	2	4	6	0	6	3	2	3	5	0	7	7	2	4	24	3	27	
2.5	10	7	3	3	1	1	7	5	6	5	1	1	2	4	7	6	5	1	8	4	5	6	1	1	27	20	47	
3.1	11	7	3	4	0	0	9	6	5	4	0	1	7	6	5	5	2	0	11	3	3	7	0	1	38	22	60	
3.2	7	4	7	7	0	0	4	2	10	8	0	1	6	1	7	8	1	2	6	1	7	7	1	3	23	8	31	
3.3	11	5	3	6	0	0	3	3	11	7	0	1	3	4	9	6	2	1	7	1	7	10	0	0	24	13	37	
4.1	6	5	7	5	1	1	4	4	6	5	4	2	4	5	7	4	3	2	7	5	6	5	1	0	21	19	40	
4.2	10	10	4	1	0	0	11	8	2	3	1	0	9	3	4	7	1	1	9	7	3	4	2	0	39	28	67	
5.1	9	4	5	6	0	1	5	2	6	7	3	2	5	0	6	11	3	0	7	0	7	8	0	3	26	6	32	
5.2	9	4	5	7	0	0	5	4	6	6	3	1	5	3	6	6	3	2	7	3	7	7	0	1	26	14	40	
*S1	9	8	5	2	0	0	7	7	7	3	0	0	4	4	8	4	2	2	7	3	4	5	3	2	27	22	49	
S2	8	8	6	2	0	0	6	7	8	3	0	0	4	5	8	3	2	2	7	4	4	4	4	3	2	25	24	49
Total	150	102	82	68	5	14	109	79	110	82	18	23	86	50	109	108	42	26	125	50	93	107	19	26	470	281	751	

Number of answers = 25 (Thai side 14, JICA side 11)

*: 1 person not answer.

Source: JICA Study Team

Table 12 (b) TOTAL SCORE OF PROPOSED PROJECTS EVALUATION

No.	Name of Project	(1) Necessity		(2) Urgency		(3) Feasibility		(4) Impact		Total (Average)②	
		Total	(Average)①	Total	(Average)①	Total	(Average)①	Total	(Average)①		
4.2	Export promotion	70	(2.80)	68	(2.72)	60	(2.40)	64	(2.56)	262	(10.48)
1.1	Credit guarantee	71	(2.84)	69	(2.76)	55	(2.20)	65	(2.60)	260	(10.40)
3.1	ISMED	68	(2.72)	64	(2.56)	61	(2.44)	63	(2.52)	256	(10.24)
1.2	SME banking	67	(2.68)	68	(2.72)	54	(2.16)	58	(2.32)	247	(9.88)
*S1	TAJ	65	(2.71)	62	(2.58)	52	(2.17)	53	(2.21)	232	(9.67)
2.2	Circular guidance	63	(2.52)	59	(2.36)	59	(2.36)	58	(2.32)	239	(9.56)
2.1	Factory evaluation	61	(2.44)	59	(2.36)	57	(2.28)	58	(2.32)	235	(9.40)
2.5	Technology (LEs to SMEs)	65	(2.60)	60	(2.40)	50	(2.00)	60	(2.40)	235	(9.40)
3.3	Skill-standards	66	(2.64)	55	(2.20)	54	(2.16)	58	(2.32)	233	(9.32)
S2	EEI	64	(2.56)	61	(2.44)	53	(2.12)	54	(2.16)	232	(9.28)
5.2	Standardization	63	(2.52)	55	(2.20)	53	(2.12)	59	(2.36)	230	(9.20)
4.1	Preferential purchase	59	(2.36)	52	(2.08)	54	(2.16)	59	(2.36)	224	(8.96)
*2.3	TQM system	59	(2.46)	52	(2.17)	48	(2.00)	56	(2.33)	215	(8.96)
3.2	Securing manpower	61	(2.44)	55	(2.20)	54	(2.16)	53	(2.12)	223	(8.92)
5.1	Info. Technology	62	(2.48)	52	(2.08)	52	(2.08)	54	(2.16)	220	(8.80)
2.4	SME incubation	58	(2.32)	49	(1.96)	51	(2.04)	49	(1.96)	207	(8.28)
*1.3	Equity participation	53	(2.21)	49	(2.04)	43	(1.79)	49	(2.04)	194	(8.08)
Total (Average) ①		1,075	(2.55)	989	(2.34)	910	(2.16)	970	(2.30)	3,944	(9.34)

(Note) Number of answers = 25 (Thai side:14, JICA side:11)

*One person did not answer.

Average ① Full mark = 3 points

Average ② Full mark = 12 points

(Source) JICA Study Team

**Table 13 REQUIREMENTS FOR IMPLEMENTATION OR
NATURE OF PROJECTS**

Proposed Project	Legalize	Existing	New
Strategy 1. Strengthening of SMEs 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 technology and managerial capability of SMEs			
2.1 Establishment of a factory evaluation system		○	
2.2 Introduction of a circular technical guidance system			○
2.3 Development of total quantity management system for 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 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 preferential purchase 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 technologies and 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)	○	○	

Note: "Legalize" means (1) Projects which require enactment/revision of legislation for implementation.
 "Existing" means (3) Project which are extensions of existing measures and which utilize or reinforce them.
 "New" means (2) entirely new project.

Table 14 PRIORITY FOR EXECUTION OF THE PROPOSED M/P

Proposed Project	1st	2nd	3rd
Strategy 1. Strengthening of SMEs 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 technology and managerial capability of SMEs			
2.1 Establishment of a factory evaluation system	■		
2.2 Introduction of a circular technical guidance system		■	
2.3 Development of total quantity management system for 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 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 preferential purchase 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 technologies and 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)	■		

Table 15 TIME TABLE FOR IMPLEMENTATION OF 17 PROJECTS

Proposed Project	1st Year/1999	2nd Year/2000	3rd Year/2001	4th Year/2002	5th Year/2003
Strategy 1. Strengthening of SMEs Financing		Capital increase & institutional Build-up	Capital increase & institutional Build-up	Set up contingency fund	2nd Capital increase
1.1 Restructuring of the credit guarantee system	Examination in MOF	Setting up New CGC	Build-up	Full operation	Full operation
1.2 Strengthening of the SME banking system	Preparation of M/P	Revise the SIFC Act	Reorganization	Full operation	Expand the target industry
1.3 Establishment of an equity participation system for SMEs	Policy making	Submission new legislation	Preparation	Set up the funds	Full operation
Strategy 2. Upgrading of technology and managerial capability of SMEs			1st Phase (limited target No.)	2nd Phase	
2.1 Establishment of a factory evaluation system	Institutional Build-up (trial period)			Full operation	
2.2 Introduction of a circular technical guidance	Project Preparation	Trial period & Training new staff	Reorganization	Full operation	
2.3 Development of a Thai system for TQM and production improvement	Policy making	Pre-FIS Preparato	Trial	Full operation	
2.4 Provision of an assistant package for incubation of SMEs	Policy making	Pre-FIS	Preparation	Institutional Build-up	Operation
2.5 Enhancement of technology transfer from LEs to SMEs	Program planning		Subcontracting system evaluation		Tax deduction & financial support
Strategy 3. Development of human resources for SMEs					
3.1 Establishment of Institute for SME Development (ISMED)	Institutional Build-up		Full-operation		
3.2 Institutional supports for securing manpower for SMEs	Cooperate with DOE DSD		(Development of training equipment; Research work; Database development)	Full-operation, network development	
3.3 Establishment of a certified skill-standards in cooperation with the private sector	Database development	Cooperate with prime sector		Increase type of job	Full operation
Strategy 4. Securing of markets for SMEs'					
4.1 Introduction of preferential purchase of SME products by the public sector	Research and preparation	Legislation	1st year purchasing	2nd year purchasing	
4.2 Strengthening of export promotion activities	Operation	Review	Additional plans	Review	Operation
Strategy 5. Improvement of business environment for SMEs					
5.1 Development of information technologies and networks for SMEs	DJP's software development	Promote & training		Development network	
5.2 Improvement of standards and conformance infrastructure to promote export	Budgeting for the project			Institutional support	
Supporting Industries					
S.1 Setting-up of Thailand Automotive Institute (TAI)	Preparation to testing & certificate	Preparation for other services	Full operation		
S.2 Setting-up of Electrical and Electronics Institute (EEI)	Preparation for testing facilities	Service start	Full operation	also development other functions	
S.3 SIC-Tool and Mold Technology Development Project	Building Construction	Equipment supply	Full operation		

Note: 1st Year means Aug.-Dec. 1999, but other years suppose calendar year.

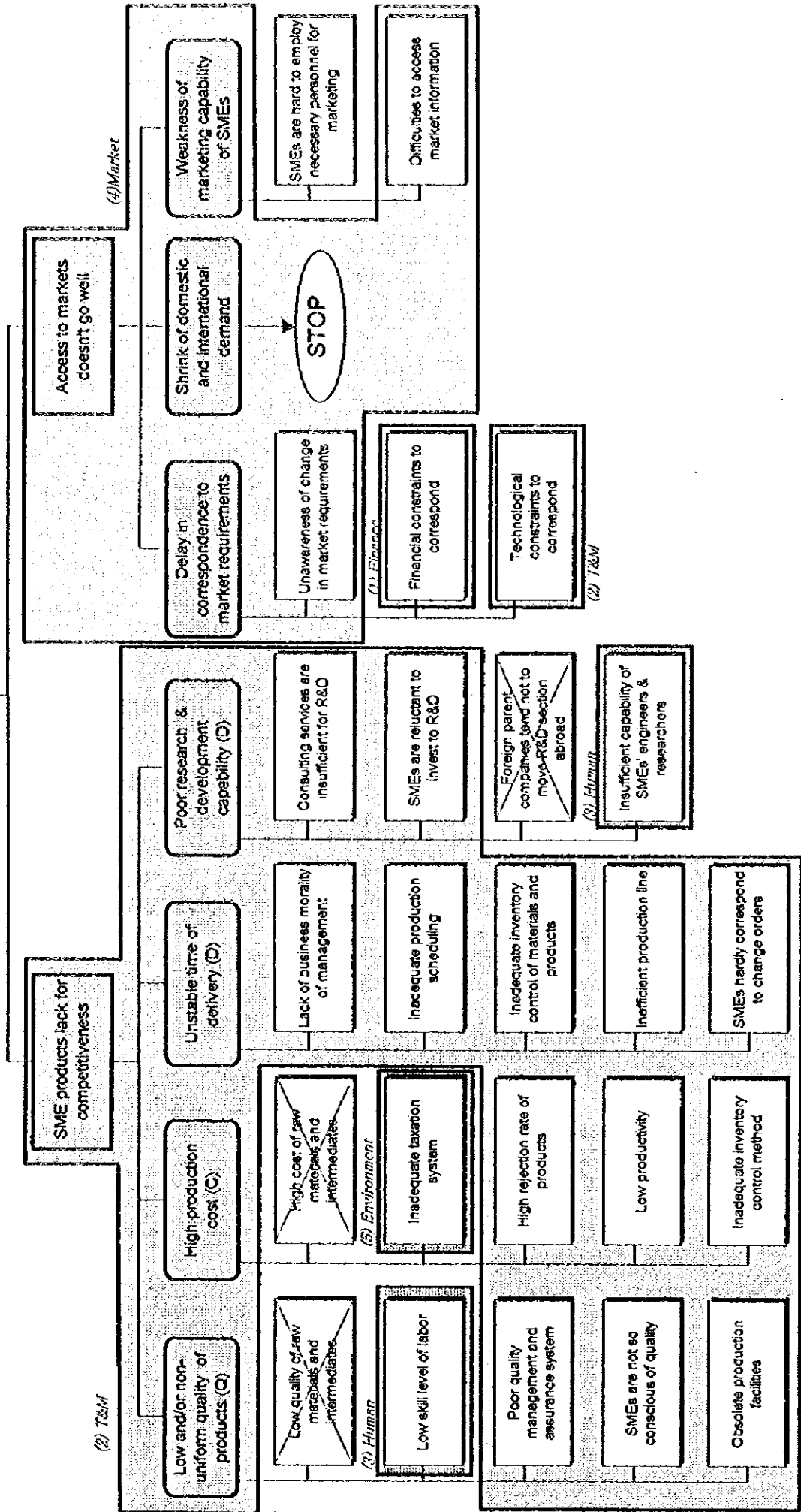


ANNEX

PROBLEM TREE OF SMEs IN THAILAND (OVERALL)

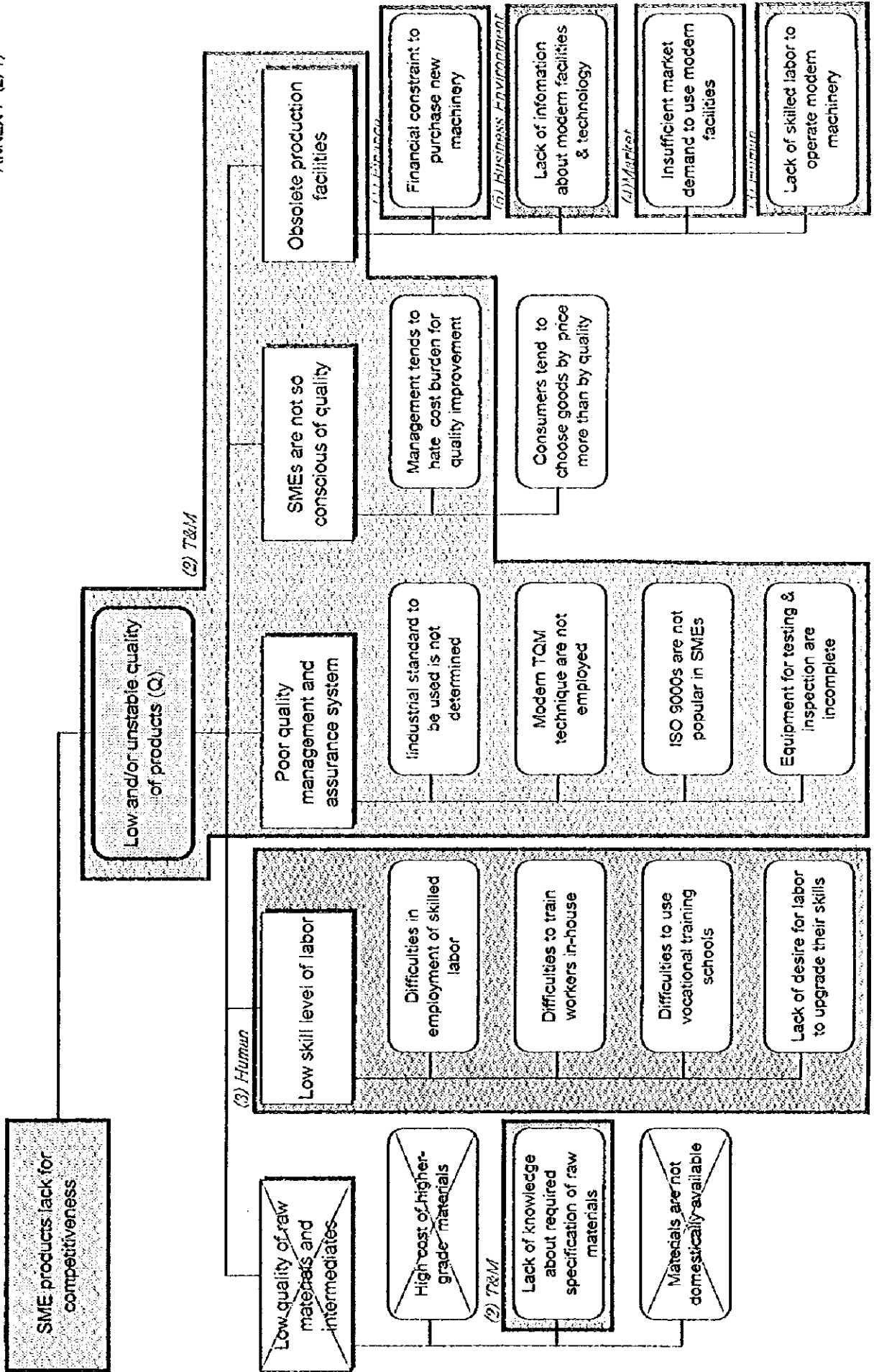
ANNEX 1 (1/7)

Sales of SME products are in a slump

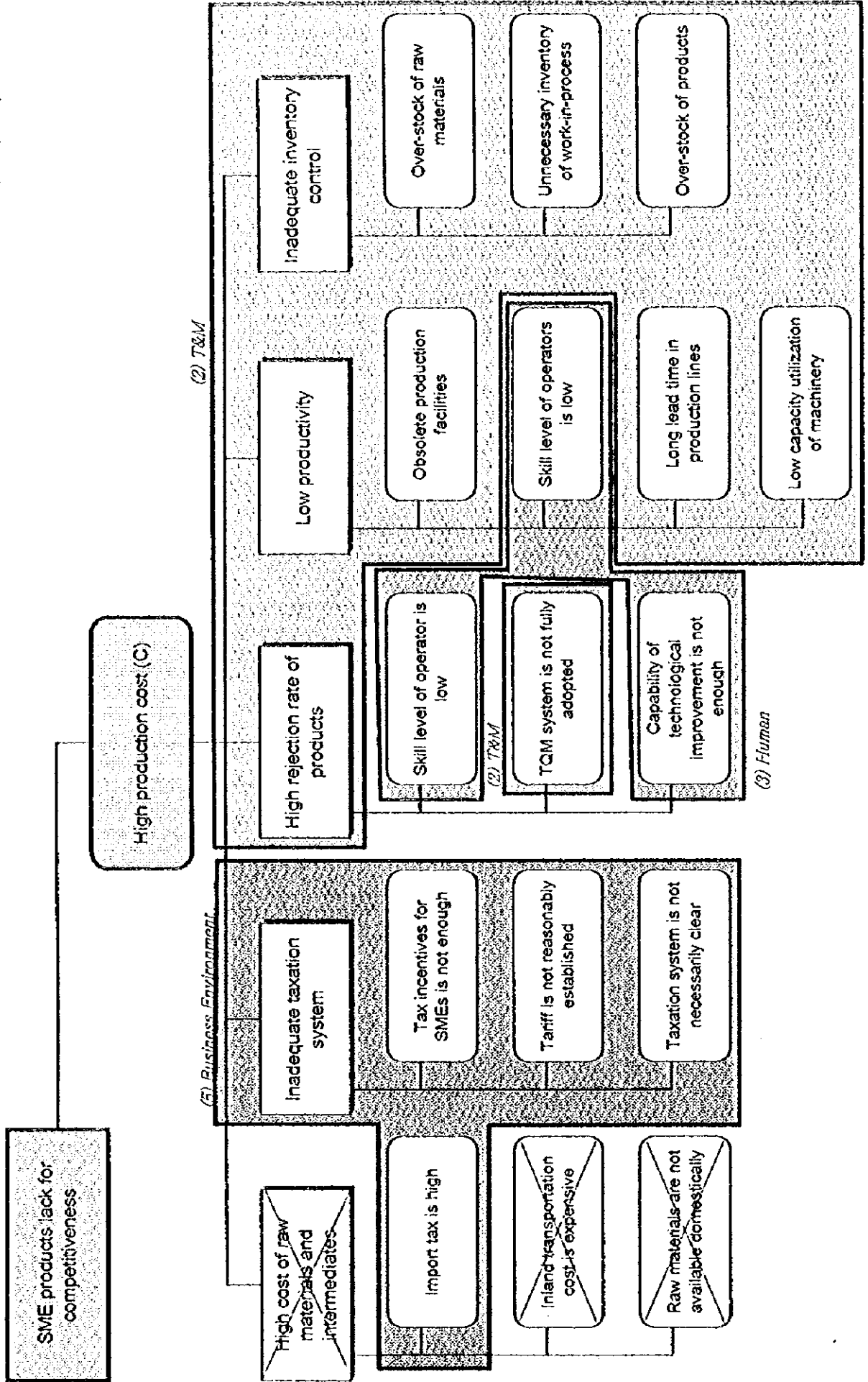


PROBLEM TREE FOR QUALITY

ANNEX 1 (2/7)



PROBLEM TREE FOR 'COST'



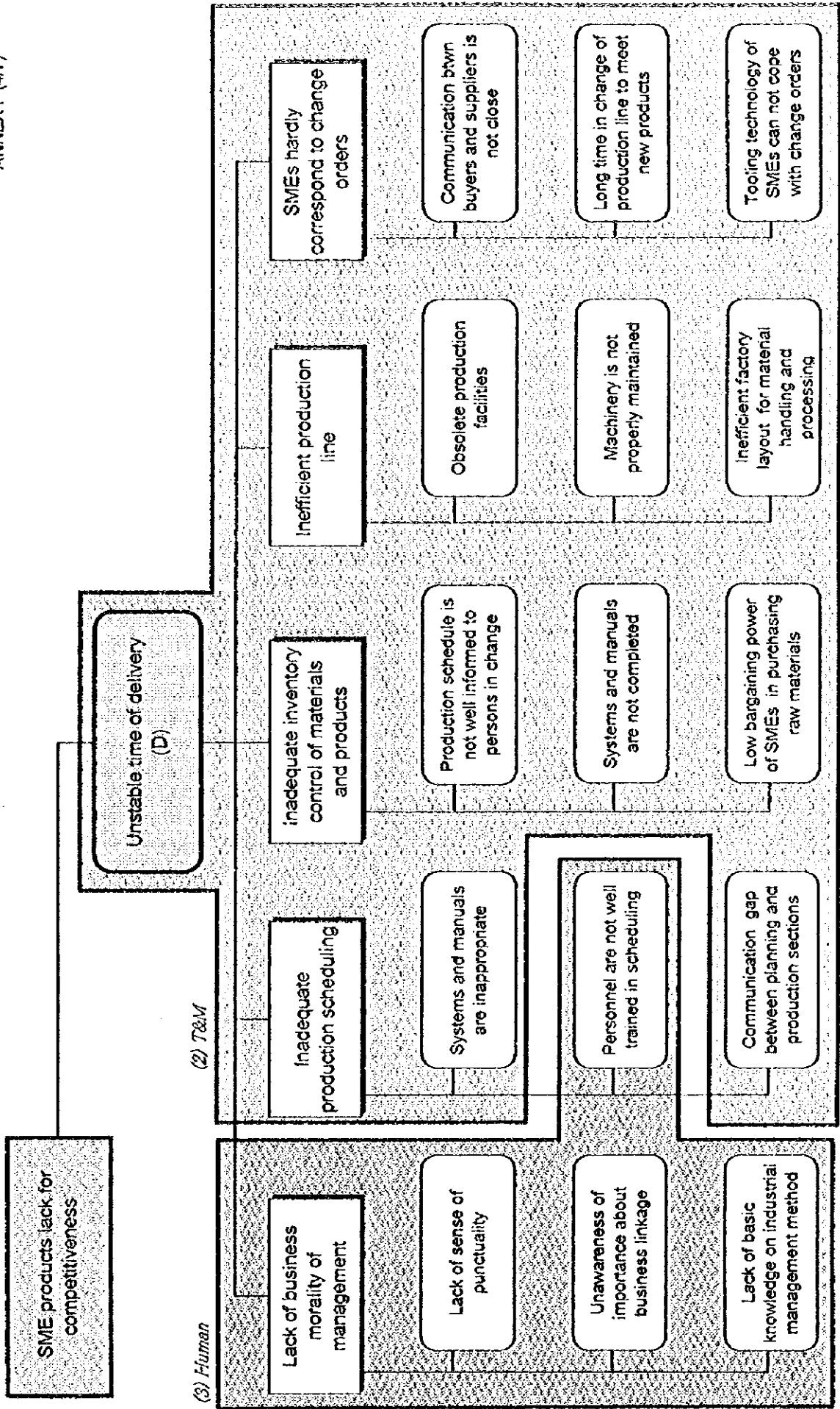
(3) Fluman

(2) T&M

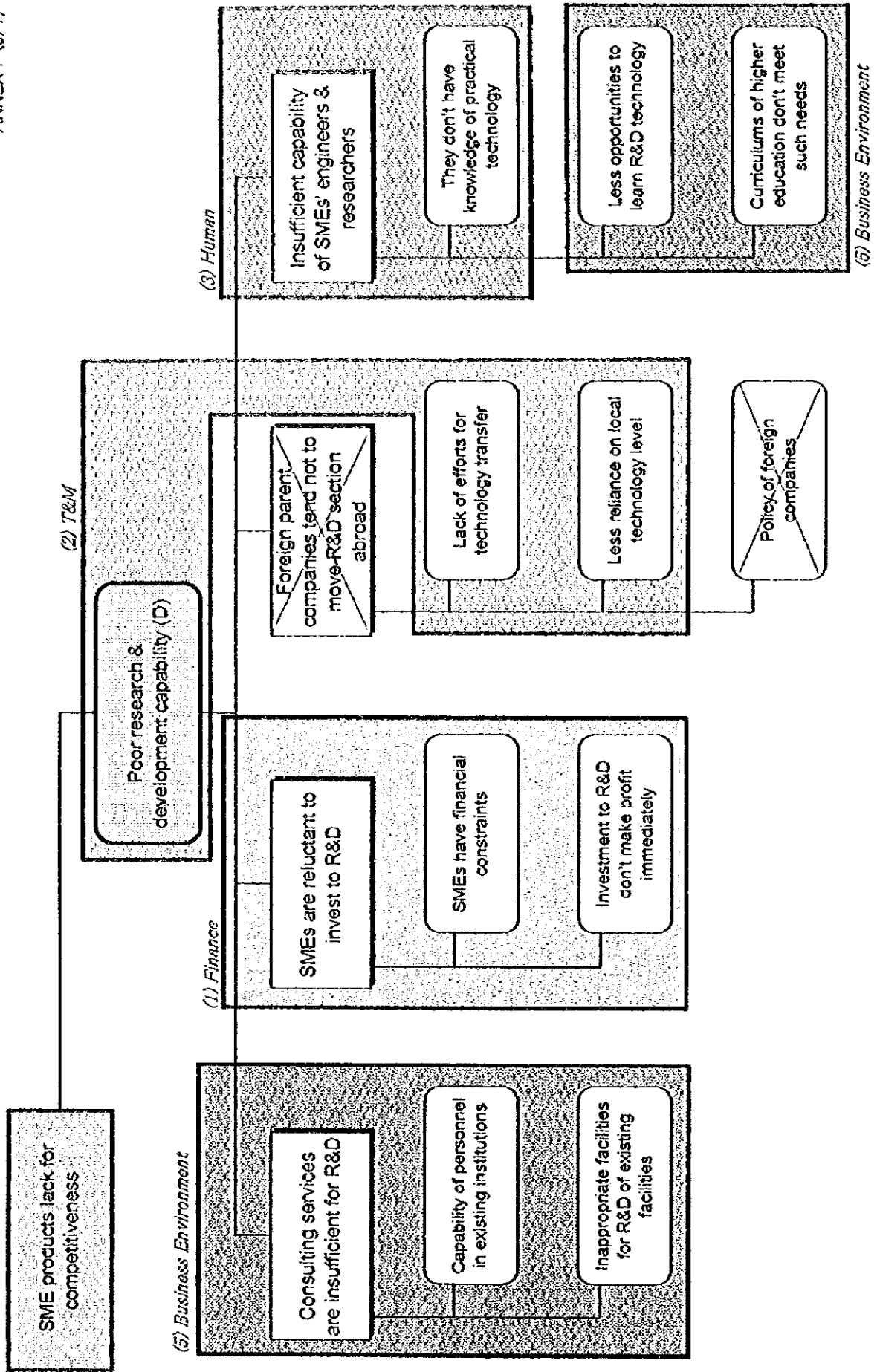
(5) Business Environment

(2) T&M

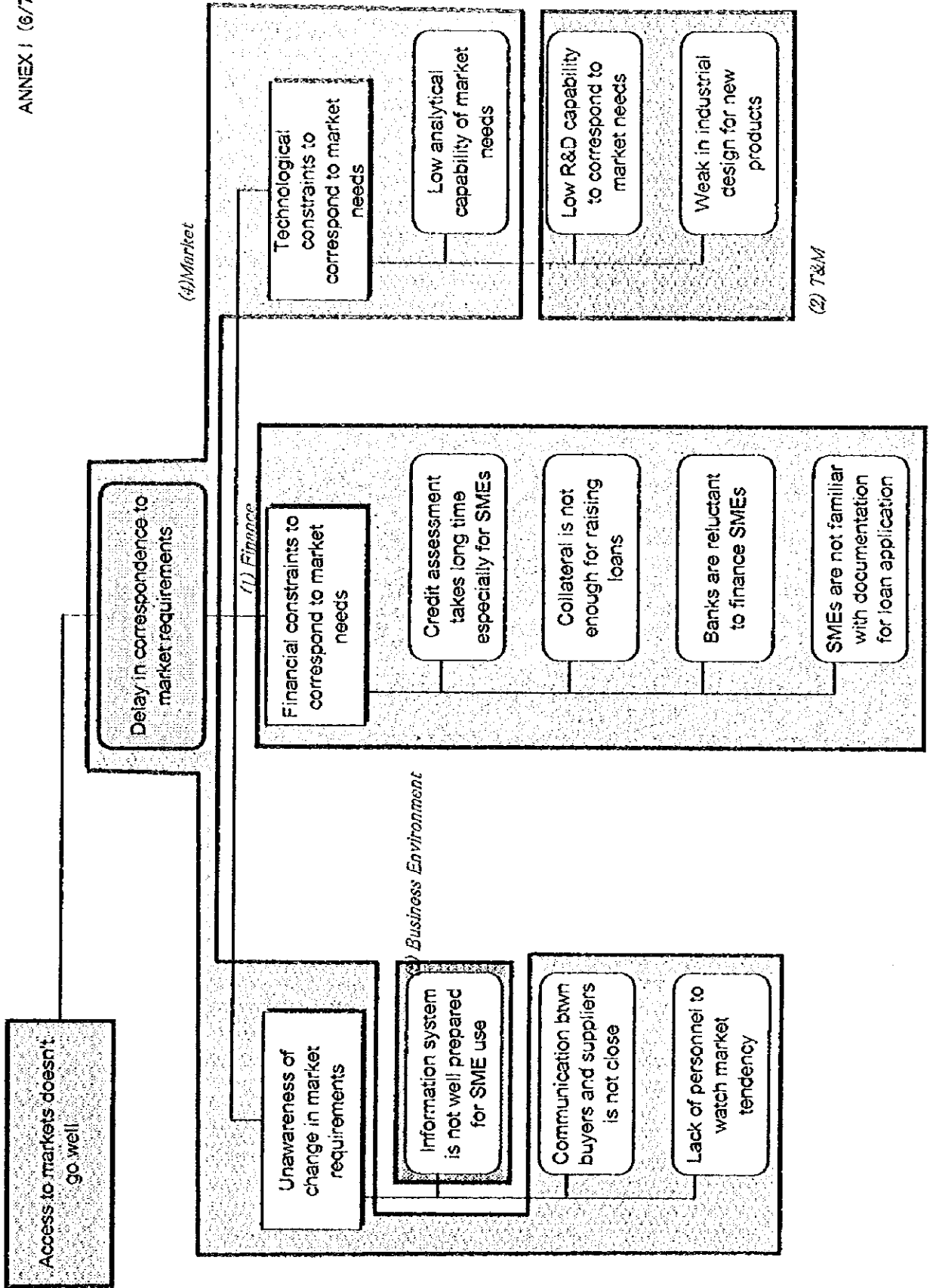
PROBLEM TREE FOR 'DELIVERY'



PROBLEM TREE FOR 'R&D'

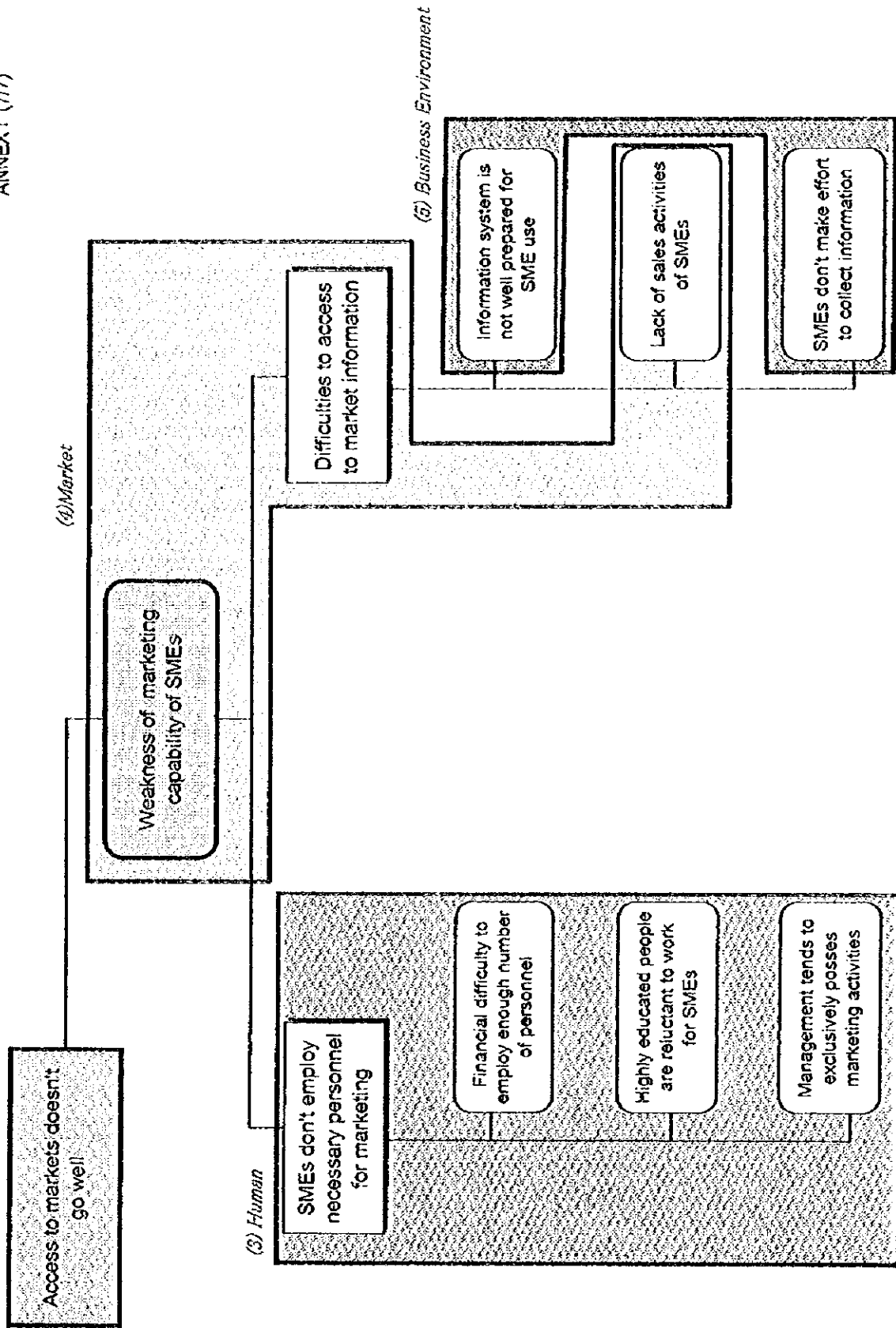


PROBLEM TREE FOR 'MARKETING'



PROBLEM TREE FOR 'MARKETING'

ANNEX: (7/7)





JICA

