

financing

(2) Further improvements for articles of which evaluation of Malaysia is comparatively high

- 1) Supply of industrial sites at relatively low prices
- 2) Maintenance of competitive investment incentives for overseas manufacturers
- 3) Maintenance of political stability, economic growth and a low inflation rate

4.3. ATTITUDE OF JAPANESE ENGINEERING SUBSECTORS TOWARDS TECHNICAL TRANSFER

Table 4-4-7 shows the present situations of overseas technical transfer by the Japanese engineering subsectors.

Table 4-4-7 Present Situations of Overseas Technical Transfer by the Japanese Engineering Subsectors

(Unit: No. of Companies)

	2nd-tier vendors		3rd-tier vendors	
Companies that have an overseas technical transfer agreement	50	18.7%	5	10.0%
Companies that do not have an overseas technical transfer agreement	217	81.3%	45	90.0%
Total number of responding companies	267	100.0%	50	100.0%

Source: Questionnaire Survey of Automotive Parts Manufacturers in Japan, 1994, JICA Study Team

The numbers of companies which presently have a technical transfer agreement with overseas companies are 50 (18.7%) out of the 267 responding 2nd-tier vendors and 5 (10.0%) out of the 50 responding 3rd-tier vendors. These rates are relatively lower compared with the average rate (25.6%) of all the responding companies to the questionnaire. Technical transfer between the Japanese engineering subsectors and overseas ones is estimated to be not very active at present.

Table 4-4-8 shows the possibility of technical transfer by the Japanese engineering subsectors in the near future.

Table 4-4-8 Possibility of Technical Transfer by the Japanese Engineering Subsectors in the Near Future

(Unit:No. of Companies)

	2nd-tier vendors		3rd-tier vendors	
	No.	%	No.	%
Companies that will positively respond to request from overseas companies	84	58.3%	17	60.7%
Companies that will not respond to request from overseas companies	60	41.7%	11	39.3%
Total number of responding companies	144	100.0%	28	100.0%

Source: Questionnaire Survey of Automotive Parts Manufacturers in Japan, 1994, JICA Study Team

The numbers of companies which will positively respond to request for technical transfer from overseas companies are 84 (58.3%) out of the 144 responding 2nd-tier vendors and 17 (60.7%) out of the 28 responding 3rd-tier vendors. In the case of both vendors, because the response rate is a little higher than the average rate (57.5%) of all the responding companies to the questionnaire, a positive attitude towards future technical transfer to overseas manufacturers is expressed. As mentioned above, though the percentage of companies that have a technical transfer with overseas companies is not very high, the number of new technical transfer in the near future are expected to increase.

Table 4-4-9 shows probable countries or regions for target of overseas technical transfer indicated by companies that will positively respond to request from overseas companies.

Popularity of countries and regions is very similar to the tendency for the target of investment and China is again most popular followed by Thailand. It is very remarkable that Malaysia is the third most popular. The response rates for Malaysia are much higher than those as the target of investment. This result suggests that the Japanese engineering subsectors responding to the questionnaire think Malaysia has more possibility as the target for technical transfer than the target for investment.

Table 4-4-9 Countries or Regions for Target of Overseas Technical Transfer

(Unit: No. of Companies)

	2nd-tier vendors		3rd-tier vendors	
	No.	%	No.	%
Malaysia	26	34.7%	7	43.8%
Thailand	35	46.1%	8	50.0%
Indonesia	16	21.1%	4	25.4%
Philippines	11	14.5%	4	25.0%
Singapore	7	9.2%	3	18.8%
Taiwan	15	19.7%	4	25.0%
South Korea	9	11.8%	3	18.8%
China	48	63.2%	13	81.3%
Hong Kong	3	3.9%	2	12.5%
North America	17	22.4%	4	25.0%
Europe	7	9.2%	2	12.5%
Others	6	7.9%	0	-
Total Number of Responded Companies	76	100.0%	16	100.0%

Note: The number of responses is more than the total number of responding companies because of multiple responses.

Source: Questionnaire Survey of Automotive Parts Manufacturers in Japan, 1994, JICA Study Team

5. BOTTLENECKS AND MEASURES TO DEVELOP THE ENGINEERING SUBSECTORS

5.1. FUNDAMENTAL VIEW ON THE DEVELOPMENT OF SUBSECTORS

The role of the engineering subsectors is mostly taken by the second tier companies. Just as the automobile industry cannot exist without the first tier companies, the first tier companies cannot exist without the second tier companies. As relations between the two sectors were analyzed in this chapter, there are many exchanges between them. In a sense, this interdependent exchange can be compared to the production of one automotive part which can only be completed through the efforts of both first tier companies and second tier companies, until the part is finally used in the assembly of the automobile. In other words, it is not possible to develop the automobile industry without the development of both the first tier companies and the second tier companies.

Governmental support lacks this sort of view, and tends to focus on the development of only first tier companies. This is one of fundamental problems of governmental assistance.

Many first tier companies have become successful in a short time by receiving foreign investments and technology assistance. Second tier companies should learn from these experiences. Based on this view, in this chapter, the expectation of Japanese second tier companies relative to their investments in Malaysia was also analyzed. It would be important to make the best use of the results. As a result, the following things were pointed out as anxiety factors by the Japanese companies concerning investments into Malaysia compared to investments into other countries.

- (i) Employment of engineers and technicians
- (ii) Procurement of raw materials
- (iii) Companies which supply component parts
- (iv) Testing and inspection laboratories
- (v) Reliable and responsible partners
- (vi) Governmental financial policy

In the second phase study, one company pointed out that receiving foreign investments would accelerate technology transfer. In the meantime, the Government should develop a wide range of support for the second tier companies as was done for the first tier companies.

5.2. ADOPTION OF MODERN MANAGEMENT TECHNOLOGY

5.2.1. Managerial gap among companies

The scope of management covers various company activities including corporate strategy, marketing, sales, production, procurement, personnel, financing, and R&D. The major issues in management differ widely depending on the size of the company/company group, product items, and so on, no matter whether the company is a first tier or a second tier company. There is a gap between companies which belong to groups and those which are independent. Also, there is a wide difference between foreign affiliated companies and large scale domestic companies, and small-and-medium scale local companies. This is because foreign affiliated companies or large scale domestic companies periodically receive a wide range of managerial support from their overseas parent companies, or within their group companies. They do not face critical management issues except for personnel management such as the shortage of labour, especially technicians and workers, and soaring wages. Large scale domestic companies, too, have adopted modern management skills so that they have no serious management issues other than the shortage of labour, just as with foreign affiliated companies. On the other hand, small-and-medium local companies are facing various managerial issues. The above holds true for the relationships between the first tier companies and the second tier companies. The results of the analysis made through the second phase study, which indicate that the second tier companies are inferior to the first tier companies on technology and management, agree with the above. Finally, a thorough transfer of modern management to the second tier companies is needed.

5.2.2. Necessity of management education

At present, the Malaysian economy is going well, and every company visited is intended to expand its production. Some companies have even moved to new factories, and some plan to install new machinery. Accordingly, they are trying to raise necessary funds for machinery, and to recruit and train employees. Most companies in the engineering subsectors subcontract from first tier companies, but some companies conduct marketing activities on their own. In the machining field, too, most companies subcontract from first tier companies. Especially, companies related to the

automobile industry depend too much on their customers. However, one of the companies visited, which is 20 years old, is beginning to develop its own brand products. Their ultimate goal is to have their own brand products sometime in the future, perhaps within 20 years. It is necessary for the second tier companies to install expensive up-to-date facilities in order to produce good products. Also, education to produce entrepreneurs so that the second tier companies can develop markets on their own is required.

5.3. DIFFICULTY IN GAINING ACCESS TO TECHNOLOGY INFORMATION SOURCES

5.3.1. Lack of support for the second tier companies

The success of the VDP scheme in the development of the first tier companies stems from PROTON's policy to develop actively the first tier companies. However, the scheme is basically designed to support first tier vendors. On the other hand, some first tier companies conduct product quality audits of second tier companies, and provide them with technical advice. Still, second tier companies generally deal with first tier companies only based on the agreements concluded between them. Some second tier companies surveyed stated that they did not have frequent contacts with their customers. Support to activate the relations between the first tier companies and the second tier companies should be considered.

5.3.2. Lack of technology information sources

It is very important for the automotive parts industry to receive as much daily information on useful technology as they can utilize. As stated in this chapter, in many cases, the information sources of technology are suppliers of machinery from which the engineering subsector companies bought and their past experiences. It is said that engineering subsectors have limited information sources although they are very concerned with better facilities and more advanced technology. Especially, small scale companies which employ some 10 people face difficulty in obtaining technology information. Technology seminars co-sponsored by the Government are considered to give less useful information according to a company who attends such seminars. They have to depend on

the suppliers of their facilities to get the latest information because they have no other sources. Therefore, the development of information sources and the support by experts to the engineering subsectors are strongly requested. At the same time, measures for the engineering subsectors to effectively use public organizations such as SIRIM, which is not well utilized at present, should be discussed.

5.4. DIFFICULTY TO SECURE SKILLED LABOUR

Major reasons for the difficulties in securing skilled labour are summarized as follows:

- (i) Difficulty in recruiting newcomers, and the high level of job hopping
- (ii) Shortage of engineers, and the lack of education/training
- (iii) Shortage of skilled workers, and the lack of education/training
- (iv) Lack of general technical education/training

(1) Difficulty in recruiting newcomers, and the high level of job hopping

It is especially difficult for the engineering subsectors to hire simple workers. Although the supply and demand relation in the overall industry in Malaysia is tight, it is much severer in the engineering subsectors which are comprised of many small-and-medium scale companies than for companies in other industries. This has led many companies to hire foreign workers from countries such as Bangladesh and Indonesia. They want to hire workers from other countries such as Nepal and Myanmar, but applications to the Government have so far not been permitted. In the meantime, most simple workers are regarded as being not satisfied with simple boring work, and they easily leave and change companies to pursue higher wages although there are a few companies which do not face this sort of labour problem. In sum, human resource management should be developed to counter the problem.

(2) Shortage of engineers, and the lack of education/training

There is a definite lack of engineers in the design and the production operation management of the die making and the casting industries. This problem basically holds true in other fields of the engineering subsectors. Responding to this, some companies have taken on foreign engineers from

India and Japan. In the die making industry, a die making education/training school has been established in Penang. Also, the newly organized industrial association holds seminars on die making. Despite these activities, poor production management by less skilled engineers is prevalent, and subsequently defective parts are turned out. Perhaps the whole education system in Malaysia should be reconstructed to produce more engineers.

(3) Shortage of skilled workers, and the lack of education/training

Just as there is a shortage of simple workers and engineers, skilled workers are also in short supply. Workers always request higher wages, and the resulting high wages are paid even though productivity is relatively low, which is troubling to management at many companies. On the other hand, die making requires not only machining but also the polishing of the die surface by hand. In the machining industry, too, experienced workers are needed who are well acquainted with machine operations. In the heat treatment industry, too, the precise control of temperatures is a necessity. In order to develop such experienced workers, further strengthening of technical education/training centres where both theory and practice are provided is necessary.

(4) Lack of general technical education/training

For instance, those who are engaged in the automotive parts industry are often said to lack the knowledge of heat treatment. Many automotive parts are made of metal, and therefore, those who are engaged in the industry should have a knowledge of metallurgy as a sort of common sense. These kinds of knowledge should be dealt with in the engineering field of the education system. Education concerning the engineering subsectors such as metallurgy should be extended to high schools although the target level of education may be lowered.

5.5. INCREASE IN COMPETITIVENESS

Competitiveness must be increased and maintained in various aspects such as quality, delivery, and cost. Competitiveness should exist not only among companies but also among nations. At the same time, competitiveness must be maintained not only by the first tier companies but also by the entire industry including both the first tier companies and the second tier companies.

(1) Support for modernization

Many second tier companies in the engineering subsectors have already installed or plan to install the latest facilities so as to modernize their factories. Large scale companies have little problem in borrowing the necessary funds from banks. However, small-and-medium scale companies generally lack the necessary funds, and approximately one half of the companies surveyed found it difficult to borrow money successfully.

Although the government has prepared a variety of financing schemes, many small-and-medium companies do not even know the schemes. In the second phase study, 11 companies out of 20 neither knew about the governmental soft loan schemes nor had applied for them. One of them, which had used one of the schemes, complained about the extremely rigid applicant eligibility. Therefore, the Government should consider how effectively the schemes can be utilized by engineering subsectors, while continuing to provide various modernization schemes.

(2) Development of one's own technology

Through the second phase study, a substantial need for technical assistance in such fields as casting technology, die making, and heat treatment was revealed. Most of these technologies have been introduced through technical agreements with foreign companies, but the level of transfer is not sufficient. Although this kind of problem should be dealt with by each company, governmental support to develop each company's own technologies such as medium-and-long term support by experts should be considered.

(3) Strengthening of management activities

One company, for instance, pointed out that most defective parts were the result of the poor daily maintenance of moulds for plastic injection. Another company was worried that the poor maintenance of machines might lead to further critical problems. Yet another company pointed out that poor ordering management by customers had caused fluctuations in production, which caused it to incur extra cost. On the other hand, among the second tier companies surveyed, none of them had proceeded with substantial productivity improvement activities to counter wage hikes. These activities have been introduced to first tier companies by PROTON as well as by SIRIM.

As a result many companies have obtained ISO-9000 qualifications. However, second tier companies have not received these kinds of support. In order for second tier companies to maintain competitiveness, these activities are a must, and therefore, the development of management activities is very important.

6. SCENARIO TO DEVELOP ENGINEERING SUB-SECTORS

6.1. BASIC DIRECTION

Malaysia presently is showing remarkable economic growth. As Japan is said to have strengthened its economic infrastructure through the development of a wide range of industries during its high economic growth era of 1960s, Malaysia is presently in a good position to develop the engineering sub-sectors as the supporting industry to support the growth of various industries.

In line with that idea, Malaysia has a plan to proceed with industrialization and become an advanced nation in a shorter period than any advanced nation has done in the past. In order to develop the engineering sub-sectors, which are made up primarily of small-and-medium companies, Malaysia needs to improve the performance of each company, and needs to have a framework where the engineering sub-sectors with internationally recognized strong professionalism would exist in the next 10 years.

To achieve this target, various measures could be devised by each company, industrial association, and governmental organization. Among them, focus should be placed on continuous human development, which will produce the people who will be the central core of the industry in the future.

6.2. MEASURES TO BE TAKEN

6.2.1. Strengthening of human development

(1) Change of management attitudes and management education

Most companies in the engineering sub-sectors are small, and their attitudes tend to lack entrepreneurship in management style because they mainly deal with subcontract business. Strong professionalism which may be accepted all over the world cannot be grown in such a setting.

Governmental industrial development plans tend to spoil the industries. Once the industries pass the infant age, the Government is requested to relax regulations to promote competition, and to try to change management attitudes from (i) the domestic market to the international market, and

(ii) the increase of domestic competitiveness to the increase of international competitiveness. For the sake of this, the following management education is considered to be necessary.

(i) Information on overseas markets and technology in each industry would be disseminated to company executives through seminars or the public relation activities of industrial associations.

(ii) Each company's success cases would be gathered and compiled by organizations such as industrial associations. The case book may be easily understood by employees, and help them increase production control capability as well as management control skills. Each company may compile such a case book on its own if the cases of other companies cannot be compiled.

(iii) Companies would be individually visited by experts, who are provided by the government or industrial associations, and receive management control know-how at the factory level in order to modernize their management style.

(iv) Seminars would be useful for company executives to realize the importance of in-house education. In Japan, large companies provide various kinds of education to their employees at their own schools, but at small-and-medium companies, most employees learn through OJT from senior workers. Because in-house education is generally short and may be taught by those who are not professionals in such education, the main focus of the education should be placed on "sure methods" and "transfer certainly." In Japan, VTRs are used by some small-and-medium scale companies.

(v) Seminars which are designed to explicate governmental measures and policies are necessary.

(2) Education of engineers

(i) Since leader engineers are expected to have not only theoretical knowledge but also practical experience, it is very difficult to educate a sufficient number of engineers in just a few years. The Malaysian Government has already announced that it intends to

strengthen the education system. Therefore, the education of engineers which are targeting many students through the expansion of the present technical training centres is important.

- (ii) Not only students who have not started work but also those who have already started work should be enabled to receive education to allow them to acquire higher technical skills. Just as with the Mould School in Penang, it is necessary to consider the establishment of training courses in various fields in which workers could participate.
- (iii) In order to train proper instructors, it may be significant for organizations such as industrial associations and governmental organizations to invite foreign experts to visit and provide technical support to companies. It is worth while considering foreign engineers who are stationed in Malaysia as individual experts, to train engineers of other companies in the engineering sub-sectors.
- (iv) Setting up of training programmes for the engineers of automotive parts companies to gain an extensive rather than intensive range of technical knowledge in line with the vendor development programme of large scale companies is worth considering.

(3) Education of workers

One of the purposes of worker education may be to develop core people. Many first tier companies which have occasional contacts with foreign companies send their people to foreign companies to learn practical skills for some time, and this has proved to be effective.

Since few companies in the engineering sub-sectors undertake this sort of worker education, the establishment of training centres for workers, which would have a similar effect, is expected. It is realistic that the curriculums taught at the centres would be prepared in order of necessity. For instance, machining and hand polishing may be selected.

6.2.2. Reconstruction of supporting system

(1) Construction of direct supporting system by customer companies

Each company in the engineering sub-sectors receives engineering specifications and various other kinds of information from automobile assemblers or first tier companies. The expansion of the present vendor development systems which successfully connect automobile assemblers and first tier companies to include those between automobile assemblers and second tier companies, or between first tier companies and second tier companies would be considered.

In order to complement the reconstruction of the supporting system, technical support carried out by a group of experts which is mainly organized by governmental institutions is worth considering. This support by experts would not be done in several days but would be extended until the strengths and the weaknesses of a company are identified.

The support would cover not only the development of the company's own technology or the improvement of the quality of conventional technology but also would cover the increase of production efficiency or the increase of productivity. In addition, subjects such as environmental protection, which seems modest but is quite important, should be discussed.

(2) Strengthening of the information support system through the strengthening of industrial associations

One of the major differences between large scale companies or companies belonging to industry groups, and small-and-medium scale companies which occupy the majority of the engineering sub-sectors lies in the wide gap of information gathering capability. In this point, the collection and the dissemination of information by each industrial association is considered to be important. In fact, the information provided by FMM is regarded as being very useful by some companies. This implies that the information by FMM is used as a substitute of that to be provided by industrial associations because none of the associations is able to do it.

It is also expected that such information would be disseminated by various media so that the engineering sub-sectors can easily gain access to it. In addition to holding more seminars, such

media as professional books, professional magazines and industrial newspapers would be appropriate. Setting up societies in which participant companies would actively exchange opinions would be a useful measure to provide information.

(3) Strengthening of support system

1) Effective utilization of governmental schemes to develop small-and-medium scale companies

Various governmental schemes which support small-and-medium scale companies in technology and financing have been created and have become effective. However, it is doubtful how well small-and-medium companies understand the content of these schemes. It is also suggested that the overall procedure of the application should be more simplified and flexible, and the eligibility of applicants should be clearly stated so that small-and-medium companies can utilize the schemes.

2) Relaxing of regulations

As was already stated, the automotive parts industry in Malaysia has been developed under the strong protection of the domestic industries by the Government. However, as internationalization proceeds, the Government is facing the necessity to increase the international competitiveness of each company by changing its policy to abolish such protective measures. It is therefore expected that the Government would have discussions concerning measures to relax regulations with industrial associations and related companies.

3) Stabilization of domestic demand

The solid growth of domestic demand would be an important external factor for the supporting industries to grow healthily. It is therefore suggested that the Government should give support to establish stable relations between the client companies and the supporting industries. Also, the Government is expected to take measures to let domestic demand grow healthily.

4) Development of industrial infrastructure

Most of the small-and-medium metal processing companies and surface treatment companies which are in the engineering sub-sectors are located in the vicinity of cities, and many of them realize the

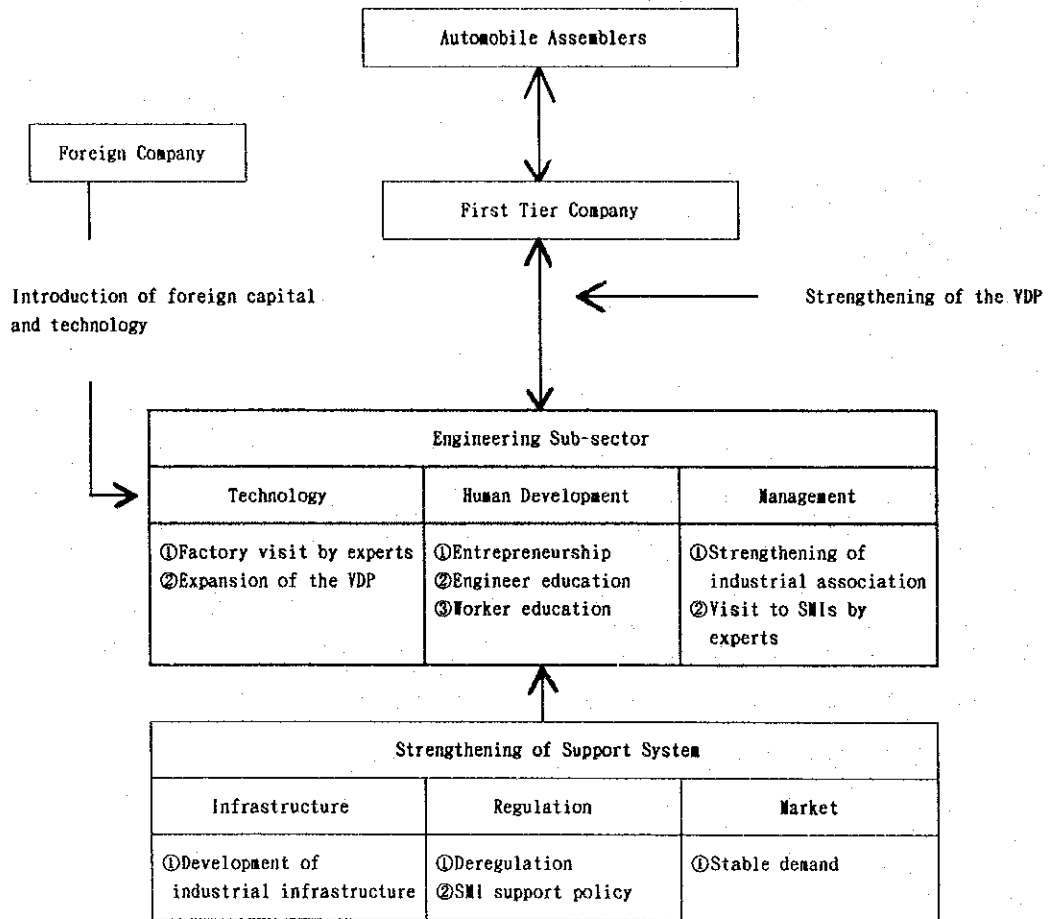
necessity of moving to expand their businesses and to meet environmental protection measures. In advanced countries of the automobile industry such as Japan, automobile industries have spontaneously gathered with automobile assemblers as leaders, and within the groups, close relations between client companies and subcontract companies have been built. In Malaysia, it may be useful for the Government to develop industrial infrastructure in designated sites and concentrate automobile related factories into such places to try to accumulate a wider automobile industry.

(4) Modernization through the invitation of foreign companies

In the engineering sub-sectors, investments from foreign countries are much smaller than that for the first tier companies.

At present, when many foreign companies are paying attention to the high growth of Asian countries, the invitation of foreign investments as one of the measures for the engineering sub-sectors to modernize would be useful. In line with this, studies by the Government on what the appropriate types of alliances would be are required. Advantages and disadvantages of various types of alliances such as capital investments and technical agreements should be discussed then. In addition, matters such as the identification of priority industries in which to invest, the setting up of the eligibility of priority industries, and the development of industrial estates should be determined.

Fig. 4-6-1 Development Strategy of the Engineering Sub-sectors



CHAPTER 5. PROPOSAL OF ACTION PROGRAMMES

1. INTEGRATION OF DEVELOPMENT MEASURES

Along with the proposal of development strategies, various kinds of measures to promote the strategies were investigated and suggested for each of the 3 product groups of 1) key components, 2) export-oriented product and 3) engineering subsectors. These measures were then integrated into overall development measures. The results are very briefly summarized into a fishbone chart, and shown in Fig. 5-1-1.

Further, the programmes, each of which would put some proposed measures into practice in a package, were investigated. The results are summarized into the following 11 action programmes:

- (1) Establishment of a Deregulation Promotion Mechanism
- (2) Establishment of Automotive Town Concept
- (3) Establishment of Research, Test and Information Centre
- (4) Expansion of Vendor Development Programme
- (5) Programmes for Intensification of Foreign Direct Investment Promotion Activities and Expansion of Plan for Promoting Corporate Tie-ups with Foreign Companies
- (6) Programmes for Strengthening the Activities of Automobile Related Industrial Organizations
- (7) Human Resource Development Programme
- (8) Technical Guidance Visits to Automotive Parts Manufacturers by Experts
- (9) Promotion of Joint R & D Activities
- (10) Automotive Demand Stabilization Programme
- (11) Programme for Assisting in the Development of Overseas Markets

Fig. 5-1-2 shows the comparison between the overall development programmes and action programmes proposed.

Fig. 5-1-1 Fishbone Chart of the Overall Development Measures

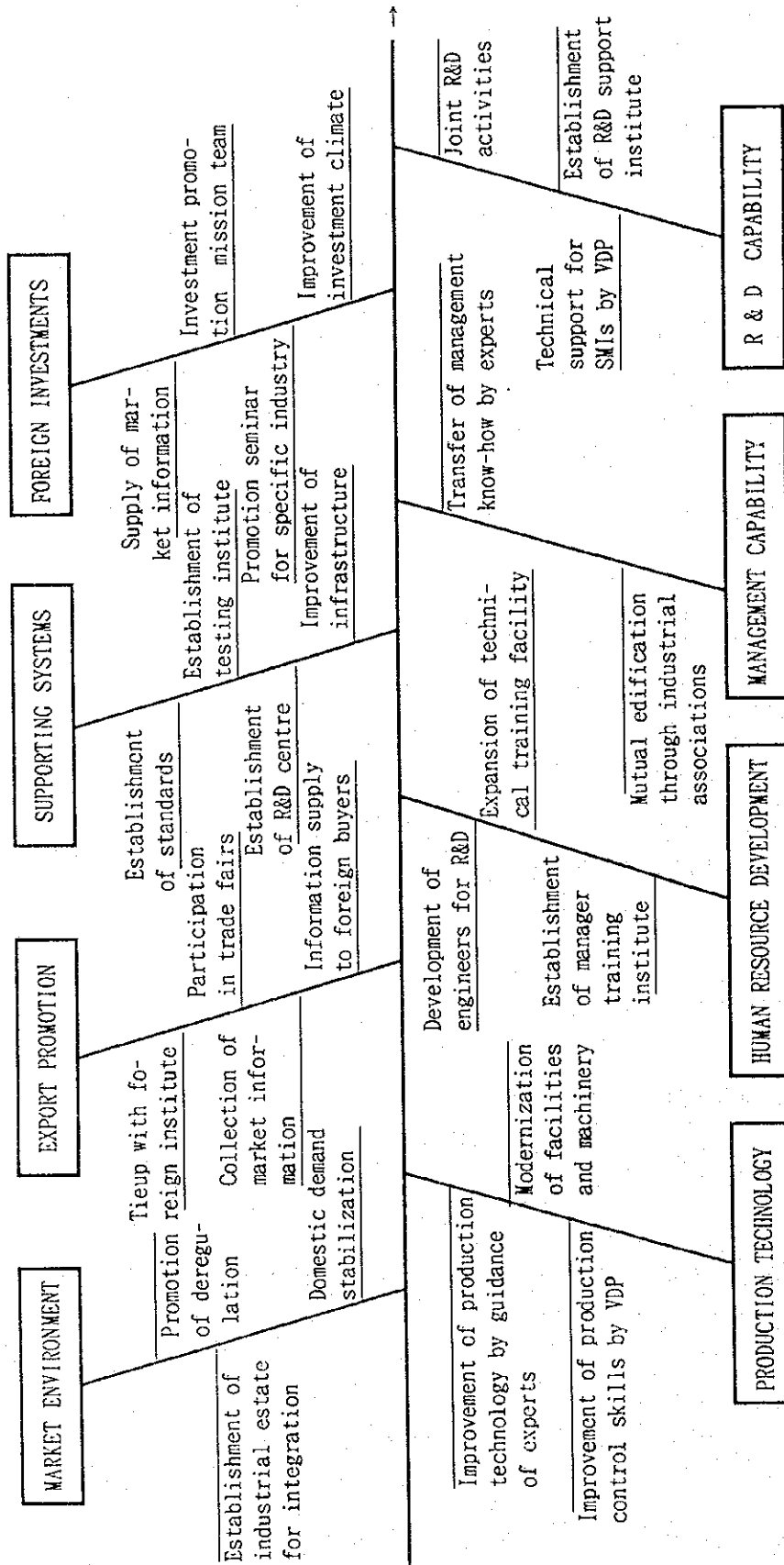
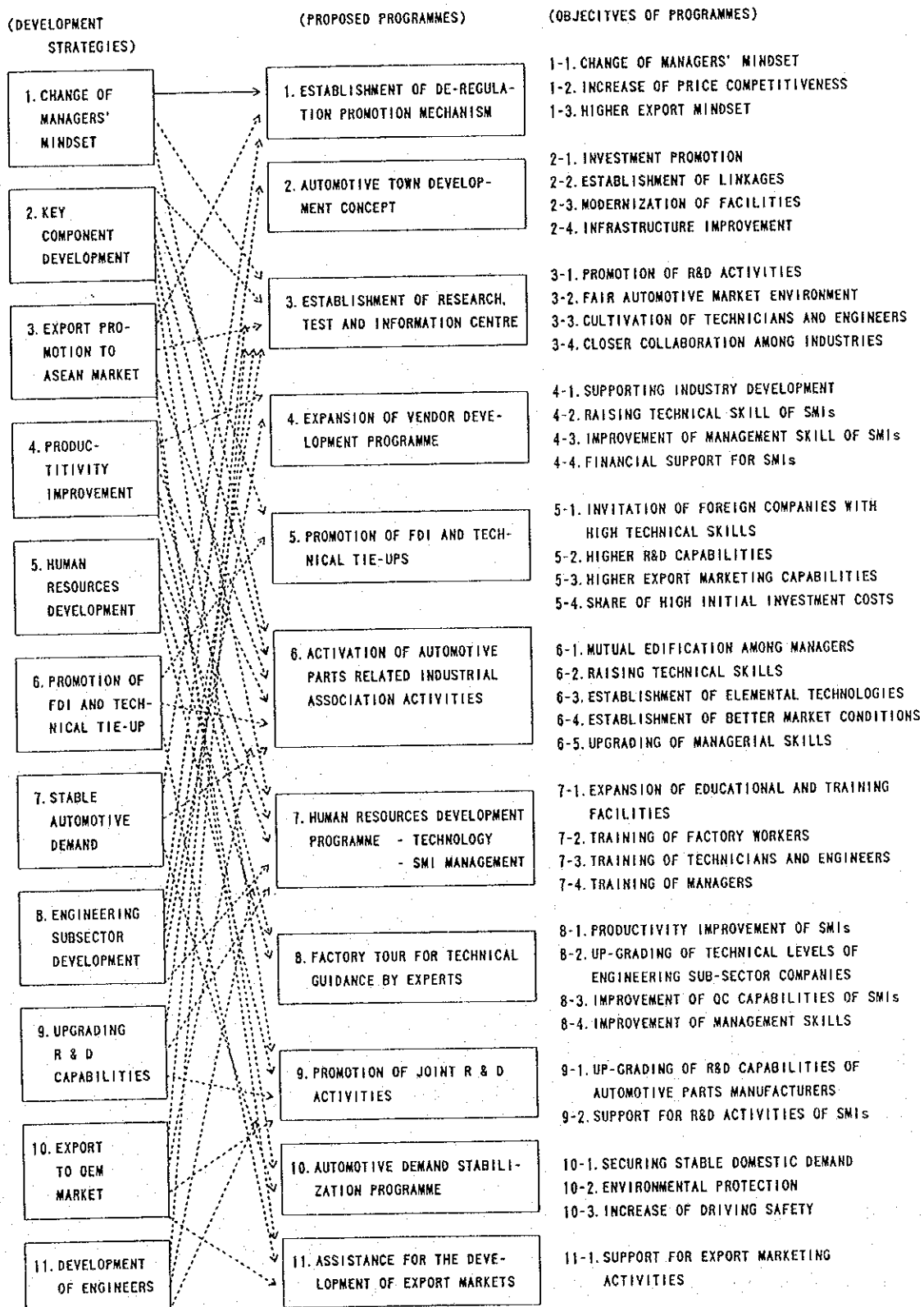


Fig. 5-1-2 Comparison of Overall Development Strategies and Action Programmes



2. PROPOSED ACTION PROGRAMMES

2.1. ESTABLISHMENT OF A DEREGULATION PROMOTION MECHANISM

(1) Background

The automotive and automotive parts industry in Malaysia has been developed under the following various governmental protection measures:

- From the view to promote the development of the automotive parts industry through the increase of unit production volumes by reducing the number of car models, a national car manufacturer, PROTON, was developed, giving it such various protection measures as the reduction of CKD import duty or exemption of reduction of sales taxes.
- The use of domestic automotive parts, which could be produced in Malaysia (currently 30 items), was made obligatory for automotive assemblers as Mandatory Deletion Items (MDI).
- The use of above a set point of local parts was mandated for automotive assemblers by the Local Material Contents Programme (LMCP).

However, those protection measures are going to be abolished by international trade agreements. The deletion of such protection measures as MDI or LMCP was decided by agreement in the GATT Uruguay round. In CEPT, it was agreed that the import duties of most of the items was to be reduced to less than 5% within 7 years in the ASEAN region.

Further, the above protection measures induce the weak international competitiveness of complete car units or automotive parts made in Malaysia, because the manufacturers of these products are obligated to make use of noncompetitive parts and components.

Under the above circumstances, the Malaysian government, which intends to develop an internationally competitive automotive and automotive parts industry in Malaysia, is requested to take a strong initiative to guide the sound development of the industry by promoting deregulations.

(2) Major Protection Measures to be Deregulated

The major protection measures to be reviewed are as follows:

1) Restriction of CBU (Completely Built-up Unit) Imports

Up to 1991 the CBU imports per year were restricted to the maximum limit of 10% of the total domestic car production. After 1991, it was planned that the limit be reduced by 1% every year and it would become 5% in 1996. Further, a high import duty ranging between 140 to 200% is currently imposed on imported passenger cars. Under the current circumstances in which the annual sales share of PROTON cars occupy over 70% of total passenger car market and that 2nd and 3rd national car projects have already started, the protection of local assembly of small lots of many different bands of cars has little meaning for the Malaysian industry.

However, a sudden change of the CBU import policy would have a serious impact on the assembly plants or CBU importers. The gradual loosening of the restriction based on a long-term and comprehensive automotive industrial policy would be needed.

2) Approval System of Car Sales Prices

With the purpose of protecting consumers, car sale prices in Malaysia are currently under the control of the government. However, this approval system is said to work rather for keeping the actual car sale prices high or reducing the incentives for assemblers to increase productivity for cost reduction because the prices are approved on the basis of all accumulated cost items. In line with other measures to increase domestic competition, the sales price approval systems would have to be repealed.

3) Import Duty Reduction for Automotive Parts

Currently, the import duty for automotive CKD parts is set at 42% for non-national cars and 13% for PROTON cars. For other various automotive parts, import duties ranging from 5 - 40% are imposed according to their classifications. Under CEPT, it was agreed that these import duties are to be reduced under 5% by 2003 within ASEAN region. In order to increase the international competitiveness of Malaysian products within the region, the early achievement of this target is highly desirable. Because the reduction of import duty for each item has to be achieved in line with the efforts of domestic manufacturers to increase international competitiveness, the reduction schedule is expected to be set by the consensus of the industry. The experience of this reduction target setting by the industry for the import duties with ASEAN region would also

contribute for the targets setting with other regions.

4) Local Parts Procurement Obligations

Those regulations which mandate the use of domestic parts such as MDI or LMCP are effective for the development of the domestic parts industry at its initial stage. If they are perpetuated, however, they would impede fair competition in the domestic and international market and reduce the industry's initiative to increase productivity. The abolishment of these protection measures has also been agreed to under GATT.

Under the close collaboration between government and industry, the abolishment schedule of these protection measures should clearly be set, along with the efforts and measures to reduce the negative effects of these on the domestic market to a minimum level.

(3) Basic Principles for the Promotion of Deregulation

The deregulations recommended are proposed to be carried out based on the following basic principles:

- 1) The implementation schedule of deregulations should be set not by the one-sided decision of the government but by the initiative of industries concerned. The final goal could be set by the government but its implementation schedule should reflect a consensus of all industries concerned and be practical.
- 2) The effects of various regulations are very closely interrelated. Thus, the deregulations should be promoted not by each regulation-basis, but under an overall strategy covering all regulations concerned.
- 3) The deregulations should be carried out not all at once, but on a step-by-step basis. The implementation schedules should be flexibly adjusted based on review of the results of the effects of previous deregulation steps.

(4) Implementation Organizations

For the implementation of the proposed deregulations, the establishment of the following organizations and committees is recommended:

1) Automotive Industry Deregulation Promotion Committee

As the final decision making organization of the Malaysian government, a Deregulation Promotion Committee should be established. The committee members would be selected from the representatives of MITI, MOF, and MOT from the government side, those of the industry associations, national car manufacturers, other car assemblers, automotive parts manufacturers and other knowledgeable people in the industry.

The committee would have regular meetings twice a year as well as ad-hoc meetings as necessary.

2) Secretariat Office for Automotive Industry Deregulation Promotion

A permanent secretariat office which has the function of drafting deregulation plans should be established. The office members would be sent from MITI and MOF which are the current controlling organizations of the review target regulations.

3) Working Group

A working group is to be formed for each review target regulation. The working group studies the current status and the effects of deregulation of each regulation, and drafts the plans of deregulation. The working group members are selected and assigned by the government from the representatives of governmental organizations concerned, related industrial associations, companies and universities.

4) Public Hearings

Prior to drafting the final recommendation by each working group, a number of public hearings should be held, in which representatives of all related organizations and companies are invited to participate.

(5) Expected Effects of Deregulation

1) Changing the Business Mindset of Managers

The loosening of local procurement obligations or the reduction of import duties of automotive parts would create changes in the business mindset of managers of domestic automotive parts manufacturing companies. They could become more conscious of international competition rather than just domestic competition, and export markets in addition to the domestic market.

2) Increase of Price Competitiveness of Malaysian-made Products

The reduction of import duties of parts or availability of overseas price-competitive parts and components would reduce the production costs of Malaysian made cars and components using these imported parts. The abolishment of the control of CBU imports or the domestic sales price approval system would increase the domestic sales competition of cars, as well as increasing the total demand for cars, and induce lower domestic sales prices of cars. This would make the cost reduction requirement of car manufacturers to domestic parts suppliers much more severe. All of these factors are expected to work for the increase of cost competitiveness of Malaysian made products.

2.2. ESTABLISHMENT OF AUTOMOTIVE TOWN CONCEPT

(1) Background

In Malaysia, the total number of industrial estates developed by governmental agencies reached 178, and total development area, more than 19,000 hectares as of the 1st of July, 1994. The total land area still available for companies is more than 4,300 hectares, as of the 1st of July, and furthermore, a total of 59 new industrial estates are proposed to be developed throughout the country.

However, except for the Klim High-tech Industrial Estate in Kedah State (or those industrial estates as the foundry park and the furniture industrial area which were mainly constructed for the relocation of SMIs), most of these industrial estates have been developed mainly with commercial objectives. The construction of industrial estates, itself, even if they are developed on commercial bases, would contribute to the industrial development of the region. However, it would become more useful if the central government could use the industrial estate development with the objective of strategically promoting industrial development for the planned direction.

For the above, the central government does not need to be directly involved in the construction of estates. Rather, it could just build-up the basic concept of a desired type of estate, and the regional government or private developers would make the concrete development plans taking into consideration the regional characteristics. For those plans which are approved as eligible, the central government could give a package of incentives.

The establishment of an automotive town could become one of the trial cases of such experiments wherein the direction of the future development of the industry is shown by the specific nature of the industrial land preparation.

(2) Objective of the proposed automotive town development

It is thought that an automotive town would 1) attract overseas investors to the automotive parts and components sector in Malaysia, 2) induce new domestic investments in the automotive parts industry, and 3) promote the relocation of factories of domestic existing manufacturers. The success of the projects would have to be achieved by the joint efforts among federal government, local government and public and private developers.

(3) Basic Functions and Related Organizations

For the development of the proposed automotive towns, all of the participants such as the central government, the regional government and developers have to take active roles according to their responsibilities. Major roles which are expected for each of the participants are as follows:

The federal government would first design the basic concept of the automotive towns, in which the basic facilities and services required for the town and a package of incentive schemes for overseas investors, for domestic manufacturers relocating their factories and for developers is presented.

The regional government could prepare basic development plans. The plans are to be developed based on both the current industrial situation of the region and the future course of regional development strategies. For the planning, the regional government could request the participation of semi-governmental or private developers as joint venture partners. They could also design additional incentive packages to those given by the central government. The development plans have to follow the basic concept established by the central government, but could be largely modified according to the regional characteristics. The development plans designed by the regional government are presented to the central government. When they are approved by the central government, the use of a package of incentives given by the central government could become available.

After the development plan of the regional government is approved by the central government, the regional government announce the approved plan to developers, and request their participation in the plan. (When the development plans are designed by joint efforts of the regional government and developers, this process is not needed.) The developers interested in the plan would conduct detailed designing of the construction of the town. These detailed design plans are presented to the central government through the regional government. When accepted, a package of incentives needed for the construction of the approved estates is given.

(4) Basic Concept of the Proposed Automotive Town

The automotive town is not necessarily a single industrial estate, but rather an area in which a plural number of industrial estates, as well as other supporting facilities, are constructed.

However, in the basic plan designed by the regional government the boundary of the town or the desired sizes (for example 30 -100 Km²) would be suggested. The size and boundary of the town should be decided taking into the following factors into consideration: 1) the boundary shows the limit in which a package of incentives is more or less automatically applied; 2) there should be room for the future expansion of the number or sizes of industrial estates to be established in the town; and 3) the town, as a unit, should have the clear characteristics of being an automotive town.

The automotive town concept paper to be prepared by the central government should first show the necessary functions to be facilitated in the town. These functions would be as follows:

- 1) infrastructure to be facilitated in the industrial areas
- 2) information centres for automotive parts manufacturers and assemblers
- 3) information centre for the identification of partner companies
- 4) infrastructure to induce the relocation of such factories as foundry and plating plants (they are among the engineering subsector companies)

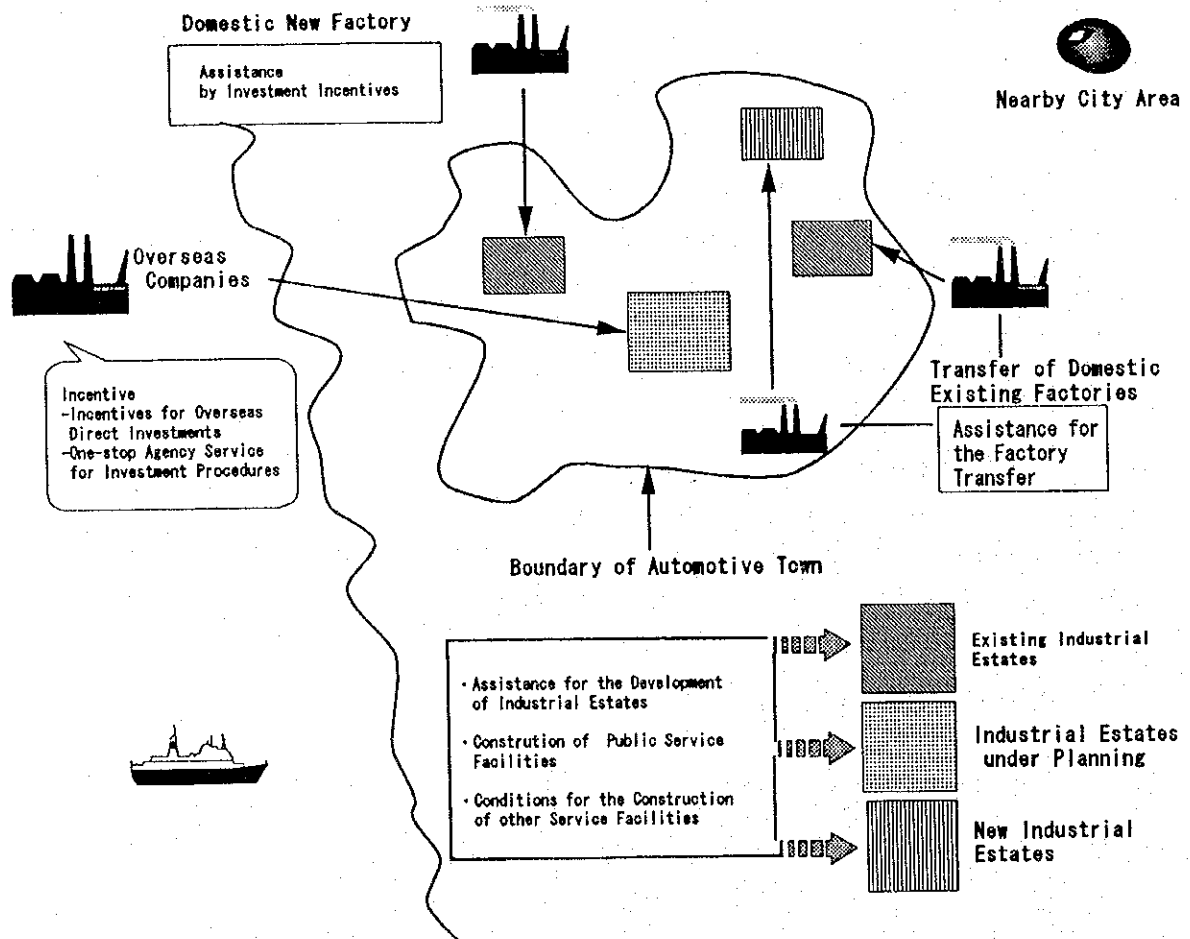
Second, the basic concept paper should show the kinds of information to be included in the development plan prepared by the regional governments, such as: 1) locations and approximate sizes ; 2) transportation conditions; 3) communication conditions; 4) population sizes in the nearby areas; 5) existing industries in the surrounding areas; 6) residential area development plans or housing conditions to workers in the town; 7) supporting facilities to be constructed in the town; and 8) blueprint of the town.

The concept paper should further show the kinds of incentives to be given to the town. The incentives would be given for the land developers, domestic companies relocating their factories into the town or overseas companies investing in the town.

Examples of incentives would be as follows: 1) financial support (long-term and low interest loans) for the construction of supporting facilities toward land developers, 2) low interest loans or subsidies for the construction of new factories and the modernization of facilities and machinery toward domestic manufacturers relocating factories (including the sales of land at discounted prices); and 3) one-stop agency service for investment procedures or easy application for labour permits for foreign workers toward overseas investors.

In case factories already exist in the town boundary, they could be treated as part of the relocation scheme. All of the facilities in the boundary do not need to be newly constructed. If there are industrial estates or factories existing or planned within the boundary, they could be included as a part of the town, and the same incentive schemes could be applied.

Fig. 5-2-1 Basic Concept of an Automotive Town



2.3. ESTABLISHMENT OF MALAYSIAN AUTOMOTIVE RESEARCH, TEST AND INFORMATION CENTRE (MARTIC)

(1) Background

Most automotive producing countries have their own independent research and test centres, where continuous product development, adaptation and innovation are undertaken. Although there are such public organizations as SIRIM or universities supporting the private sector's R & D activities in Malaysia, they are not organizations specializing in the automotive industry, and their capabilities are still very limited. Without having an independent research and test centre, the Malaysian automotive industry would have to continue to depend fully on the principal manufacturers in new product development both in complete vehicle units and key automotive parts.

With the rapid expansion of the automotive market in Malaysia, the establishment of well designed standards and regulations both to ensure safe driving and to protect the environment has become very important. For this purpose, also, the establishment of an independent research and test centre in Malaysia is needed.

Further, at present many of the world's leading automotive assemblers and automotive parts manufacturers are shifting their production bases from advanced nations to the Asian region, and the investigation of the possibilities for local procurement of parts and materials has become important for most of them. Recent movements toward the establishment of Technical Centres by leading automotive manufacturers in Asian nations would also reflect this fact. The establishment of a reliable test centre in Malaysia would contribute largely toward encouraging leading manufacturers to establish their Technical Centres in Malaysia and to increase their parts procurement from Malaysia.

(2) Functions and Related Organizations

The basic functions required for the proposed centre, and the related organizations to each of these functions, are as follows:

- 1) Automotive industry policy development : Ministry of International Trade and Industry
(MITI)

Incorporating all of the contemporary information and knowledge of the automotive

industry in the world, the Centre would assist MITI to establish a mid-term and long-term automotive industry development policy in Malaysia.

2) Regulations for securing safety : Ministry of Transportation (MOT)

In order to ensure safety in driving, the proposed Centre would assist MOT to stipulate the safety related regulations.

3) Regulations for protecting the environment : Ministry of Science, Technology and Environment (MOSTE)

With the aim to improve the environment by controlling pollution, the Centre would assist MOSTE to stipulate environmental protection related regulations.

4) National standard setting : SIRIM

In collaboration with SIRIM and industries, the proposed Centre would also assist in setting up national standards for complete vehicle units and automotive parts.

5) Fuel energy conservation : Ministry of Energy (MOE)

Through assistance in the development of fuel efficient engines and the regulations for controlling the use of inefficient engines, the Centre would assist MOE to promote fuel energy conservation.

6) Support for Research and Development : Automotive and automotive parts industries, MOSTE, SIRIM and other R&D support organizations

The proposed Centre would assist the automotive assemblers and automotive parts manufacturers to promote R & D activities so that they could produce internationally competitive products.

7) Certification, testing and training : Automotive and automotive parts industries, SIRIM and other related organizations

By accreditation of the Malaysian authorities concerned, the proposed Centre would test the performance, strength, durability and functions of complete vehicle units and all safety related components and parts, and issue test reports on all required items in required forms. Further, the Centre would train the engineers and technicians of automotive assemblers and automotive parts manufacturers in advanced design and product development technologies.

8) Automotive parts information exchange : Automotive and automotive parts manufacturers

By gathering information on those automotive parts and components that major Malaysian and foreign assemblers want to procure locally and that local parts manufacturers intend to sell or develop, the proposed Centre could also offer a place for automotive assemblers and automotive parts manufacturers to exchange information on their mutual needs.

(3) Major Facilities to be Installed in the Centre

The major facilities that the proposed Centre should have are as follows. It is not necessary that all of these facilities be constructed or installed from the beginning, but they should be gradually expanded so that the Centre could meet most of the requirements of the industry.

1) Test courses for vehicle performance tests

- a. High speed circuit for vehicle durability testing
- b. Coast down track for measuring wind and road resistance
- c. Vibration and noise track to measure vibration and noise
- d. Braking test track to test all parameters for braking
- e. Circular skid pad to test vehicle handling and braking in turn
- f. Test slopes for parking brake performance and transmission durability tests
- g. Accreditation durability test track for vehicle durability tests under different pavement conditions
- h. Outer unpaved roads to simulate country roads
- i. Corrosion and durability circuit with salt bath and dirt roads
- j. Cross wind generation facility to test vehicle stability
- k. Wetting trough to test water-proofing and brake recovery after wetting
- l. Dust tunnel
- m. Ride comfort and handling circuit for drivability and ride comfort tests
- n. Noise test track

2) Facilities and equipment for NVH (noise, vibration and hardness) and quality assurance testing

(Tests under dynamic environment)

- a. Electro-magnetic type shaker table
- b. Closed loop control system
- c. Vibration spectral analyzer
- d. Road load simulator

(Tests under natural environment)

- a. Climatic wind tunnel
- b. Fast changing rate temperature and humidity chamber
- c. Salt spray chamber
- d. Rain box
- e. Weatherometer for sun light simulation
- f. Ozone resistance tester
- g. Dust chamber
- h. Air tight tester

(Tests under acoustic environment)

- a. Vehicle semi-anechoic chamber
- b. Engine semi/full anechoic chamber
- c. Component/exhaust system full anechoic chamber
- d. Component reverberation chamber

3) Facilities and equipment for fuel economy and emission testing

- a. Chassis dynamometer and exhaust gas analyzer for testing gasoline or diesel vehicle fuel economy and emissions
- b. Motorcycle chassis dynamometer for fuel economy and exhaust emissions
- c. Evaporative emission cell for gasoline and diesel powered vehicles
- d. Heavy duty diesel engine dynamometer and emission analyzer including particulates
- e. Chassis dynamometer for durability emission testing of passenger cars
- f. Chassis dynamometer for motorcycle emission endurance testing
- g. Coast down control
- h. Gasoline engine dynamometers

4) Equipment for vehicle safety testing

Equipment for crash, impact and other tests for measuring the safety of the following:

- door locks
- seat belts

- seat systems
- head rests
- instrument panels and steering wheels
- roofs and doors
- bumpers
- lights and reflectors
- crash simulation
- bus maximum inclination angle

5) Computer hardware and software systems for R & D

- a. Computer mainframes and terminals
- b. Software for computer aided engineering
- c. Software for the development of key components
- d. Information system and data base software

6) Training facilities

- a. Seminar presentation room
- b. Lecture rooms
- c. Audio-visual equipment for training

7) Automotive parts display room

8) Automotive information library

(4) Organization and Operation Fund

It is proposed that MARTIC be established as a joint organization between public and private sectors. The core members are to be SIRIM and national car assemblers, to which all of the other government related organizations and automotive and automotive parts manufacturers would join.

The operating funds would mainly be generated from the following sources:

- 1) Budgetary allocation from related government authorities for conducting regulation

research and for regulation execution testing

- 2) Revenue from the private companies for certification, testing and training
- 3) Revenue from the contracted or joint R & D activities which are mainly paid by private companies but are partly supported from the government

(5) Implementation Schedule

From the experience of similar organizations in other nations such as Japan or Taiwan, the implementation of the project should be carried out on a step by step basis. For one, this is because of the huge investment costs required. For another, the selection of testing equipment should prudently be conducted in accordance with the schedule and contents of the regulations and standards to be introduced in Malaysia.

Tentatively assumed implementation steps are as follows:

1) Step 1 : Feasibility Study

As a preparation stage for actual construction, a feasibility study for the project should be conducted with the assistance of overseas organizations having practical experience in similar services. The emphasis of the study should be placed on such software portions as organizations, kinds of services or transfer of approval authority procedures for testings rather than the hardware planning.

2) Step 2 : Initial Stage of Construction

The organization of MARTIC would be established, the existing testing and R&D facilities and functions to be constructed and future courses of expansion would be planned.

3) Step 3 : Expansion Stage

In line with the establishment of necessary regulations and standards, the equipment for the needed testing and R&D development would be gradually expanded.

4) Step 4 : Final Stage of Construction

Most of the necessary facilities and equipment including a full range of testing courses and equipment for tests and R&D activities are to be constructed.

2.4. EXPANSION OF VENDOR DEVELOPMENT PROGRAMME

(1) Background

In Malaysia, the Vendor Development Programme was started in 1988 for the automotive sector, with the launching of the PROTON Component Scheme, and has gradually been extended to other industrial sectors. The Programme was expanded in April 1993 with the introduction of a "tripartite arrangement" involving MITI (lead agency for SMIs), anchor companies (Multi national companies and large industries) and financial institutions. Under this arrangement, anchor companies would be able to identify and subsequently appoint SMIs as their subcontractors (vendors) in parts manufacturing and related industrial services. On their part, the financial institutions will provide financial assistance and related consultancy services to the vendors.

In Japan, many large scale assemblers have contributed largely to the development of a vast number of capable SMIs through the "Keiretsu Ikusei Seisaku" (related subcontractors development scheme), under which assemblers provide various kinds of supporting measures for their subcontractors in areas such as marketing, management, technical development, quality control and financing. The Vendor Development Programme in Malaysia is unique and highly evaluated in the sense that it has modified the Japanese "Keiretsu Ikusei Seisaku" from a system which developed as the private sector's voluntary activities into a government-initiated policy scheme.

(2) Current Status of the Vendor Development Programme

Up to the present, the major emphasis of the Vendor Development Programme in Malaysia was placed on increasing the number of participating anchor companies, and in that sense, the performance of the programme has shown significant progress. As of the end of October 1994, the number of anchor companies participating in the Programme has reached 40, that of financial institutions, 11, and the number of vendors appointed was 59.

(3) Major Constraints in the Current Programme Implementation

The major constraints faced by the implementing agency in enhancing the performance of the Programme are reported as follows:

- 1) The obligation of anchor companies is very large for the initiation of any financial or technical support for potential vendors, because it is mainly based on the anchor company's commitment for the purchase of developed products.
- 2) SMIs have poor knowledge of possible anchor companies' needs and procurement requirements, thus, the identification of potential vendors has to be made mainly by the efforts of the anchor companies.
- 3) Most potential vendors have limited ability to submit relatively good business plans.
- 4) The production facilities and production processes of potential vendors, in many cases, do not satisfy the factory audit and quality control approval standards of anchor companies.

(4) Proposed Project

In order to further enhance the performance of the Vendor Development Programme through overcoming the above constraints, the JICA Study Team proposes the expansion of the programme through the following three (3) measures.

1) The establishment of the VDP Supporting Team in MITI

Currently, the Vendor Unit of the Small and Medium Scale Industry Division in MITI is operating as a secretariat office of the Vendor Development Programme. Although the Vendor Unit is supported by other sections of the SMI Division, their function is not large enough to provide some direct supporting activities for potential vendors. Either within or along with the existing Vendor Unit, the establishment of the VDP Supporting Team, which has the following functions, is proposed:

- a. To identify potential vendors for anchor companies;
- b. To initiate technical support activities for potential vendors without waiting for the commitment of anchor companies;
- c. To provide support for the potential vendors in preparing feasible business plans to be given to the anchor companies; and
- d. To evaluate the financial viability of the business plans prepared by potential vendor companies.

In order for the VDP Team to implement the above functions, staff members having the

following capabilities would have to be assigned:

- a. Marketing
- b. Financing and project evaluation
- c. Production technologies such as metal work, plastic mouldings or mould/jig manufacturing
- d. Quality control

The establishment of the VDP Supporting Team would make it possible for potential vendors to approach the most appropriate anchor companies. Further, the project evaluation capability of the Team is expected to contribute to reducing the financial risks of anchor companies or financial institutions associated with future purchase commitments.

2) Joint Anchor Companies Concept

Under the current VDP programme, the investment of potential vendors tends to be limited to an amount which could be repaid by the new product sales to one particular anchor company. In practice, however, many of the investment projects of a sub-contractor company would enable them to supply newly developed products to many assembling companies.

The Joint Anchor Companies Concept proposes the expansion of the programme in such a way that more than two anchor companies form a joint anchor companies group and provide various kinds of support for their potential common sub-contractors. The joint anchor companies groups could be formed in two ways. For one, they could be formed by anchor companies belonging to the same industry group such as assemblers of automobiles. For another, they could be formed by anchor companies which use the same products or services of a particular vendor such as the users of forging parts. In both cases, the function of the VDP Supporting Team proposed in 1) above as a coordinator between the joint anchor companies and potential vendors would be significant.

3) Secondary Sub-contractor Concept

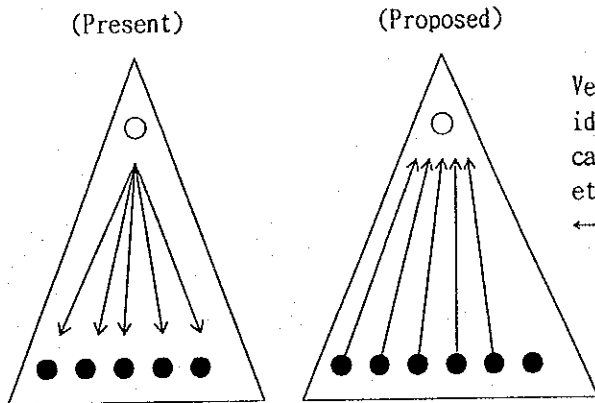
For the development of new products by sub-contracting companies which meet the

requirements of anchor companies, increasing the capabilities of secondary sub-contractors is often required. Even under the current VDP programme, such a case has been reported that the development of a secondary sub-contractor was included in a project. It is proposed that the concept of the development of secondary sub-contractors should be further clearly systemized and promoted.

Because it is projected that the capability of anchor companies to support all of these secondary sub-contractors would be rather limited, the supporting activities of the VDP Supporting Team proposed in 1) above to secondary sub-contractor companies would also be highly expected.

Fig. 5-2-2 Concept of VDP Expansion

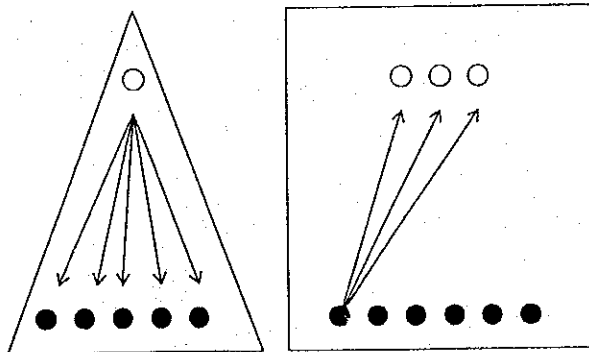
(1) VDP SUPPORTING TEAM IN MITI



Vendor
identi-
fication,
etc.

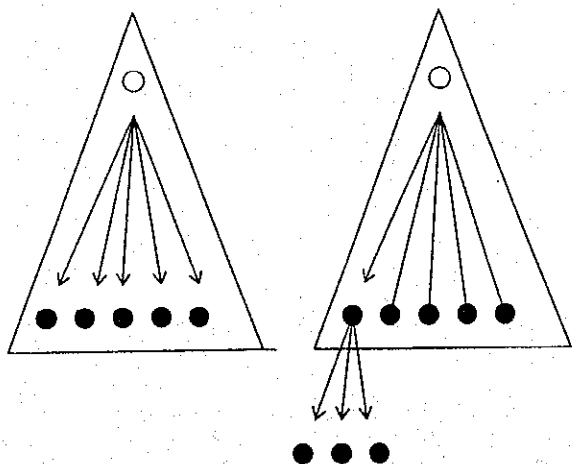
VDP SUPPORTING TEAM	
S	a. Marketing
T	b. Financing & Project Evaluation
A	c. Production technologies
F	d. Quality control
F	a. Identification of potential vendors
U	b. Preliminary technical supporting activities
N	c. Support for business planning
C	d. Evaluation of financial viability of the project
T	
I	
O	
N	

(2) JOINT ANCHOR COMPANIES CONCEPT



Co-ord-
ination,
etc.

(3) SECONDARY SUBCONTRACTOR CONCEPT



Technical
support,
etc.

2.5. PROGRAMMES FOR INTENSIFICATION OF FOREIGN DIRECT INVESTMENT PROMOTION ACTIVITIES AND EXPANSION OF PLAN FOR PROMOTING CORPORATE TIE-UPS

(1) Background of Programme Proposal

Rapid changes are occurring in the economic environment of Malaysia and the other ASEAN countries, such as a) the spreading international division of labour, b) the deliberate formation of regional economies like the ASEAN Free Trade Area (AFTA), c) the rapid development of industrial technology, and d) the increasing close interdependence in manpower, capital, and commodities. As all this is happening, the flow of new investment from foreign companies, in particular, Japanese companies, has been spreading from the Asian NIEs to the ASEAN countries and on to nearby countries like China, India, and Vietnam.

In the auto parts industry, Japanese companies have been confronted with the problem of how to deal with the rapid rise in the value of the yen. As a result, many companies, including numerous medium and small businesses, have found it necessary to invest overseas. With the competition over attracting investment intensifying with neighbouring countries, it will be important to entice such Japanese companies to Malaysia or to encourage tie-ups between Japanese companies and Malaysian ones in order to increase the sophistication of the Malaysian auto parts industry and to strengthen its international competitiveness.

The Malaysian Industrial Development Authority (MIDA) plays a central role in activities to attract foreign investment to Malaysia. It is given high marks for its activities not only by the Malaysian government, but also by numerous foreign ventures.

The programmes proposed here are not new by any means. Rather, in view of the above background, it is desirable to further strengthen and augment programmes which MIDA, etc., have been engaged in up to now for promoting investment and encouraging business tie-ups.

(2) Current Functions of MIDA

The current functions of MIDA may be summarized as follows:

- a. To undertake feasibility studies of the possibility for industrialization;
- b. To undertake industrial promotion work whether in Malaysia or abroad;

- c. To facilitate the exchange of information and coordination among institutions engaged in industrial development and related organizations;
- d. To recommend policy on development of industrial sites, recommend sites suitable for development, and develop those sites;
- e. To evaluate applications for manufacturing licences, pioneer status, expatriate posts and tax incentives;
- f. To advise the Federal Government on measures for the protection and promotion of industries, including the imposition and alteration and or exemption from customs and other duties, and import and export licensing.
- g. To report annually to the Minister on the progress and problems of industrialization in Malaysia and to recommend the manner in which such problems may be deal with.

Further, in October 1988, the Coordination Centre for Investment (COI) was established. The COI was set up to strengthen the functions of MIDA as a one-stop agency for domestic and foreign investors. At the present time, most of the matters requiring approval at the Federal Government level relating to the establishment of manufacturing projects and foreign venture can be handled all at once through MIDA through this system.

(3) MIDA Foreign Direct Investment (FDI) Promotion Activities and Problems

Current MIDA investment promotion activities may be roughly divided into 1) Publicity activities and 2) FDI promotion activities:

1) Publicity Activities

Publicity activities are means of establishing in the minds of domestic and foreign investors and potential investors an image of Malaysia as a profit-making base. The stress is on the provision of information necessary and suitable for this. As of June 1995, MIDA had put together and made available the following investment related publications:

- Malaysia: Investment in the Manufacturing Sector (English, French, German, Italian, Japanese, Korean and Mandarin edition)
- Malaysia : Your Profit Centre in Asia (do)
- Malaysia : The Facts (do)
- Policies & Guidelines

- Industrial Map of Malaysia
- Industry in Brief
- Guidebook for Malaysian Manufacturers
- Manufacturing Projects, Approved
- Malaysia Industrial Digest
- Malaysia, Directory of Potential Joint-Venture Partners & Contract Manufacturers (RICOM list)
- MIDA Corporate Leaflets
- RICOM News

There have been the following problems with existing publicity activities, however:

- a) The small number of investment guides focused on individual industries and individual sectors.
- b) The small number of companies registered in the RICOM list and the insufficient information on those that are registered.

2) FDI Promotion Activities

The foreign direct investment promotion activities consist primarily of direct contacts with potential foreign investors and explanation of the advantages of Malaysia as a site for investment. The sectors which MIDA is now stressing in its activities are 1) resource based industries, 2) high technology industries, and 3) supporting industries. The MIDA FDI promotion activities consist mainly of the following:

a) Sponsoring of Local Investment Promotion Seminars/Symposiums

MIDA holds investment promotion seminars and symposiums in Malaysia for potential foreign investors. The various State Economic Development Corporations (SEDCs) participate in these as well.

b) Dispatch of Overseas Investment Promotion Missions

Joint public/private investment promotion missions participated in by the Minister of Industry, MIDA staff, and representatives of private companies are sent

overseas. Problems observed in these investment promotion missions have been the small number of missions focused on small businesses and specific sectors and mostly overly generalized explanations of foreign investment policy and the investment environment at seminars, etc. For example, joint activities targeted on auto parts companies with the Malaysian Automotive Component Parts Manufacturers Association (MACPMA) and other industrial associations would be desirable.

c) Matching up Partners by Registry of Investors and Contract Manufacturers (RICOM)

The RICOM system was started in 1986 with the objective of promotion of capital and technical tieups between foreign and domestic firms as part of the program for attracting foreign manufacturers to Malaysia. As of December 1994, there were 148 companies registered in the system (139 local, nine foreign). One of the problems with the current RICOM system is the small number of companies registered. For example, when focusing on the auto parts sector, there are only a handful of companies registered. Another problem is that the information given for the listed companies is not sufficient enough to enable selection of partners.

(4) Intensification of Promotion of FDI and Corporate Tieups for Auto Parts Industry

To attract foreign automotive parts companies and encourage the establishment of tie-ups between such businesses and Malaysian firms, it is considered necessary to strengthen promotion activities as follows bearing in mind that the foreign companies targeted are not major corporations familiar with doing business overseas, but are mostly firms which have high levels of technical expertise, but are small in size.

1) Dispatch of Overseas Investment Promotion Missions for Promoting Auto Parts Industry

To increase the international competitiveness of the automotive parts produced in Malaysia, it would be desirable to dispatch investment promotion missions focuses on that sector and relevant companies. The missions would preferably be joint public/private sector missions participated in by the MACPMA and member firms of that association. In arranging the seminars and symposiums and the visits to companies, effort should be made to strengthen contacts with the industrial organizations and investment promotion organizations of the host country.

2) Strengthening of Relations With Investment Promotion Organizations

The United Nations Industrial Development Organization (UNIDO), which works to promote international investment, has offices in Japan and other major countries. Japan, on its part, has many public organizations for promoting or assisting investment such as JETRO, the Japan Small Business Corporation, the Japan Finance Corporation for Small Business, and the Japan Overseas Development Corporation (JODC). It would be desirable to maintain continued close contact with these organizations in activities for promoting investment from small businesses, which constitute the bulk of the targeted companies.

For example, in Japan, it would be possible to arrange a) "Malaysian auto parts industry investment promotion seminars" at different locations in Japan under the joint sponsorship of MIDA, UNIDO Tokyo, and JETRO or b) direct visits to individual auto parts manufacturers through the Japan Automotive Parts Industry Association (JAPIA).

3) Augmentation of RICOM System

To promote tieups among companies, it is necessary first for the Malaysian side to make sufficient surveys to determine what kind of companies in what kind of fields desire what type of tieups. The findings of the surveys should be sufficiently reflected in the MIDA RICOM system and the MITI small business registry and effectively tied in with other investment promotion and joint venture promotion programmes.

4) Strengthening of Investment Information Service

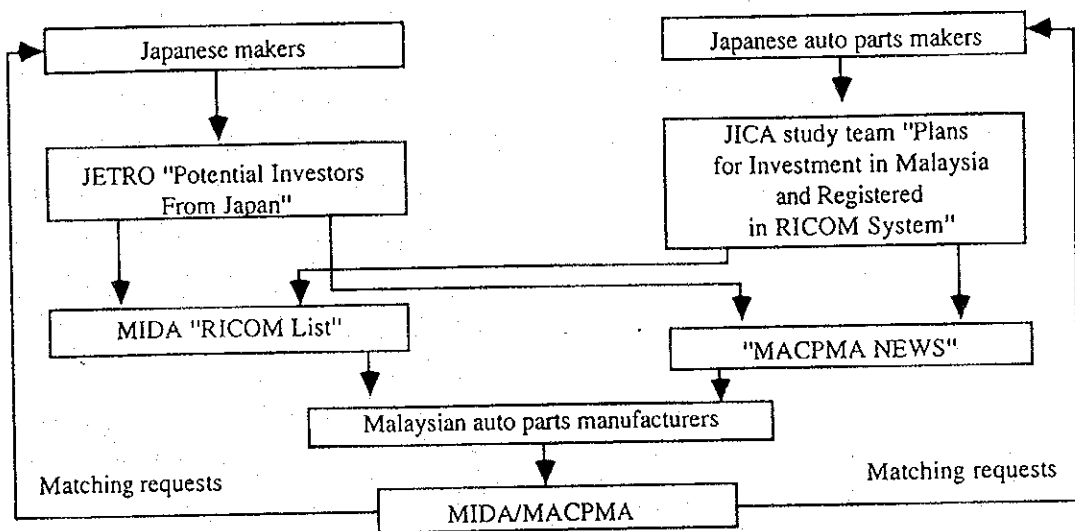
Auto parts manufacturers in Malaysia should be periodically provided with a) information on trends in foreign companies (including Japanese) investing in ASEAN, nearby countries, China, etc., and b) information of foreign companies desiring to invest in Malaysia (for Japanese firms, using JETRO's "Potential Investors From Japan" etc.) Further, potential foreign investors should be provided with information on Malaysian companies desiring business tie-ups with foreign companies.

5) Intensification of Matching Activities

To match up requests for joint ventures from Malaysian and foreign companies, it would

be desirable for the numerous related governmental organizations, industrial organizations, and private companies to work together. For example, it would be possible to augment the existing MIDA- RICO M list and compare it against the lists of potential Japanese business partners compiled by JETRO and the present JICA Study Team to facilitate matching between Malaysian and Japanese firms. This would be done by the arrangement shown in the following flow chart.

Fig. 5-2-3 Flow Chart of Matching Promotion



2.6. PROGRAMMES FOR STRENGTHENING THE ACTIVITIES OF AUTOMOBILE RELATED INDUSTRIAL ORGANIZATIONS

(1) Background

In all countries, the collaborative activities of manufacturers through industrial associations become extremely important along with industrial growth. For example, in Japan, high marks have been given to the large roles played by the Japan Automobile Manufacturers Association (JAMA) and the Japan Automotive Parts Industry Association (JAPIA) in helping to develop and strengthen the Japanese automobile industry.

JAPIA engages in 1) the collection, processing, and dissemination of auto parts related statistical data, 2) the exchange of opinions with governmental institutions and various other industrial organizations, 3) the improvement of the level of technology in the field through joint R&D, and 4) the promotion of exports through cooperation with other organizations. Among these activities, the joint R&D projects (1956 to 1975) are considered to have played a major role in strengthening the international competitiveness of Japanese auto parts.

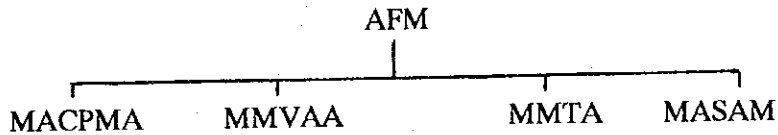
The business environment surrounding the Malaysian automobile and automotive parts industry is becoming increasingly severe today. In particular, therefore, it is considered that the importance of activities of industrial associations is rising in the following fields:

- 1) Exchanges of needs and information among automobile companies and automotive parts manufacturers and coordination in mutually strengthening business standings through the industrial organizations;
- 2) Joint projects for ensuring long-term international competitiveness for promotion of exports of automobiles and automotive parts;
- 3) Intermediary activities for strengthening relations between foreign companies with advanced technical expertise in the automotive parts manufacturing field and Malaysian companies.

(2) Organization and Activities of Auto Related Industrial Organizations in Malaysia and Problems in Same

Malaysia currently has five industrial organizations which deal with automobiles, motorcycles, and other transport machinery (established from the 1960s to the 1970s). They are outlined as

shown below:



- AFM : Automobile Federation of Malaysia
- MACPMA : Malaysian Automobile Component Parts Manufacturers Association
- MMVAA : Malaysian Motor Vehicle Assembler Association
- MMTA : Malaysian Motor Trader Association
- MASAAM : Motorcycles and Scooters Association & Distributors Association of Malaysia

a) Automobile Federation of Malaysia (AFM)

The AFM was established in 1977 as a supervisory organization for coordinating activities among the four transport machinery related organizations. The AFM holds meetings to facilitate exchanges of opinions among the four organizations about once a month. When a problem occurs involving several organizations or a single organization, it is dealt with by a government-led Motor Vehicle Advisory Committee (MVAC). Relations between the AFM and similar industrial organizations of other countries are limited to participation in the BBC scheme with corresponding industrial organizations of the other ASEAN countries. The AFM does not keep in particular touch with corresponding industrial organizations of Europe, the U.S., or Japan.

In relations of the AFM with the MACPMA, agreement was reached to set up a system for cooperation in the formulation of policies for local content. However, there are no specific joint projects under way for improving the quality of auto parts or strengthening international competitiveness. According to an official of AFM, activities will be limited to the area of "meetings" for the time being. This is the problem. To promote the growth of the automobile industry in Malaysia, it is first necessary to strengthen the organization of the AFM and engage in joint projects with other organizations to strengthen the industrial base.

b) Malaysian Automobile Component Parts Manufacturers Association (MACPMA)

The MACPMA was established in 1979 as part of the government's program to increase the domestic production of auto parts. Its main current function is to serve as an official

channel of communication between auto parts manufacturers and the government and a forum for the exchange of opinions among members. Membership is open to any individual or company which is producing parts and accessories for automobiles, trailers, tractors, and other vehicles in Malaysia. The MACPMA had 96 member companies as of December 1994.

According to MACPMA publications, the objectives of establishment of the organization are briefly as follows:

- a. Foster and maintain the development of an automotive component parts industry in Malaysia;
- b. Provide services to members pertaining to the conduct of their businesses;
- c. Establish and promote liaison between automobile assemblers and auto parts manufacturers;
- d. Communicate with other Industrial/Trade Associations, Federation of Malaysian Manufacturers (FMM), Chambers of Commerce, the Automotive Federation of Malaysia (AFM), and other industrial or public bodies;
- e. Collect, analyze, and disseminate information pertaining to the automotive industry.

c) Activities and Problems of MACPMA

The MACPMA engages in the following activities:

- i. Local content policies: Participating in regular discussions
- ii. Legislation: Holding dialogues with government bodies and other private organizations
- iii. Regional development: Participating in meetings at the regional level on the promotion of the automobile industry in ASEAN
- iv. Liaison with other associations: Provide dialogue on a regular basis with other associations in the industry, Malaysian Motor Vehicle Assemblers' Association (MMVAA), Malaysian Motor Traders Association (MMTA), and Motorcycle and Scooter Assemblers' Association of Malaysia (MASAAM)
- v. Newsletter: Regular publication of "MACPMA News" informing members of developments in the auto parts industry.

According to a member of the board of directors of the MACPMA, the association's

main activity consists of discussions and exchanges of information. Further, the "MACPMA News" is published only three or four times a year due to the fact that the association has only one full-time staff member. Projects for promotion of the auto parts industry are difficult due to the limited funds (1994 revenue was about 50,000 ringgits). The limited financial resources is perhaps the biggest problem faced by the association.

(3) Strengthening of Activities of MACPMA

To promote the growth of the auto parts industry, it is first of all desirable to boost the activities of the MACPMA, which counts about one-third of the auto parts manufacturers (primary subcontractors) in Malaysia in its membership. The main features of this would be as follows:

1) Establishment of Secretariat Organization

At the present time, the MACPMA has only one full-time staff member and therefore is limited in the range of its activities. If it is difficult to increase the number of full-time staff due to fiscal constraints, then for example it could be considered to have member companies send over staff on loan at no charge for one or two year terms. While the dispatch of staff to the secretariat would mean a considerable burden on the companies in terms of expenses, it would have great advantages in terms of the development of human resources.

Further, a system should be considered by which member companies would form subcommittees and set up non-permanent working groups to engage in various projects.

2) Strengthening of Information System

Information services should be further systemized. This is already being partially done at the present time.

- a) Collection of information and materials: Malaysian and foreign materials relating to auto parts should be collected and set aside in a own library and arranged to enable member companies to freely examine them.
- b) Analysis and processing of information and materials: Domestic and foreign product

trends, technical trends, trends in needs of automobile manufacturers, etc. should be analyzed and summarized in reports. In the future, statistics on the production and shipment of individual parts should also be prepared.

- c) Dissemination of information: The information processed at b) should be carried in periodicals such as the "MACPMA News" as much as possible to be disseminated to member companies and related organizations.

3) Business Consultations and Inquiries

- a) To enable members to deal with problems confronting them, opinions and needs should be solicited and consultations provided. The board of directors should quickly study problem facing the industry as a whole, opinions, and needs and propose appropriate action.
- b) Space should be arranged at an early date for the display of samples of products of member companies and inquiries should be properly routed.

4) Planning and Coordination of Export and Joint Venture Promotion

- a) Dispatch of export and overseas investment promotion missions: The dispatch of export and investment promotion missions to foreign countries should be planned and executed in cooperation with MIDA, MATRADE, etc. In the seminars and business discussions in the target countries, it would be desirable to work with the respective trade and investment promotion organizations and auto parts industrial associations.
- b) Assistance in matching up companies for tieups: Members should be encouraged to register at the MIDA RICOM list, etc. On the other hand, effort should be made to uncover potential foreign investors.

5) Joint Activities with Related Organizations

- a) Joint research in auto parts: Joint research for improving the quality of auto parts should be conducted with cooperation from MITI, MIDA, SIRIM, FMM, AFM, etc., and the results should be shared with member companies.
- b) Management and technical seminars: Business meetings between members and auto parts and accessory users and technical seminars should be periodically held to lead to greater efficiency in management and improvement of technical expertise.

6) Strengthening of Ties With Foreign Auto Parts Industrial Associations

- a) Effort should be made to implement the BBC scheme with companies in the ASEAN countries and to strengthen relations in fields of common parts.
- b) Relations should be established with corresponding industrial organizations in countries such as Japan which are investing in Malaysia so as to promote international cooperation.

(4) Other Measures for Strengthening Activities of Auto Parts Industry Related Organizations

Malaysia has many industrial organizations other than the MACPMA in the sector called the "engineering subsector" by the Study Team. The leading ones are FOMFEIA, SEFIA, PFEIA and SAFTMADA.

The above industrial organizations are mostly organized on a regional or sectoral basis and differ in terms of the number of member companies and level of activities as well. On the other hand, due to such constraints, they resemble each other in the scale of operations and nature of activities. Most are engaged in more aggressive activities than even national industrial organizations such as the MACPMA.

Even if it is difficult for MITI and other government organizations to provide direct financial assistance to such industrial organizations, it would be desirable for them to provide assistance for the following activities by the use of technical knowhow, information, institutions, and supporting facilities:

- 1) Improvement of management knowhow through the advice of experts, seminars for improving level of technical expertise, and roving factory guidance
- 2) Mutual stimulation of business managers and engineers by visits to each other's company
- 3) Collection, processing, and dissemination of overseas market information and technical information
- 4) Overseas matching activities on the industry level
- 5) Periodic exchanges with foreign industrial organizations

2.7. HUMAN RESOURCE DEVELOPMENT PROGRAMME

Malaysia aims to become a fully developed country by the year 2020. Vision 2020 is guiding the direction of Malaysia's development efforts toward the year 2020. One of the factors emphasised in Vision 2020 is human resource development. The government seeks to raise the level of management expertise, technological know-how and employee skills in small- and medium-sized industries.

Human resource development has been identified as one of the major problems in promoting the automotive industry in Malaysia through interviews with related organizations and private companies in this survey. Especially the necessity of training highly skilled manpower and engineers and upgrading management expertise at small and medium enterprises is emphasised for the development of the industry.

In the process of achieving the growth target guided by Vision 2020, Malaysia must become technologically proficient and have an internationally competitive economy. Malaysia, including the automotive industry, must produce high quality and competitive products which can sell in the international market as well as in the domestic market. The quality of human resources determines the extent of competitiveness, productivity, innovativeness as well as the efficiency of a nation's economy. However, there is a gap between the current education and training system and the requirements of the industries.

From this point of view, human resource development programmes are proposed to secure the manpower required by the automotive parts and components industries.

2.7.1. Establishment of an Advanced Skill Development Centre for the Automotive Industry

(1) Background

- Insufficiency in skilled workers within companies

The number of skilled workers is not sufficient in the fields of supporting engineering technologies such as casting, forging, and die-making. This problem is one of the bottlenecks in assuring better quality products, in improving productivity, and in starting the production of products incorporating a higher level of technology.

- Insufficiency in capable engineers and technicians

One of the largest problems for local automotive parts and components manufacturers to raise their technology level is the limited number of engineers. It is necessary to secure a sufficient number of engineers and raise their level for Malaysian companies to become technologically independent. This is because the insufficiency of competent engineers is a bottleneck in maintaining and upgrading production technologies acquired through technical collaboration from foreign companies and improve factory management technologies.

In addition, R&D capabilities should be reinforced in order to keep the automotive parts and components industry competitive and promote the further development of the industry. The key factor in the successful establishment of the R&D function is the development of human resources to run R&D activities productively and competitively.

- Insufficiency in vocational training institutes providing advanced skill training

There are various Ministries, government bodies and private institutions which are involved in vocational training at different levels. Some of them, such as polytechnics, CIIAST, GMI, etc., engage in higher level education and training in the field of industrial technologies. However, the number of vocational training institutions which provide advanced skills training is not sufficient taking the requirements of the industries into consideration. At the same time, the number of public vocational training institutes which engage in post-employment training is limited.

Table 5-2-1 Public Institutions for Human Resource Development in Malaysia

Type of Worker	Pre-Employment Education n & Training	Post-Employment Education & Training
Engineer	Universities, Colleges	CIIAST
Technician	Colleges, Polytechnics	CIIAST
Skilled Worker & Semi-skilled Worker	ITIs and Other Vocational Training Institutions	CIIAST, ITIs and Other Vocational Training Institutions
Worker	Technical Schools, Vocational Schools	

(2) Objectives

To set up an advanced skill training centre for engineering supporting industries targeting specific technologies which are highly required by the automotive industries.

The centre will be set up with the following purposes:

- i. To train and produce highly skilled workers and technicians to meet the increasing demand of the automotive industry.
- ii. To pool resources in the provision of training programmes which would not be viable for individual companies to provide.
- iii. To establish a mechanism to coordinate and utilise the resources available from industries and institutions.

(3) Responsible Organisation

An Advanced Skill Development Centre for the Automotive Industry will be newly formed under the auspices of the Ministry of Human Resource with the cooperation of the private sector, and public education and training organisations.

The Penang Skills Development Centre (PSDC) and German Malaysia Institute (GMI) are good examples of joint effort by governmental bodies and industries. The Centre will be established with similar joint effort.

Possible Participants

Government:

- Ministry of Human Resources
- Economic Planning Unit

Type of participation: Provision of land for the Centre
Provision of building for the Centre
Provision of training equipment
Support for operating expenses, in the form of grant and/or funds

- Foreign Government

Type of participation: Provision of Training Equipment
Provision of training know-how
Provision of instructors

Industries:

- Automotive manufacturers
- Automotive parts and components manufacturers
- Engineering supporting manufacturers
- Association related to the automotive industry

Type of participation: Provision of training opportunity at their plants
Provision of training know-how
Provision of instructors
Payment of membership fee

(4) Function of Centre

The Centre will have the following functions:

- To develop training courses with the cooperation of the industries.
- To implement training courses to produce highly skilled technicians with a high level of engineering knowledge as pre-employment training.
- To implement training courses to achieve the immediate skills and knowledge upgrading of company workers as post-employment training.
- To provide in-house training courses.

Pre-employment Training

Period: 3 years
Content: Diploma Level
Entrance Requirements: SPM/SPVM, Certificate Level

During the courses, trainees will receive on-the-job training at private companies' workshops for a certain period in addition to the training at the Centre.

This course will offer higher level of training and more practical training which meets the specific needs of the automobile industry rather than pre-employment training which polytechnics and ITIs currently provide. This course will produce such manpower as can work as technicians and technical assistants. Graduates from this course will be

granted a diploma.

Post-employment Training

Long-term Course

Period: 2 – 3 years
Content: Diploma Level
Entrance Requirements: SPM/SPVM plus a certain period of work experience

During the courses, trainees will receive training which emphasizes theoretical aspects at the Centre while they continue to work at their companies.

This course will provide skilled workers with training emphasising their knowledge of engineering and bring them up to become technical assistant or engineer-level workers. Graduates from this course will receive a diploma.

Short-term Course

Period: 1 week – 3 months
Content: Training in-to-date technologies
Entrance Requirement: Work experience in specific technologies is emphasized.

Up-to-date production technologies will be introduced and trained in order to keep up with technological changes.

Fig. 5-2-4 Organisation of Advanced Skill Development Centre for the Automotive Industry

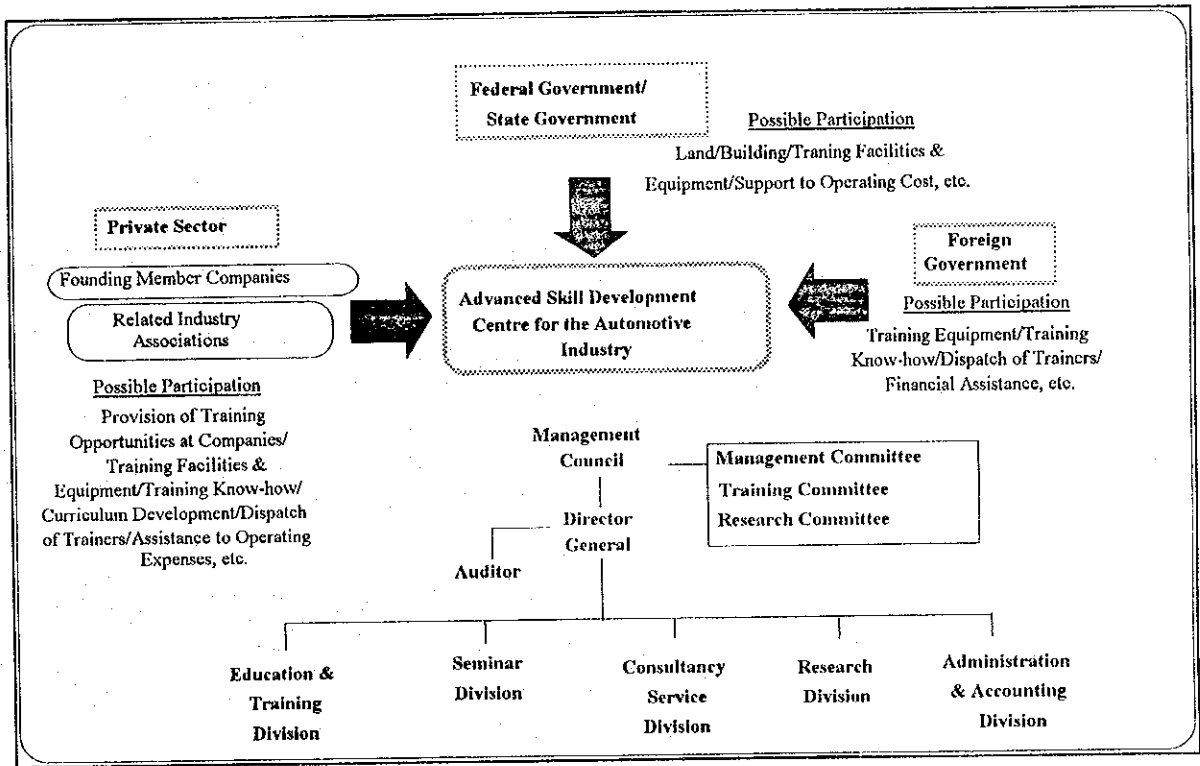
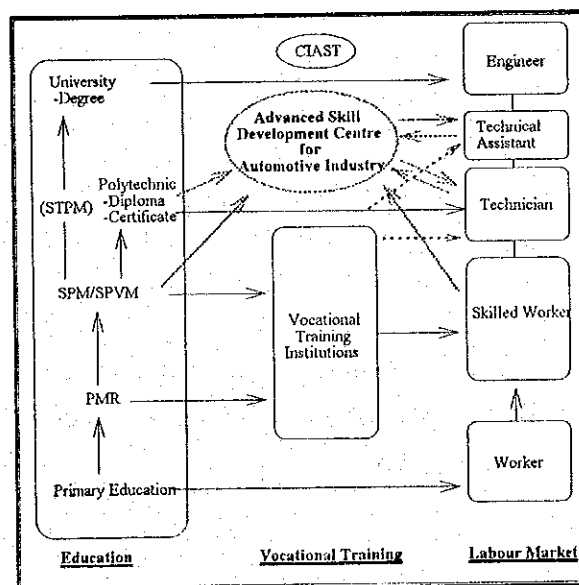


Fig. 5-2-5 Positioning of Advanced Skill Development Centre for the Automotive Industry



2.7.2. Establishment of an SMI Management Institute

(1) Background

- Expansion of training courses for managers in SMIs on business management and production management is required.

The improvement of management competency among management class and middle-managers in SMIs is important for the further development of SMIs. However, the opportunity of receiving overall education and training on management skills is limited for SMIs.

- The manpower training capability is weak at small- and medium-sized enterprises.

Local companies, in many cases, do not have enough instructors for on-the-job training nor enough capability to establish an overall human resource development programme.

There is difficulty in carrying out in-house training at small- and medium-sized enterprises due to insufficient funds and manpower. In addition, they have difficulty in employing skilled workers due to their less attractive working conditions compared with large companies.

- The reinforcement of consultancy service function rendered to SMI by MITI and related organisations is necessary.

The development of SMI is being strongly promoted under the present industrial development policy. The function of guidance to SMI will be decentralized and widely extended to local government and organizations.

Under these circumstances, the training and re-training of consultancy skills for SMI will be important for official personnel who will engage in SMI development.

(2) Objectives

To set up a training centre on SMI management with the following purposes:

- i. To modernise the management of SMIs by upgrading their managers' skills.
- ii. To upgrade the consultancy competency of official personnel engaging in SMI development.
- iii. To provide consultancy service to SMIs.

(3) Responsible Organisation

The Institute will be set up under the auspices of the Ministry of International Trade and Industry. The Institute will be newly established or established by expanding the National Productivity Corporation.

(4) Function of the Institute

The functions of this Institute are as follows:

- To develop curricula for small and medium scale enterprises.
- To provide long-term training courses on SMI management.
- To provide short-term seminars on SMI management.
- To provide consultancy service to SMIs.
- To promote technical exchange activities among companies.

Long-term training courses

Period: 6 months to 1 year

Courses: Business management, Production Management

Content: Combination of training in the Institute, correspondence course, and practice/team project at SMIs.

Short-term seminars

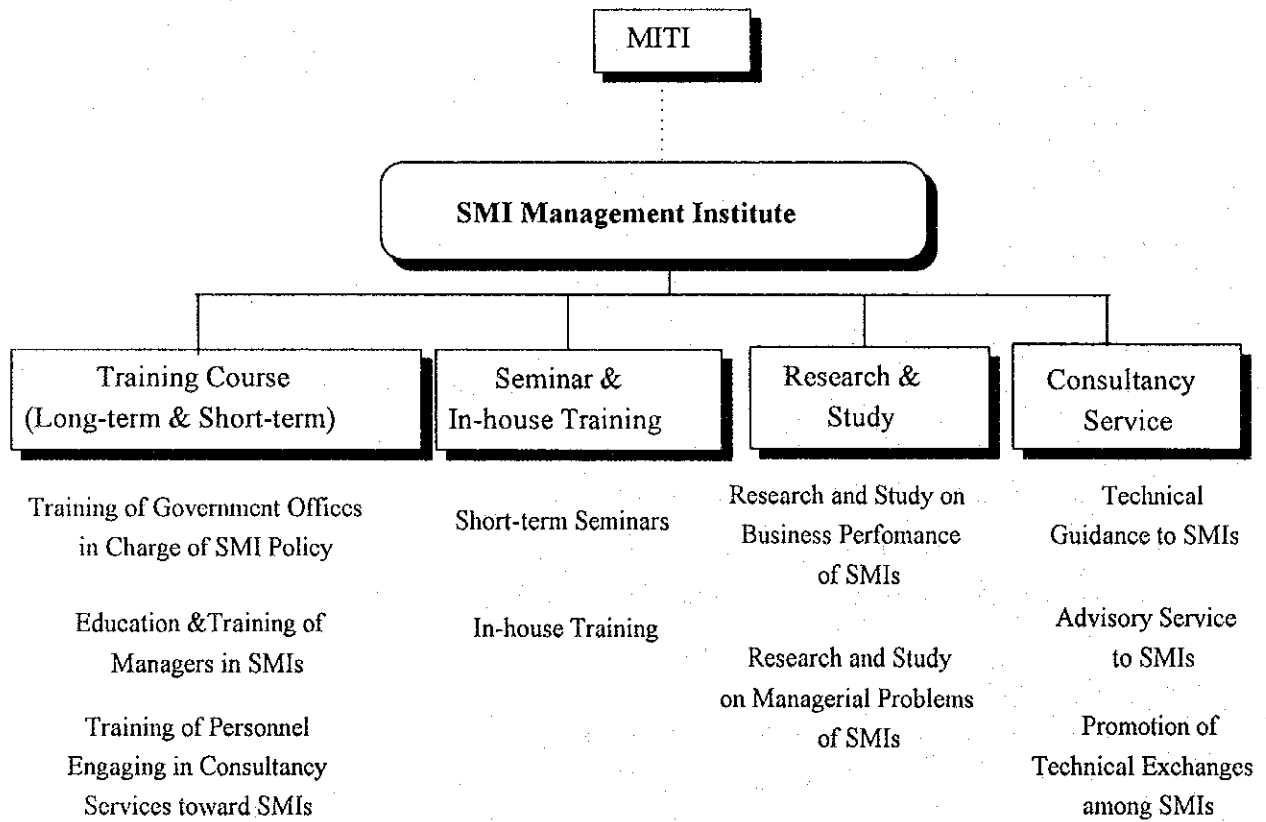
Period: Night courses, one-day courses, 1 to 2-week courses

Courses: Examples of courses are as follows:

- Production control
- Quality control
- Inventory control

- Sales management
- Human resource management
- Financial management
- Small- and medium-size enterprises development
- Consulting skill

Fig. 5-2-6 Functions of SMI Management Institute



2.8. TECHNICAL GUIDANCE VISITS TO AUTOMOTIVE PARTS MANUFACTURERS BY EXPERTS

(1) Background

A look at the level of technology of the automotive parts industry in Malaysia shows that the overall level is low although the international level has been reached in foreign affiliated companies and a handful of large scale Malaysian companies. Especially, in the engineering sub-sectors in which most companies are small, assistance in the fields of production technology and management is requested.

To promote the Malaysian automotive parts industry into an internationally competitive industry in terms of QCD (Quality, Cost, and Delivery), it is necessary to solve various issues surrounding the industry, and to provide technical assistance in individual companies.

This programme is designed to build up the industry so that it can produce automotive parts for the overseas markets with sufficient international competitiveness in quality, cost, and delivery. This program of Technical assistance to automotive parts manufacturers by experts is comprised of two individual assistance schemes. One is short term assistance focused on the development of medium size manufacturers, and the other is long-and-medium term assistance to companies which have the potential to become leader companies. Both supports are basically made at the factory level.

(2) Proposed Projects

1) Short Term Support to Companies

Medium size local manufacturers would be individually visited, their factories studied, and assistance provided on production technology and management. In the implementation of the project, assistance to SMIs would be provided by joint technical teams of the SIRIM and the SMI Unit of MITI, together with foreign experts. For that purpose, the establishment of a technical support task force within MITI is expected.

The assistance is aimed at the improvement of production technology through the diagnosis of factories so that technical problems are identified, analyzed and solved. The assistance would emphasize not only the acquisition of skills, but also product planning, design, quality control, total quality control (TQC) activities, and other managerial aspects of the industry.

Specific fields covered by the assistance would include (a) the improvement of product quality, (b) the expansion of production capacity, (c) the reduction of delivery, (d) the renovation of factory layouts, and (e) the development of processing methods, facility operation, and maintenance.

It is recommended that a technical assistance team comprising an expert on production technology, an expert on product design, an expert on quality control, and a management consultant provide one to two week support to each company twice or three times a year.

2) Medium and Long Term Support to Companies

Companies which are particularly excellent in their operations could receive a wide range of technical and managerial assistance continuously over the medium and long term so as to create leader companies with international competitiveness in quality, cost, and delivery. The fields of technology to which assistance is given would include production technology and R&D technology. The development of production technology aims at the improvement of international competitiveness, while that of R&D technology aims at the increase in the localization of automotive parts. Further, in line with the former, target products with potential competitiveness would be selected and assistance provided until they are sufficiently competitive in the overseas markets in price and non price areas. On the other hand, the level of R&D technology to be required would not be the state-of-the-art technology but would be R&D sufficient to produce parts which are presently not localized.

Since problems differ by company, the assistance programme would be basically determined based on the needs of each company. However, considering the problems commonly observed in the Malaysian automotive parts industry, the following assistance would be envisaged.

- (a) quality control in the production process
- (b) processing technology of complicated parts
- (c) trial manufacture of complicated parts
- (d) processing and assembling of complex mechanism parts
- (e) precision processing
- (f) design and manufacture of dies
- (g) high level education to engineers
- (h) productivity improvement by automation
- (i) testing and inspection methods
- (j) drawing of specifications

(k) management of main and side material

It is expected that technology can be transferred from the company to which assistance is given to the whole downstream automotive parts industry in Malaysia. In addition to production technology and R&D technology, assistance would be provided in managerial and marketing areas and assistance given to in-house development of human resources. This assistance would be made possible by supports from international organizations.

(3) Supports from International Organizations

Because of the limited supply of available human resources in the downstream automotive parts industry in Malaysia, it is desirable that experienced experts from overseas technical cooperation organizations join the technical assistance team. The technical assistance team should comprise an expert on production technology, an expert on R&D technology, an expert on die technology and an expert on management and marketing. It should give assistance to the designated company for a period of six months to three years so as to develop leader companies.

2.9. PROMOTION OF JOINT R & D ACTIVITIES

(1) Background

In order to strengthen industrial sectors and to achieve continuous high economic growth, R & D activities, particularly in the private sector, are strongly requested. In the private sector, particularly in SMIs, however, R & D activities are often given little importance.

In order to promote private sector R & D activities, Malaysian government agencies and universities have various supporting schemes. (refer to Chapter 2, Section 3.) The joint R & D support schemes are the most commonly known activities among them. In SIRIM, for example, there are the Joint Research Venture Programme (JRVP) and the SIRIM Tripartite Research Venture Programme (STRIVE). The former is the joint R & D activities between SIRIM and private companies, and the latter, among SIRIM, universities and private companies. In UTM, they also have joint R & D schemes with private companies, such as joint R & D with PROTON.

In the case of current joint R & D schemes, the costs of R & D are basically shared 50 – 50 by both private and public sectors. In this, the public sector is composed partly of such academic organizations as UTM and partly of such semi-governmental research organizations as SIRIM. They are subsidized by the government through the funds of the Intensification of Research in Priority Areas (IRPA) which was initiated by MPKSN (National Council for Science Research and Development). Users or applicant of these schemes are mainly large companies. For SMIs, their needs for R & D are still low and the burden of the R & D cost is very heavy. Thus, their use of the schemes is reported to be rare at present. It could be said that the gate for the use of joint R & D schemes is always open to SMIs, but it is hard to enter.

The terminology of "joint" in current schemes mainly means the sharing of R & D expenditures. The private sector requests R & D activities from some relevant organizations such as UTM and SIRIM on a contract basis, usually signed MOU. The results of the R & D are provided to a particular company. However, the fruits of the R & D activities are said to be larger in the accumulation of experiences by engineers who participate in the activities rather than research results such as the new products which may be developed. Under the current scheme, the experience and know-how of R & D activities are accumulated among the researchers in the public sector, and contributions to the development of R & D engineers

in the private sector are rather small. In the proposed Joint R & D activities, the Study Team put higher emphasis on the "joint efforts among engineers both from public and private sectors" and the "joint efforts among a large number of private companies" rather than the "share of R & D costs."

Of course, the current schemes are also to be continued in order to complement the present limited R & D capability of the private sector.

(2) Concept of Joint R & D Activities

One of the major objectives of the proposed Joint R & D scheme is to accumulate R & D experience among engineers of the private sector. For this, the establishment of a new scheme is not needed. The goal could be achieved by changing the process and ways of conducting actual R & D activities under the existing schemes. The major emphasis should rather be placed on the training of engineers of SMIs where engineers have very few chances to participate in R & D activities, for which each R & D scheme should be designed in such a way that SMIs could easily participate.

Another objective of the scheme would be the promotion of R & D activities of which the development risks and costs are too high for one company to bear. For this, a plural number of private companies could join together and promote the R & D activities together with other supporting research organizations. The selection of development targets is very important. They should be practical but also rather ambitious. One of the examples would be the development of new types of engines. An engine is composed of various kinds of parts and components. Thus, the number of companies which are required to participate in the development scheme would be large. The participating companies could further be sub-divided according to the kinds of products or production processes, and development sub-targets would also have to be set.

A good example of the above would be the joint R & D project of "fuzzy computer" in Japan. To carry out the project, the government first established an overall plan of development target and schedule, as well as the budgetary allocation for the support of the project. The development target was further sub-divided, and participating companies were recruited. These participating companies undertook research work for each sub-divided target as a group, the results of which were reported to other groups. From the results of this project, no new product of commercial use was developed. However, the project is evaluated highly due to its contribution to the accumulation of technological know-how for new

computer development in all of the participating companies.

Although higher emphasis should be placed on the accumulation of experience by those participating in the R & D project rather than the development results, in Malaysia, a further clear objective of the creation of practical output should be decided on at the initial stage of planning.

(3) Development Process

The process to be followed in the recommended types of development projects is briefly summarized as follows, taking the case of new engine development as an example.

- 1) Establishment of a target / objective
 - development target selection: i.e., the development of a new fuel efficient national engine
 - proposal of a rough design of the development target products
- 2) Proposal of schedule and budget
 - decision on the governmental financial support source: i.e., to utilize the IRPA fund
 - decision on the limit of supporting funds and development target year
- 3) To invite participating companies
 - recruitment of participating companies: i.e., assemblers, related vendors and sub-vendors
 - selection and appointment of participating companies
- 4) To determine sub-groups according to the rough specifications
 - grouping of participating companies either by product group or production process: i.e., cylinder, cylinder block or lubricating system group
 - no exclusion of rival companies in a specific group
- 5) To determine the level of expenditures and their allocation
- 6) To appoint researchers belonging to research organizations, universities and other organizations, including foreign advisors
 - selection and appointment of researchers and supporting staff members
 - selection of a leader for each sub-target group
- 7) To register the participating researchers / engineers of each company involved

- 8) To confirm the proposed specifications, and detailed schedule
 - determination of development schedule for each sub-target group
 - coordination of each development schedule according to the overall development schedule
- 9) To implement "Joint R & D" activities
 - determination of development procedures for each sub-target group: i.e., using facilities / equipment of public research organizations or those of each company
- 10) To hold periodic meetings
 - decision on the group meeting schedules for each sub-target group, as well as overall group meetings: i.e., presentations on progress and discussion
 - holding ad-hoc meetings at the initiative of a leader
- 11) To terminate the project

(4) Expected Effect

The major effects expected from the proposed joint R & D projects are as follows:

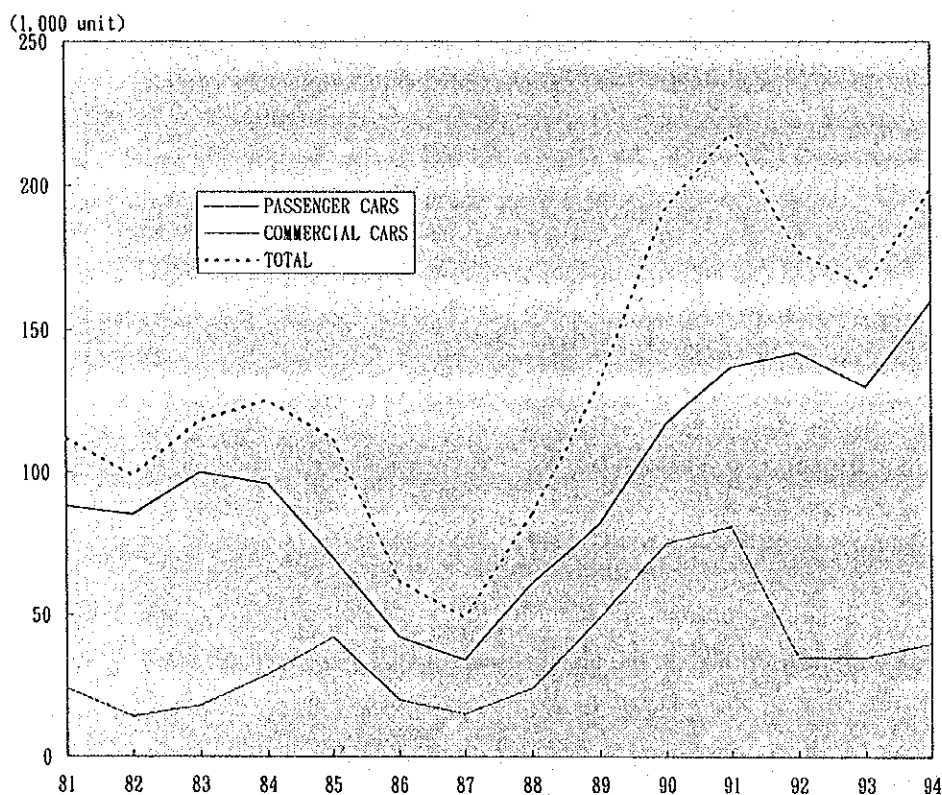
- 1) The engineers in the private sector will gain development know-how through participation in the projects.
- 2) A system where many companies participate will reduce the expenditure burden of each company.
- 3) Participating companies' technological level would increase tremendously through the accumulation of experience in the engineers who take part in the project.
- 4) Mutual edification effect would be expected through mutual communication among engineers from various fields and organizations.

2.10. AUTOMOTIVE DEMAND STABILIZATION PROGRAMME

(1) Background

For the Malaysian automotive parts industry to experience sound growth, a steady increase in the domestic demand for motor vehicles is highly desired. Although it has shown a favorable growth in the past 6 to 7 years, the trends of domestic demand for motor vehicles in Malaysia in the 1970s and 80s were characterized by wide fluctuations.

Fig. 5-2-7 Flow of Automotive Production in Malaysia



In spite of the current relatively high car ownership ratio in Malaysia, it is considered that there is still a fairly large potential demand for motor vehicles. For one thing, more than 50% of the motor vehicles in use in Malaysia are more than 10 years old. This is partly due to the current relatively loose regulations over the use of old cars. A delay in converting these old cars to new cars currently creates serious problems both in securing driving safety and in protecting the environment from untreated fuel gas emission. For another, the new car price in Malaysia has been kept relatively high through the high import duty on CBU, CKD parts and other imported automotive parts and components, and the excise duties and sales taxes on

locally manufactured motor vehicles.

It would be possible for the domestic demand for new cars in Malaysia to expand further if the above regulatory constraints were lifted. If such demand stimulating measures were introduced, however, it could work both for amplifying the fluctuation of demand and for stabilizing the demand according to its timing. Thus, it is proposed that a system be established that could initiate the introduction of above measures toward the direction of stable demand increase, by taking into account the demand trends due to some other factors.

(2) Possibility of the Expansion of Replacement Demand

According to the MOT statistics, the total number of passenger cars registered in Malaysia at the end of 1993 was 2.3 million, and that of total motor vehicles was 3.0 million. The total motor vehicle ownership ratio per 1,000 people (R/1000) at that year was 157. Comparing this figure with those in Korea (79) and Taiwan (103) at the end of 1990, the total motor vehicle ownership ratio in Malaysia is considered to be very high.

Table 5-2-2 International Comparison of Motor Vehicle Ownership Ratio

	Malaysia	Korea	Taiwan
(at the end of year)	(1993)	(1990)	(1990)
Number of motor vehicles registered ('000 units)	3,008	3,395	2,115
Motor vehicle ownership ratio (R/1000)	157	79	103
Per capita income (US dollars)	3,010	4,466	6,855
New car supply ratio (%)	5.8	21.1	40.0

Source : "Automotive Industry Handbook", Daily Automobile Journal, 1994

This high ownership ratio in Malaysia is partly due to very high automotive demand in the country, and partly due to the use of very old cars. For example, the new car supply ratio (Total new car sales volume/Total number of cars registered at the end of the previous year) in 1990 was 8.0% in Malaysia, while it was 21.1% in Korea, and 40.0% in Taiwan.

The breakdown of the total number of motor vehicles registered at the end of 1993 by the year of registration is as shown in Table 5-2-3.

Table 5-2-3 Breakdown of Motor Vehicles Registered in Malaysia
(Unit : '000)

Year of Registration	Number of Motor Vehicles Registered
Before 1983	1,784
Between 1984 and 1988	417
After 1988	807
TOTAL	3,008

Source : Estimate from MOT statistics

The use of the above noted large number of old cars is considered to be largely induced by the lack of an inspection system of passenger cars in Malaysia, which creates problems from the viewpoint of safety in driving and environmental conservation.

The Study Team estimated the possibility of expansion of replacement demand based on the above breakdown of motor vehicles in Malaysia by the year of registration. Assuming that the motor vehicles used over 15 years are to be replaced by new cars within 5 years from 1998, and that those over 10 years at the end of 1993 (1.45 million passenger cars and 0.1 million commercial cars) are to be replaced within 10 years after 1996, the total replacement demand would reach 235 thousand in 2000, and 310 thousand in 2005. In the automotive demand forecast model for Malaysia which was formulated by the Japan Automotive Industry Association (refer to Chapter I, Section 3.3. Development Target Indices), the replacement demand per year was projected at 80 thousand both for 2000 and 2005. Thus, the expansion of replacement demand would become 155 thousand for 2000 and 230 thousand for 2005, if the above assumptions were realized by strengthening the related regulations for the use of old cars.

Table 5-2-4 Results of Estimate for the Expansion of Replacement Demand
(Unit : '000)

	2000	2005
Total number of motor vehicles to be replaced	235	310
Replacement demand used in the projection model	80	80
Estimated expansion of yearly replacement demand	155	230

Source : Estimate by the Study Team

(3) Possibility of Expansion of New Car Demand by Reducing Sales Prices

The motor vehicle demand in a country is basically projected based on the number of households that could afford to buy standard cars in the country and their actual buying ratio. By the motor vehicle projection model for Malaysia formulated by the Japan Automotive Industry Association, the annual motor vehicle demand in Malaysia for 2000 was projected at 273 thousand based on the following assumptions:

Domestic Sales Price of a Standard Car (PROTON Saga, RM30 thousand at 1990 price)	: RM28 thousand
No. of Household Afford to Buy	: 30.5%

Further, the effect of the reduction of local sales prices is measured using the same model. The results show that the projected annual demand for new motor vehicles for 2000 in Malaysia would increase from 273 thousand to 302 thousand, if the domestic sales price of a standard car were reduced by 20%.

Table 5-2-5 Effect of the Reduction of Sales Prices on Automotive Demand

	Base Projection for the year 2000	Effect of Sales Price Reduction
Domestic sales price of standard car (at 1985 prices)	RM28,000	RM22,000
Percentage of households that could afford to buy new cars	30.5%	40.5%
Number of households that could afford to buy new cars (Unit : '000)	1,510	2,010
Actual purchase ratio (Unit : %)	18.1%	15.0%
Annual New Motor Vehicle Demand (Unit : '000)	273	302
Expanded annual demand (Unit : '000)	-	30

Source : Japan Automotive Industry Association

As was described in this section 1.1. Promotion of Deregulation, the domestic sales prices of motor vehicles in Malaysia have a great possibility to be reduced considerably, if current various protective measures were to be loosened and the domestic motor vehicle and parts markets became more competitive. Further, the domestic sales prices could more directly be reduced if sales taxes or exercise duties were to be reduced.

(4) Stricter Control on the Use of Old Motor Vehicles

The main purpose of strengthening the regulatory control on the use of old model cars is more for the improvement of driving safety and the protection of the environment, and the creation of the demand for new cars is just a secondary effect. From this viewpoint, it is desired to establish an overall and effective system of mechanical routine checks of old model cars, which covers not only commercial vehicles but also passenger cars. In the case of Japan, for example, the replacement of old cars which new cars is promoted by the following measures: a) the interval of obligatory mechanical check period is set longer when the cars are new and shorter as they become older; and b) the number of inspection items becomes larger as the car becomes older, which makes the maintenance costs of old cars very high. In Malaysia, a system could be established that requires regular mechanical checks at intervals of every 3

years up to the 9th year after new car purchase, every 2 years up to 15 years and every year after the 15th year, for example, and a larger number of inspection items could be set for the yearly check than for the 2 year and 3 year regular checks.

The introduction of such a mechanical check system, however, requires the establishment of a large number of checking facilities and the installation of all needed equipment. Further, it would also create a large replacement demand for new cars. In this context, it is advisable that the related organizations should fully examine the possibility of the implementation of a new system and its effect, and consider the best timing of introduction.

(5) Establishment of an Automotive Demand Observation Committee

With the growth of the automotive industry in Malaysia, it is considered that the trend of domestic demand for motor vehicles will have a large influence not only on the automotive parts industry but also on the entire Malaysian economy. For motor vehicle demand, it is possible to make rather accurate short-term demand projections by collecting each company's sales data because there is a time lag between the order placement by users and the delivery of motor vehicles.

It is proposed to establish an automotive demand observation committee which will be organized by the representatives of MOT, MOF, MITI, MMVAA, MMTA and so on. It is hoped that this Committee would observe the trend of domestic demand for motor vehicles with the cooperation of automotive industry organizations, and recommend to the related governmental organizations the implementation of policies affecting motor vehicle demand such as the introduction of a regular mechanical check system, the reduction of import restrictions on CBU, the reduction of import duties on automotive parts, the modification of excise duties and sales taxes on domestic car sales, and so on.

2.11. PROGRAMME FOR ASSISTING IN THE DEVELOPMENT OF OVERSEAS MARKETS

(1) Background

Up to present, the Malaysian automotive parts industry has been developed under various kinds of protective and supportive measures of the government, and has been able to refrain from direct competition with foreign products in the domestic market. However, the environment is rapidly changing, which can briefly be summarized as follows:

a. Liberalization of ASEAN regional market

The ASEAN countries agreed to speed up the reduction schedule of regional tariff rates under the AFTA (CEPT). At the latest, by the year 2003, the regional tariff rates, including rates for temporary exclusion items, will be reduced to the level of 0%– 5 %.

b. Reevaluation of Local Content Policies

At the GATT meetings, trade related investment restricting measures (TRIM) were debated and they were recognized as unfair practices which would hinder free trade. As a result, all the member countries agreed to abolish such measures. It was decided that the advanced countries would abolish them by the year 1995, while the developing countries, leaving aside some less developed nations, would abolish them by the year 1998. Malaysia's local content policy for automotive parts such as MDI and NLCP would fall under the category of such measures and be required to be abandoned by the year 1998.

c. Changes in the Procurement Strategy of Automotive Parts User Companies

Some of the Malaysian automobile manufacturers and assemblers, which have used local parts, are currently considering a switch in their procurement sources from the local to overseas market in order to reduce production costs.

In order to cope with these environmental changes, the Malaysian automotive parts industry is being pressed with the need to boost their competitiveness. There are a several requirements for this. One of the requirements would be securing of production volume exceeding minimum

production scale merits, which means a broader market.

In those countries in which the domestic market is sufficient in size, the industry could first develop the domestic market. For the Malaysian manufacturers, however, the domestic market is usually not sufficient in size. Thus, they need to start the development of overseas markets from an early stage of development.

In spite of the above, the majority of the automotive parts manufacturers in Malaysia are still selling their products primarily to the domestic market. Even among those companies which are exporting, many of them consider it dangerous to rely excessively on unstable overseas markets and therefore are not eager to increase exports beyond their current levels. For increasing exports of automotive parts from Malaysia, recognition of the importance of export markets by the automotive parts industry is a primary necessity. Based on that consensus, manufacturers are jointly to take actions to penetrate into overseas markets. The government is also required to provide suitable assistance to such activities of the industry.

(2) Activities and Assistance Required for the Development of Overseas Markets

From the results of the survey, the following types of assistance are identified as being effective for approaching overseas markets:

a. Collection of Information on the Industry and Market

For establishing appropriate export promotion strategies, information regarding the industry and market for the target country is essential. This information would have to be collected by industrial associations, public organizations, etc., and be made available for wide use.

b. Joint Promotion Activities and Trade Negotiations

Promotion activities for the export markets would more effective if they are conducted with the participation of a large number of automotive parts manufacturers. In the past, however, this type of approach has been lacking in the Malaysian automotive parts industry. Although there were some cases in which a group of companies joined together or where companies belonging to different industries gathered together, there have never been activities in which only automotive parts manufacturers joined and made collective

export promotion activities.

The following two types of industrial level activities would be required for the automotive parts manufacturers.

a. Participation in Overseas Trade Fairs

Although the production volume of automotive parts in Malaysia, as well as exports, has expanded considerably in recent years, it is still negligibly small in the world market, and the automotive parts made in Malaysia have little recognition. In order to develop overseas markets, it is first necessary to improve the image of Malaysian automotive parts. Participation in overseas trade fairs would be an effective means for this.

b. Dispatch of Trade and Investment Missions

The dispatch of trade missions would be an effective measure for starting business contacts with potential overseas importers. These business contacts should not only cover trade negotiations but also the possibilities of capital and technical tie-ups.

The reason is as follows: most of the world's leading automobile manufacturers and parts makers have already established global networks of production and sales. In order for Malaysian automotive parts manufacturers to penetrate into large-sized, stable overseas OEM markets, the building of relations of trust with these overseas manufacturers is essential, for which the negotiation for the transfer of technology or capital tie-ups would also be associated.

(3) Proposed Programme

1) Collection of Basic Information and Market Surveys

The overseas network of MATRADE should effectively be used for collecting a) basic statistics on production, sales, and export and import figures of each country, b) industry journals and publications, c) lists of companies, and d) other materials relating to the trends of the automotive parts industry and the market. The collected materials would be made available to domestic automotive parts manufacturers through the information services of MATRADE.

2) Collective Industrial Activities for Participation in Overseas Trade Fairs and for the Dispatch of Trade and Investment Missions

MACPMA should organize automotive parts manufacturers that are enthusiastic about export promotion, and arrange overseas trade fairs and overseas trade and investment missions specialized in automotive parts at an industrial level.

For the above activities, MATRADE and MIDA should provide the following assistance:

- a. Assistance to each participating company in preparing product samples, catalogs, company brochures, etc.
- b. Listing potential importers in each target country and starting of preliminary contacts with these potential companies
- c. PR activities through the mass media (newspapers etc.) in the export target country
- d. Planning and sponsoring of seminars and business meetings.
- e. Participation procedures for trade fairs.
- f. Securement and provision of exhibition space for each participating company at trade fairs.
- g. Planning and execution of general promotional activities at trade fairs

3) Implementation Organizations

The MACPMA would organize automotive parts manufacturers, analyze the needs for assistance, formulate basic policies for activities, and perform other tasks to organize the industry. It would also serve as an organization connecting the industry with governmental organizations.

MATRADE would collect information, engage in overseas activities, provide advice on the utilization of supportive export promotion activities, etc. It would also work with MIDA closely for the dispatch of missions.

