

6 Recommendations for Management Strategy

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6.1 Corporate Strategy

6.1.1 Outline

The grand plan of "the company will be survived as a major player in diesel engine market in the Central Europe with sufficient competitiveness for the market economy " held up by the study team as the future vision of the company is considered to be accomplished in the following stages.

That it finds a way out of the crisis in the present situation and becomes an enterprise that has gained an advantage in the competition of market economy.

That it accomplishes privatization.

That it attains a rapid progress.

The restructuring plan mentioned in Chapter 5 corresponds to one of attaining this first stage. The original objective of the restructuring was considered to attain privatization, but this survey has not made any concrete suggestion up to that stage. Plans for the privatization and the subsequent progress requires strategic considerations. Strategic tie-up is an example. Such an issue became the subject of general discussions with the top management of the Company. Accordingly, the strategic issues are raised as an open question and as an advice to the Mielec Engines Co.

The purpose and necessity of the corporate strategy which is discussed in this chapter is as follows:

- (1) Investigations to create new businesses and new products.
- (2) Studies on future vision and programs beyond 2001, or a 10 year vision.
The 3rd generation restructuring following the current program
(2nd generation restructuring) The new program covers the re-engineering etc.
- (3) Utilizing corporate resources and its core competence effectively to make the mid- and long-term plan viable. The strategic alliance is a part of the study.

A relation between the issues to be studied and strategies is shown below. Fig. 6-1-1 at the next page enumerates issues. These are attained through strategic approaches only, and for this purpose principal strategies necessary for them are shown in the right and connected with arrows showing relevance with the respective issues.

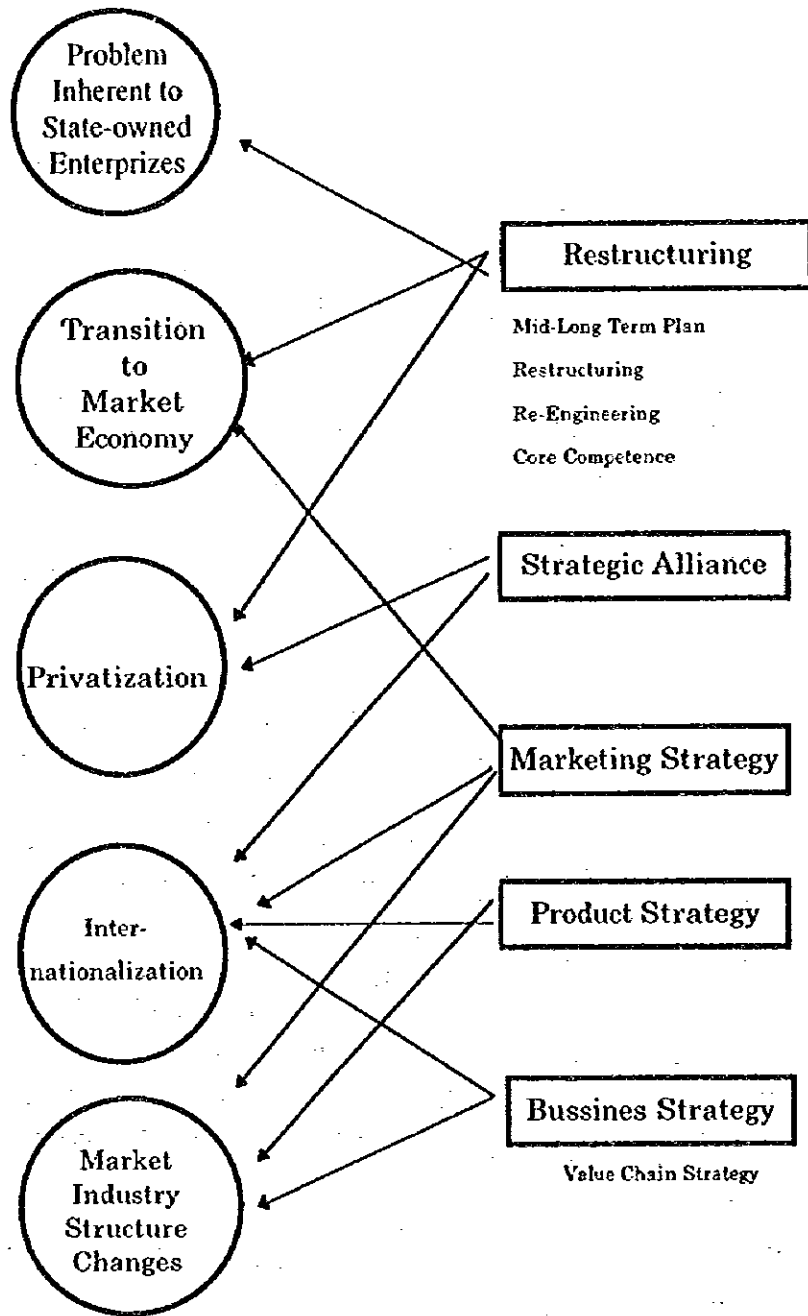


Fig. 6-1-1 Business Strategy vs. Issues

6.1.2 Restructuring Strategies

Restructuring strategies are divided into 4 items. The items (3) and (4) belong to the future.

(1) Mid- and long-term plans strategies of matching environment changes.

Vision of what the company should be

Fields of business: Shaping up, development of new businesses

Adaptation to crisis

(2) Restructuring Competition-oriented strategies

Reorganization of business portfolio

Reform of organizational climate

(3) Framing of reengineering (BPR)¹ strategies of process reform

Customer Satisfaction (CS), Quality and Function Deployment (QFD)

Attainment of process efficiency, concurrent engineering

Management information control system

(4) Core competence² management Strategy of resource concentration

(1) and (2) were proposed in the restructuring plan already.

(3) is a task to be tackled next. For this purpose, TQM surpassing ISO 9001, fixing of improvement course and construction of computer information system will be the pressing need.

As for the core competence management of (4), in strengthening the enterprise structure hereafter, it is suggested to focus on the company's own core competence and strengthen this with priority. As elements for forming core competence of the company, the following items can be considered in the process of survey.

- * Diesel engine technologies
- * Enterprise structure focusing on technologies
- * High level of skills through all strata of management, engineers and workers
- * Short delivery times
- * Flexible posture, organization capable of adapting quickly, quick decision
- * Good labor-management relations

¹ The re-engineering concept was introduced in the U.S. in early 1990 in order to make the U.S. manufacturing industry competitive with that of Japan. It is a manifesto for the business revolution and more drastic than the restructuring. Its strategy is the Total Quality which is its 3rd stage next to the first stage of cost strategy and the second stage of the market strategy. The re-engineering activities has restored the competitiveness of the US manufacturing industry. The Business Process Restructuring is a method of the Reengineering

² It is a set of core skill and technology usually hidden in the firm. When it is explored, the strategically employed the core competence can create a new value the customers or new businesses which any other firm can not follow.

- As shown in Fig. 6-1-1, the above restructuring strategies are to be concentrated on:
- (1) Outgrowing the old problems of the time of company division of state-owned enterprises into the present company,
 - (2) Shifting to market economy through strengthening the product-wise competitive power and
 - (3) Privatization.

6.1.3 Business Tie-up Strategy

Restructuring plan of the study team presupposes self-reliance and self-help of the Mielec Engines Co.

Considering the present automotive industry however, it is difficult to expect a continuation and growth of the enterprise with self-reliance and self-help alone. That principal automobile manufacturers in Japan, U.S. and Europe are making a business tie-up in some way or other is the reason. Fig. 6-1-2 gives the results of a comparison of the recent business tie-up in the Japanese automotive industry with that 10 years ago. A tendency to horizontal tie-up by inter-trade cooperation is conspicuous in these 10 years.

This is not limited to Japan, but is a global trend. Globalization and multinationalization of automobiles advanced so far and the industry is now shifting from the age of excessive competition to that of symbiosis.

Source: "Towards the Lean-on-balance System," co-authored by Takahiro Fujimoto / Akira Takeishi, Seisansei-Shuppan, 1994

Trends by type of tie-ups between major Japanese, U.S., and European automakers (1985 and 1994)

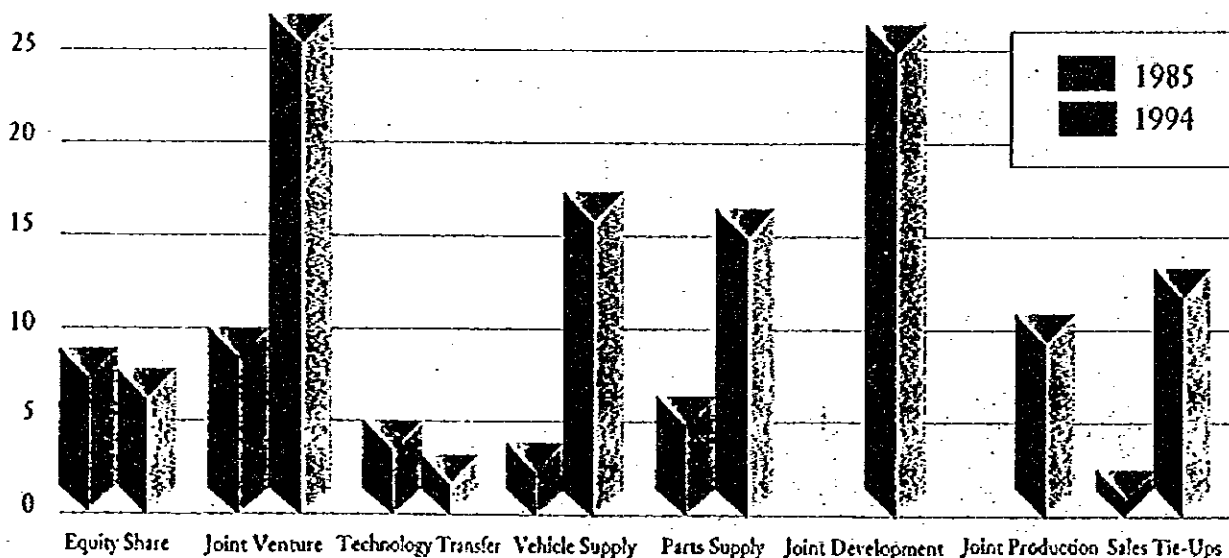


Fig. 6-1-2

The study team suggest that Mielec Engines too will strategically plan a favorable tie-up for the development of the company hereafter. For this purpose the first consideration is to:

- (1) Become an excellent world-level enterprise and have a competitive power under the market economy
- (2) Become an attractive enterprise that can offer products and services having a merit with them.

The following is the items which we discussed with Mielec Engines Co. but this is limited to ways of thinking and does not include thorough arguments nor concrete suggestions on the part of the study team. The team recommend that the Company continuous studying these matters hereafter.

- * Horizontal tie-up of engine makers affiliated with Leyland

The brand Leyland too is an important element.

Andoria

This company has applied for contract processing of crank and cam shafts and Mielec Engines Co. too has booked orders of contract processing. Though on a small displacement, it is also producing engines and generator sets under the same Leyland license. (for some models not all)

Fields of tie-up: Selling, and joint development of Euro-2 engines (both firms are receiving support of the Krakow University).

Ashok Leyland (India)

This is a Leyland engine manufacturer.

This firm is in the process of introducing new engines from IVECO

Tie-up with other Leyland-affiliated companies: DAF (Holland)

DAF produces basically the same engines with that of Mielec Engines. It somewhat enlarged the cylinder bore, and the latter once had a talk on a tie-up with it, but is planning produce domestically and as competitor.

- * Vertical integration of transport vehicles inside Poland in the Zasada group

Research is underway already. A stable supply is possible under the tie-up with users, but there is a problem also of its being an affiliate with Mercedes-Benz.

- * Horizontal integration of parts manufacture inside Poland

The company has started studying manufacturing other parts of Andoria in other countries.

Highly added value system products will be preferable.

- * Joint R&D in particular, development of Euro-3 engine in collaboration with other diesel engine makers in Poland.

Acceptance of direct investments from foreign makers

Acceptance of direct investments is very advantageous in that they entails technology transfer and introduction of management know-hows. There may be expectations of transfer of new technologies in case of Japan etc., but that depends on the investor's strategic judgment on the beneficiary and there is a growing dissatisfaction among a part of the Korean enterprises that technologies are not transferred.

6.1.4 Marketing Strategy

As a fundamental condition for the mid- and long-term plans proposed by it, the study

(1) Proposal of a Product Portfolio Management (PPM)³

The team presented a product combination plan. Fig. 6-1-3 A shows the present situation. It proposed the Fig 6-1-3B as the vision in 2001. This is used as basic data for the restructuring plan proposed by it. Verification of this portfolio is being made in the Company.

For this purpose demand forecasting in particular is important in the future and is being studied in the Company. At the moment, statistic data by product sector, information on other firms, etc. are in short supply in Poland. In other Polish companies also, there are cases where a special consultant is made use of considering the importance of demand forecasting.

(2) Adaptation to the future changes in enterprise and market structures

The Polish automotive industry is now rapidly developing and is predicted to become a large production base in Europe in future as a small car supplier to the West Europe and the Central Europe and the former Communist bloc are also said to be a large potential automobile market in the future.

The automobile market in advanced countries however has become saturated, and having environmental problems to tackle, they have come to a deadlock in their production. It is under these circumstances that various business tie-ups are under way. The production capacity in large-sized diesel engines as produced by the company particularly is superabundant over the world and competition is getting ever keener. The Study team suggests that Mielec Engines Co. should strategically study the positioning of its business under such circumstances.

There are only three domestic diesel engines makers in Poland. Mielec Engines Co. of large-sized diesel engines, Andoria of small and medium-sized, Star of medium-sized. Fig. 6-1-4 at the next page shows a product influence map for the three makers.

(3) Export strategy

Strategically, recovered COMECON markets such as Central Europe and CIS, etc. and those of developing countries are considered promising. The team suggests that the Company conducts an energetic market research by reopening the relationship with customers of the Eastern countries with whom it once had relations and by using the overseas trade offices of the government.

³ It was initiated by Boston Consulting Group in 1963. The product Portfolio Management was presented in 1971. The simplest approach is to evaluate a product mix in term of the market growth and the company's market share. One typical application is an optimum allocation of the company's limited resource.

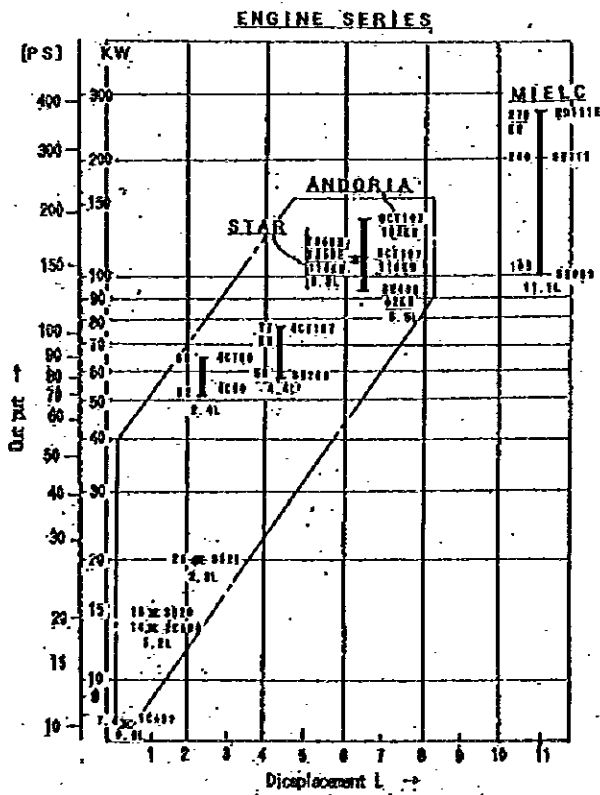
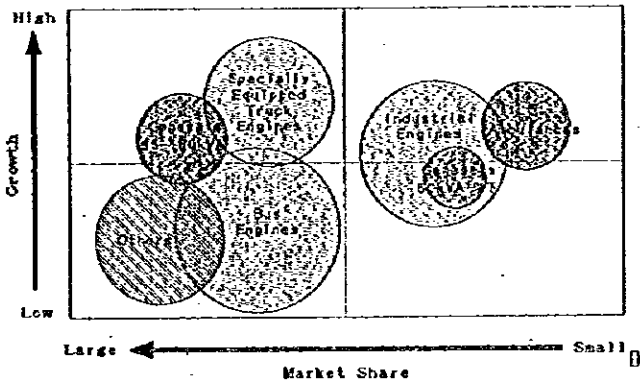
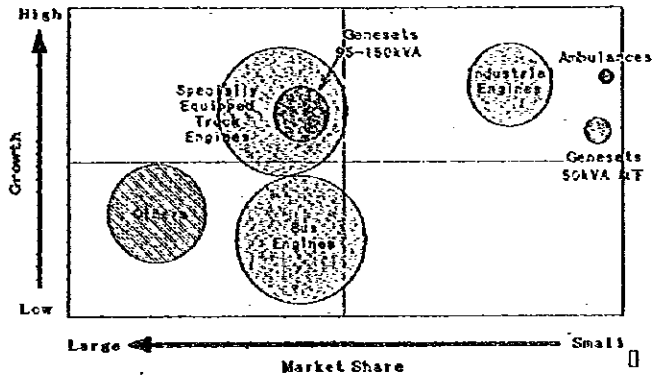


Fig. 6-1-4

(4) Strengthening of marketing function

Strengthening of the company's own marketing function is above all the first consideration. Spheres of marketing activities are shown in the next Fig. 6-1-6. First handle the two spheres, the upstream area of the product concept study down to the product plan, and the downstream area of the marketing plan.

A marketing department was set up in the Company in 1995, but it is not in position to function in practice yet. As a result, the cooperative relationship between the marketing and design development departments is not functioning well. It is a pressing need to realize the product developing process the study team proposed in the restructuring plan of the preceding chapter.

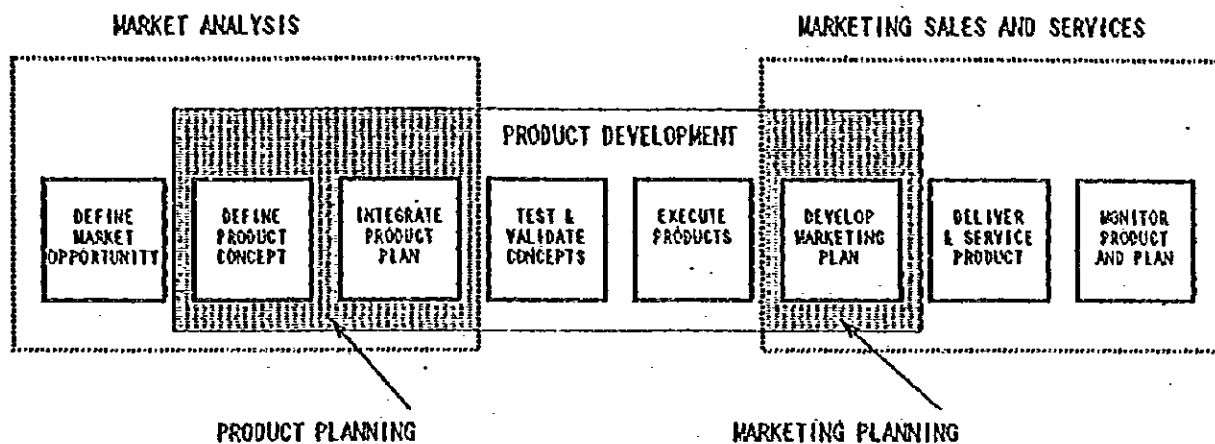


Fig. 6-1-5 Marketing- & Product Planning

6. 1. 5 Product Strategy

6. 1. 5. 1 Product strategy

Products are characterized in two concepts:

(1) Products characterized by the degree of integration

Products have different forms, namely components, sub-systems and systems.

(2) Products characterized by the value added

This concept is discussed in section 6.6.

These two concepts are related but quite different. (For example, the system is not always of higher value added than components.) In this section, the first concept is discussed as the product strategy.

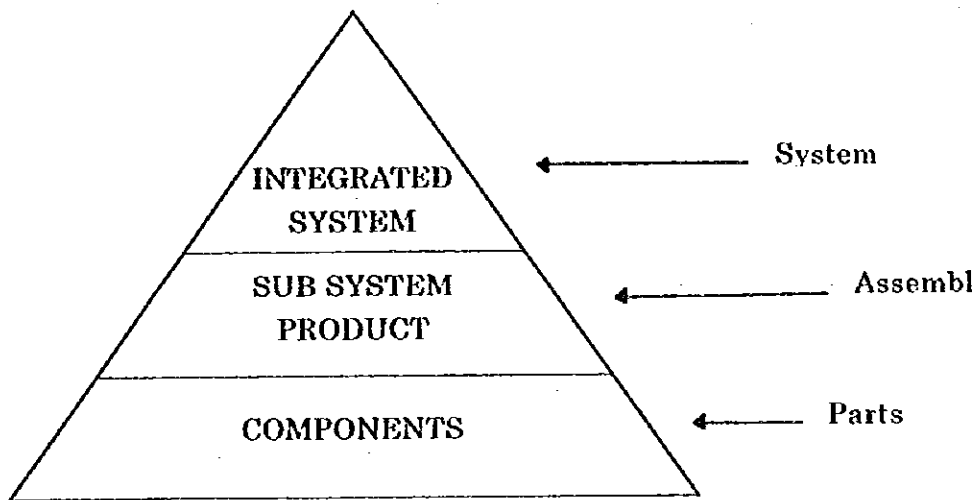


Fig. 6-1-6 shows the product integration concept.

Major products of the Mielec Engines Co. are studied according to this concept

(1) Engine

The 11 liter engine which is a major product of the Company is a well integrated system as an engine. However, when it is installed on a truck or bus, it is a component.

(2) Large Geneset

The Geneset equipped with the Company's own engine is a more integrated system product than a single engine.

(3) Small Geneset and Ambulance car

These are integrated system products like the large genesets. The difference is their lower value added for the Company than the large geneset. Therefore, higher degree of integration can be obtained from the large geneset.

The study team recommend following product policies to the Company:

(1) The Company can be survived as a system intergrator. The recommended system products are the large genesets, co-generator system, and other application products as pump, compressor units, gas engines and special purpose trucks etc..

(2) The Company can supply variety of products like new components, sub- system and systems.

When the Company manufactures components highly integrated system parts ⁴are preferable.

⁴ The system parts in the context of this concept is a set of components which is a sub-system of a total product but has a specific function. The suspension system of the automobile is a good example.

6.1.5.2 R&D strategy for the Euro-3 engine

The Euro-3 requirements are most stringent in the world like these of Japan and the U.S. Even the world leading diesel engine manufactures are concentrating their resources to meet the requirement. The Mielec Engines Co. has to solve this problem by utilizing outside resources strategically.

Followings are some suggestions:

- (1) Cooperative works with key parts manufactures of the world class
- (2) Joint development with the Kzakow Institute of technology.
- (3) Spending of necessary R&D cost and investment for new facilities..

6. 1.6 Business Strategy (Value chain strategy)⁵

This is a strategy of the business evaluation and business deployment.

Fig. 6-5-1 represents this concept, but products are completed from materials into such only after various processing stages, sold and their services are made available at the market. Their added value builds up in this process. This process is called a value chain. The value chain strategy means to consider which part of the value chain to focus on or what new sphere to develop in the value chain, etc., in adapting to the changing outer environment. Principal diesel engines, generator sets, ambulance cars of Mielec Engines occupy entirely different areas of the value chain and can be a suitable object of this approach. This way of thinking is an entirely different concept from what is called the elevation of added value productivity which represents increasing the conventional already defined scope of value added only. The principal business of the Company is composed of diesel engines which are OEM products and end-user products. It manufactures generator sets, ambulance cars, repairing and servicing parts and contract processing orders (Please refer appendix A2).

OEM engines

Truck and bus engines

Industrial engines: Loading machine, flip-off fingers, self-propelled lift, fuel locomotive, fishing boat, pump unit drive (water & mud pumper) and combine harvester

Specially-equipped vehicle: Heavy-duty drive road roller, dumping car, fire engine

Gas engine: This is presently a monopoly by Poland and in the limelight so that a lobby group was organized for the passage of an environmental policy.

When these are compared we can see that the value added is entirely different by the type of the product.

It should therefore be evaluated using the value chain concept. Fig. 6-1-8 represents a concept for viewing the value added at each stage in the business activities from the handling of materials, production, selling and servicing, and the relation of the transfer of added value between the suppliers as well as customers toward the company.

⁵ Each firm must be understood in the context of the overall chain of value-creating activities of which it is only a part. Unlike the Value Added, the value chain has links to customers or suppliers.

The original value added in an enterprise can be assessed with this value chain concept and it is possible to establish a business strategy with this.

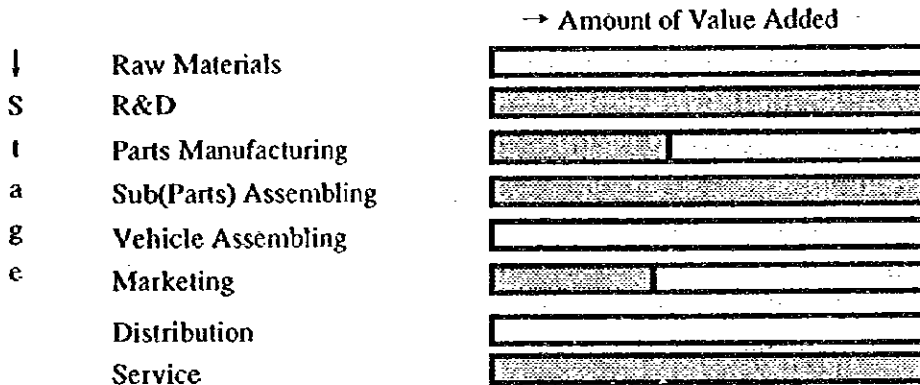


Fig. 6-1-7 Business Value Chain
(An example of the Mielec engine)

	Engines	HD Geneset	Ambulance
Raw Material			
R&D	⊙	⊙	○
Parts Manufacturing	○	○	
Parts Assembling	⊙	⊙	
Vehicle Assembling	NA	NA	⊙
Marketing		⊙	⊙
Distribution		⊙	⊙
Service	⊙	⊙	⊙

⊙ High value added ○ Medium Value added

Fig. 6-1-8 is a representation of the principal products of Mielec Engines Co. in terms of value chain concept.

The large-sized generator sets produce the largest in in-house value added and the small-sized generator sets a large value added at selling Stage. The above assessment makes possible a strategic reexamination of the product combination and can furthermore be used for creating or shaping up a new business.

(1) Other businesses of the company are:

(2) Contract parts processing

Repairing of its own and other's products

Periodical inspection and overhaul of diesel engines

Safety check and minor repairing of heavy-duty automobiles

- (3) Receipt of contract research orders
Diesel engine, jet pump, peripheral device and engine oil
- (4) Barter trade (For example, receipt of considerations in wool instead of payment for conversion into money through dealers)
- (5) Transaction of products not related with the production of the company
Contributions to the profit in the above business are as follows:
Engines 46%, supplies 18%, repairing 30%

6.2 Marketing Strategy

6.2.1 Changes in managerial orientation trends and Mielec Engines Co.

It is said that three major stages of development are evident in the thought processes of managers and management policies in manufacturing industries that have developed since the Industrial Revolution, depending on economic and social development ¹¹.

1 st Stage	Production orientation	1900~1930
2 nd Stage	Sales management orientation	1930~1950
3 rd Stage	Marketing concept orientation	1950~present

The third stage, or the marketing concept orientation, indicates a "management approach of an organization based on the foundation of participation by all its members, centered around product quality, and aiming at long-term success through customer satisfaction, benefiting all members of the organization and society," ²² as defined in the ISO 900 Total Quality Management Standards regarding toward which companies in Poland, starting with Mielec Engines Co. (hereinafter referred to as "the Company"), are involved in working.

These standards define the function of marketing in companies as the following:

- (1) Establishing the definition of product quality. "Quality," as defined here, is "the overall characteristics related to the ability to satisfy certain needs," a thought prevalent in Europe and the U.S. Quality managed statistically is merely one aspect of this. The role of marketing includes a whole gamut of activities, from grasping needs to seeking the mutual agreement toward that realization in all related functions within the organization.
- (2) Creating product specification documents. As opposed to all work carried out in the company following the design process being expressed by technological characteristics, these are documents for expressing the requirements from the standpoint of the customer, and for taking responsibility vis-à-vis customers for making the finished product a representative of the company.
- (3) Feedback information from the customer. The marketing department continuously monitors information and is required to establish a feedback system. This is called MIS, and is an important business management tool. Besides the marketing department collecting information on its own, this process also includes generalized work implemented on a shared basis with various organizations within the company, analyzed in Section 12.1.6. In the case of the Company, customers include not only the users in the market; it must not be forgotten that OEM customers are also included.

¹¹ R.L. King. This description may be considered ubiquitous. However, the quote is taken from Tokunaga, Y. et. al Concise Marketing Dictionary, Dobunkan, 1989.

²² ISO 8402, "Quality Management and Quality Assurance - Vocabulary," 3.7 "Total Quality Management."

This concept of marketing functions has been put into practice over a long period of time under market economics, even prior to the formulation of the ISO standards. As was reported in Section 10.2.2(2), companies in Poland have been introducing marketing functions since carrying out restructuring.

As pointed out in Section 12.1.6., this company has not put into practice the marketing functions of Stage 3. The marketing department was established in 1995, and it has been putting its energies into the promotion of new products, but it is difficult to say that the company has been making efforts as an organization to improve the degree of satisfaction of OEM customers for its basic engine products. It is therefore necessary to take advantage of the introduction of the ISO standards to quickly establish this kind of system.

The study team has created a midterm product plan as a measure for implementing restructuring. The plan's first aim is to execute the ironclad rule stipulating the complete satisfaction of customers regarding new products. In order to establish the existence of the company, it is necessary to set future targets, and establish management of organizational actions with highly efficient processes toward the realization of those targets. The midterm product plan proposal was created based on considerations of environmental surveys in Chapter 10, and on this company's marketing functions in Section 12.1.6. Following the next items in this chapter, there will be an explanation of the proposal's contents and a detailed proposal of its administration.

The Company is faced with such issues as quickly creating a Stage 3 foundation by promoting midterm product planning, and at the same time, reorganizing Stage 1 and Stage 2.

The Company has a strong interest in future product planning, and having it agree to our restructuring proposal was gratifying. This investigative committee was also able to conduct an exchange of opinion with regard to the importance of a strong manufacturing base with related individuals and third parties. We believe that the ISO product quality assurance will lead to a step up from simply measures to counter defects to concerns regarding level of customer satisfaction. We anticipate that under the leadership of management, midterm planning can be developed into a long-term business philosophy.

6.2.2 Product planning

This Clause will attempt to explain the positioning of product planning (product mix planning) and midterm product planning proposals from the team to the Company. For the midterm planning proposal, the lower Figures used in the interim report are presented again, and it is then important to share the strategies with all related staff members in the company.

- Current product mix portfolio (reproduced as this report's Fig. 6-1-3)
- Target period product positioning shift (reproduced as this report's Fig. 6-1-4)
- Midterm product mix plan (Model Cycle Chart) (reproduced as Fig. 6-2-1)

6.2.2.1 Aims of product planning and restructuring plan

Continuing to the present day, this company lacks written documents regarding long-term product planning, even after the changes that took place in the economic structure. Without long-term planning, the company's engines cannot be improved, nor engine models revised. It is difficult to realize the conversion of products if the company lacks planning management systems or methods. Therefore, the aim of the midterm product planning proposal (Fig. 6.2.1) is the realization of the following items, which this company presently lacks. In other words:

- (1) Having common midterm targets in the company for the purpose of realizing product development and guarantee of product quality.
- (2) Building a financial structure for establishing the next step of a corporate philosophy or a long-term plan.
- (3) Through execution of these plans, acquiring the particular technologies of products and manufacturing, sales and marketing and other company management technologies necessary in the manufacturing industry.

FIG 7-3-C : MODEL CYCLE CHART

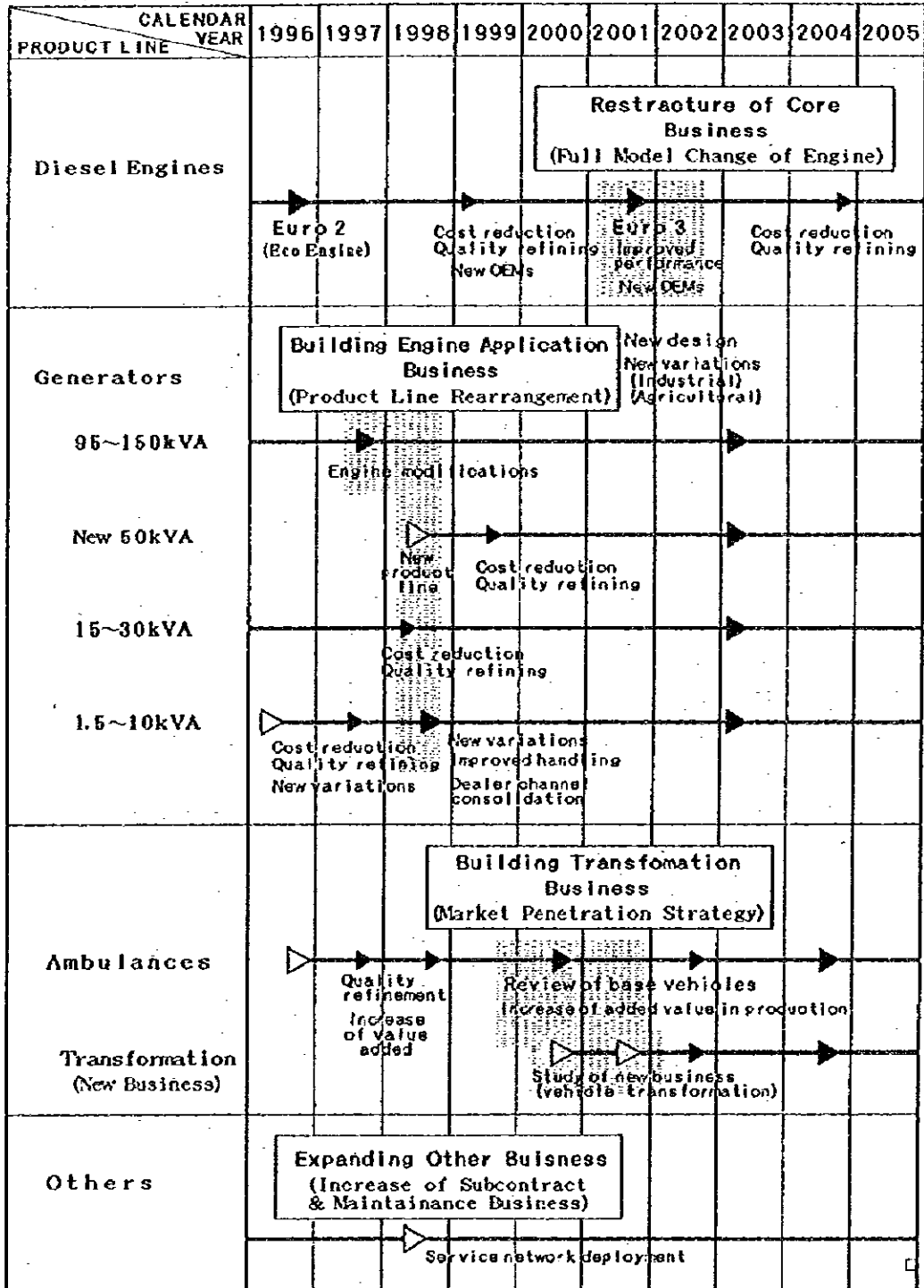


Fig. 6-2-1 Proposed Midterm Product Plan

However, the following items are critical prerequisites for the success of the product plan.

- (1) All related personnel of this company quickly establish an approved company philosophy or long-term vision, and attach appropriate incentives.
- (2) Execute changes in environment as a prerequisite, and risk avoidance measures as a process.
- (3) Execute faithfully management reviews based on the market economy model.
As the plan is challenging, implement according to necessity insufficient resource countermeasures (in particular, financial and technological) ³³.

Further, the proposal of the study team is midterm planning. It is necessary for the company itself to complete quickly a corporate philosophy and, at the same time, a long-term plan (ten-year span), on top of the character of long-term management issues of product planning. Putting into practice this kind of challenging plan and correct processes we believe will prove to be a significant element in attracting the interest of strategic investors, which is necessary in countering insufficient resources.

6.2.2.2 Composition of product planning

Product planning is the equivalent of merchandising in the area of commerce. However, in the manufacturing industry, product planning, which involves the entire company organization and a great amount of capital and time, is precisely a management strategy, and therefore its importance clearly differs from that of merchandising in the commercial field.

The following facets exist in product planning: (1) management of product mix; (2) management of product lines; and (3) management of items ⁴⁴. In this Section, when particular distinction is required, words regarding the management of the product mix in (1) are used. In the product mix management step (Fig. 6-2-2, upper left), a preparatory plan is used as a future plan, and with regard to current products, an operations plan exists for the workers in charge of the products. When the process enters new product development, the step in which product mix planning is executed (Fig. 6-2-2, lower left), a management plan generalizes the planning of the various functions within the company, and therefore, management of the type mentioned in 6.2.1 becomes necessary.

³³ ISO definition regarding resources (reference): essential staff, financial resources, facilities, equipment, techniques and methods are included. ISO8402 Clause 1.2.

⁴⁴ For this company's line and item structure, refer to Fig. 12.1-14 of Section 12.1.6 and Table 12.1-10.

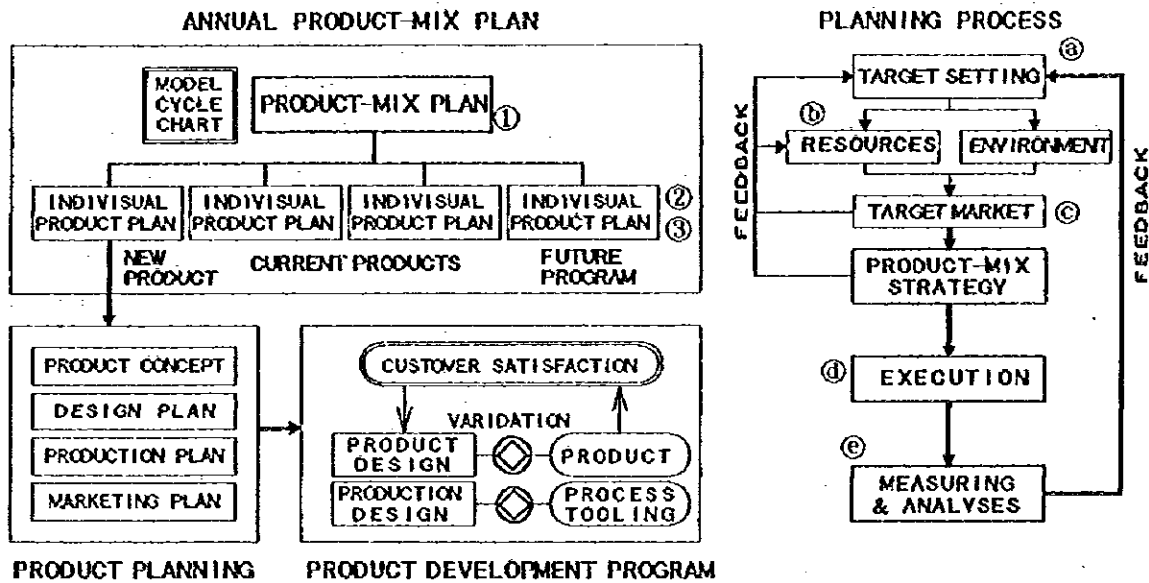


Fig. 6-2-2 Product planning structure and process

The process whereby the product mix plan is created is indicated on the right side of Fig. 6-2-2. In the following order, the overall strategy is determined: (a) overall target setting, (b) allocation of resources and (c) separate target markets. In addition, needless to say (d) execution and (e) measuring and analysis are carried out. (a) and (b) are top-down plans, while (c) is created in a bottom-up fashion, opposite of the target market for each product and proposals for countermeasures. The comprehensive plan is adjusted so that it conforms with the overall targets (Fig. 6-2-2, left side, fine lines).

In the case of this company, which has a complicated product structure (Section 12.2, Fig. 12-1-14), it is necessary to have management that determines the degree of priority with regard to the differing needs of each customer. By neglecting this procedure when putting into practice the customer-oriented philosophy, the company will be forced to respond with different values, leading to great losses for the company as a whole. To avoid this, frequent reconsideration with regard to changes in environment is necessary. In particular, there is a substitute proposal in which essential staff from different businesses is set and established in a separate operations division system, with an allocated budget and entrusted management. However, as long as this organization is not large, much will be lost without attaining the effective use of scant resources.

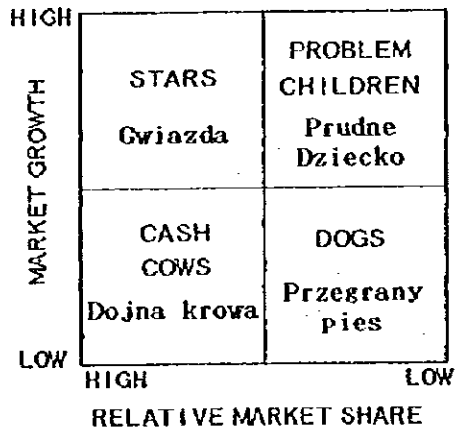
The product portfolio (previous section, Fig. 6-1-3) is a tool for the purpose of selecting priorities and sharing strategies. A representative portfolio has been appended to the following Clause (previous section, Fig. 6-2-3⁵⁵). Fig. 6-1-3 is based on the (I) BCG formula of this document. Taking the X-axis as the company's competitive position, and the Y-axis as the degree of market or industry attractiveness, positioning was conducted for each of this company's products. The fundamental strategy categories are represented by the four

⁵⁵ In portfolio consultations with this company, we decided on nicknames in Polish for each of the quadrants.

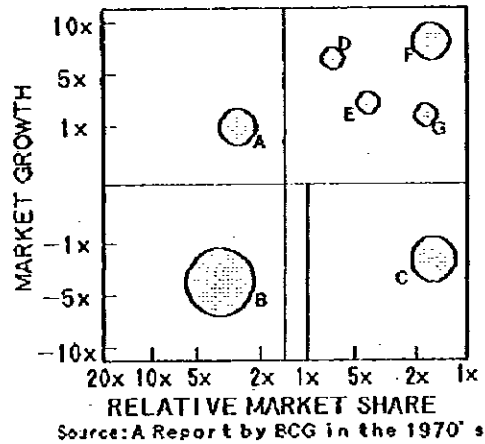
separated quadrants, and a nickname was given each of the four. Predictions of the target markets for each of the products are carried out based on the collection of a great amount of pertinent information, but they are difficult to make flawlessly, and ultimately, they constitute the will of the management. A number of scenarios are prepared in a bottom-up style; in this case, a decision by management will be sought by granting only the relative position of the four quadrant locations and each of the products persuasiveness and comparing the quality of each of the proposals.

TYPICAL PRODUCT PORTFOLIO

(1) BOSTON CONSULTING GROUP

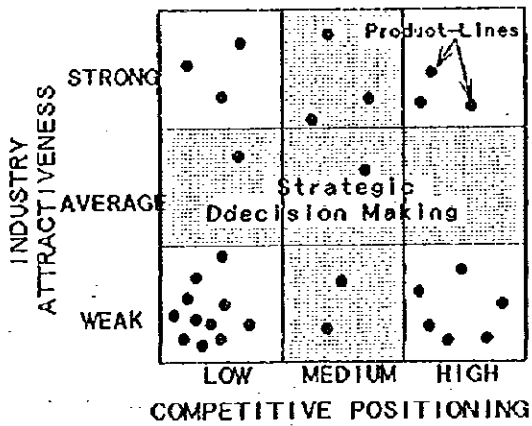


eg. PRODUCT-MIX MATRIX



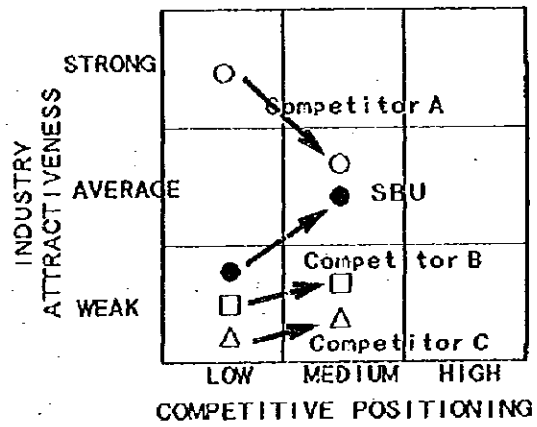
(2) MCKINSEY & COMPANY, INC.

eg. PRODUCT-MIX EVALUATION

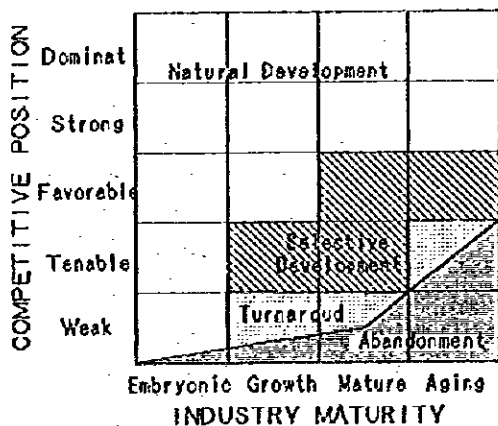


Source: K. Orsa, 「企業参謀」, 1977 (ダイヤモンド社)

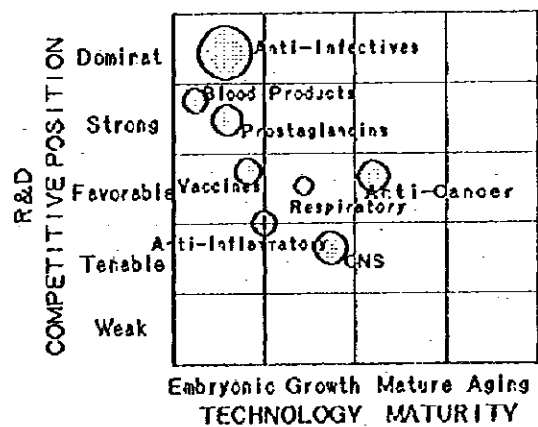
eg. SBU vs COMPETITORS



(3) ARTHUR D. LITTLE INC.



eg. R&D COMPETITIVE PROFILE



Source: ADL, 「戦略参謀ノート」, 1990 (ダイヤモンド社)

Fig. 6-2-3 Typical product portfolio

The model cycle chart (Fig. 6-2-1) is a form that makes the product mix plan visual. At the stage of execution, the product line manager develops it into an item, whereby it is connected to formal management within the company.

In the product development of large-scale products such as vehicles and engines, model changes requires at least three years, with completely new products requiring a period of five years. In long-term product mix planning, it is necessary for the company to determine the general framework of plans for products that require development to begin two to three years later, and then to start initiating marketing activities toward OEM customers (12.1.6.2 (2) b). As a normal course for the execution of long-term plans responding to uncertain environments, it is important to manage this as a rolling plan that undergoes reconsideration each year. The bold feedback line to the right in Figure 6-2-2 is an indication of this process. In the creation process stage, adjustment with management, and development and manufacturing is important, but until product development is completed, it is probably important to assist in management, operating the process centered around marketing, which is in the position of representing the market and the customer. Sometimes in large corporations, a special staff in charge of products is positioned in the business management department and carries out administration of both resource planning and management.

In product development, the development department's role is significant. On the other hand, the development department also bears all responsibilities for planting "seeds," which are as important as needs in the manufacturing industry. In order to have balanced administration of development, the development department should stretch to reach the role of execution of developing needs determined organizationally. However, the importance of the role of development in expanding needs to technological specifications used in the company and in realizing the necessary structure cannot be underestimated. At Star S.A., development is under direct control of the president and organized in such a way that it is afforded a budget of its own, separate from other company activities. Similar examples are evident in a variety of overseas countries.

6.2.2.3 Restructuring product mix plan

Regrettably, in this Company, there is no clear documentation of a company philosophy or a long-term vision. However, given the company name and product composition, there is no doubt as to the company's inclination toward diesel engines. In formulating a product plan, we proposed the corporate concept POLSKA TECHNOLOGIA DIESELA (Poland Diesel Technology). In addition, we received an agreement from the company for the selection of Scenario 1 from the restructuring plan outline. With regard to the development after the year 2001 of long-term product plans with a view to ten years in the future, the proposals in this outline can be thought of in the following ways:

- Condition 1: Securing sufficient cash flow for new product development in the future
- Condition 2: Executing necessary improvements in current products and securing appropriate cash flow
- Condition 3: Cash flow for providing a base for current products

This company's product strategy, based on the aforementioned, is "Securing the new product development company structure necessary for after 2001 with mid-term product planning in order to establish this company's position as a world class diesel engine maker and realizing its own long-term strategy." The current situation of this company's products and the aims of Scenario 1 are indicated in Figure 6-2-4 in the form of changes in the positioning of each product lineup, revising the product portfolio Figure 6-1-3 and 4.

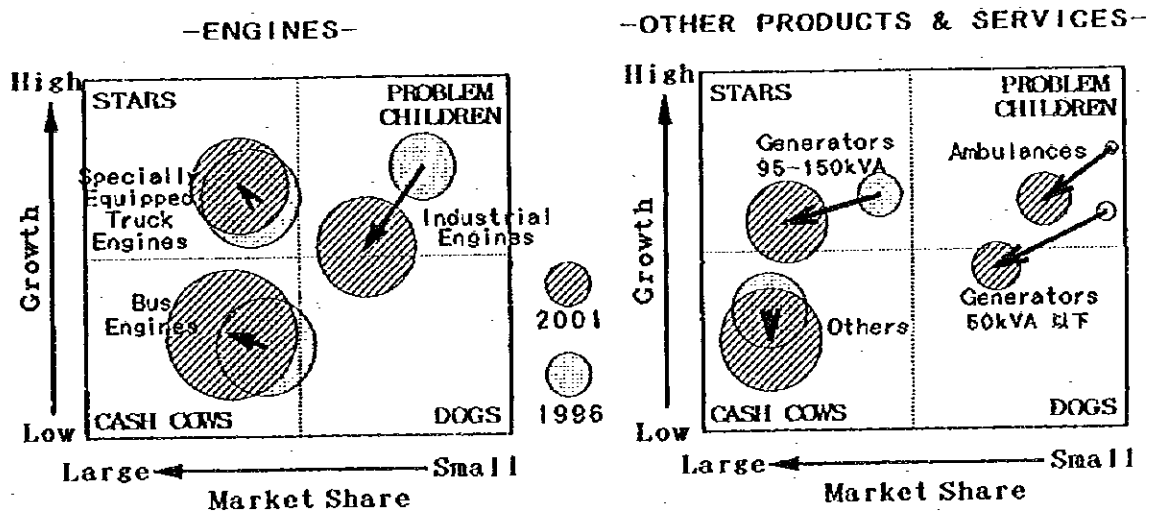


Fig. 6-2-4 Product positioning change (1996-2001)

Euro 3, the next-generation exhaust gas regulations that will determine the world's diesel engine trends, is being planned for the year 2000 in Europe (Fig. 10.3.4). If the regulations are implemented successively starting from passenger cars, designs of this company's basic engine products will need to undergo changes in the year 2001. Therefore, a five-year product mix plan that questions the results of restructuring was created in the form of successive implementation of model changes of other product groupings as the completion of next-generation model changes of engines. In other words, the 1988 geneset and the year 2000 ambulance. The model cycle chart is the aforementioned Figure 6.2.1. Significant changes can not be expected in midterm planning.

The greatest problem areas from the point of view of product mix plans and restructuring plans lies in the engines. These problem areas are the two following items that occur as a result of not obtaining self concluding results with the company's own strategy, as its customers are OEM, and are items that require constant consideration regarding the development of this company's strategy as a sub-supplier.

The first is that Euro 2 engines are completed, but OEM cannot be expected to adopt them right away. Necessary measures for installing new engines must be carried out jointly with the OEM. In this company as well, it is necessary to resolve such issues (12.1.6.2) as related to automatic transmission which were raised as problem areas in the Fiscal 1996 President's Policy. In these measures, minor changes have been established for the year 1999. The second problem area is that sales of products conforming to Euro 3, into which the company has been putting the most energy, will not contribute to earnings in this restructuring period. Despite this, in order not to repeat the mistakes of Euro 2 (12.1.6.2 (2) b), it is necessary to focus all energy onto cooperation regarding Euro 3 with OEM customers during this period. This countermeasure is mentioned in 6.2.3.

In the restructuring proposal conditions, it is necessary to consider the working in of yearly reductions in unit prices in engines (12.6.2 (2) c) (2)). Without depending entirely on engines, the aim of the product mix plan for the purpose of attaining goals set out in this investigative committee's Scenario 1 plan, namely the concept realized in portfolio Fig. 6.2.4, is the following:

- (1) Using the effects of the synergy of Euro 2 engine maintenance and model changes of geneset and ambulances, with the development of Euro 3 engines, to increase the sales of all of this company's products.
- (2) Depending on the period, repeatedly executing in the midterm the strategic allocation of available resources.

The priority targets are engines and large-model genesets, which are both sold on a large scale. In particular, expectations are high regarding the role of the latter, the strategy of which can be executed with self completion.

Among the conditions of the restructuring proposal, it is necessary to consider the working in of yearly reductions in unit prices. As for ambulances, in the year 2000, the fifth year after the introduction of the product, we proposed the conducting of evaluations concerning the possibility of an independent business, including the expansion of related operations.

Concerning other products, including exports, and service businesses, it is necessary to treat them with contingency theories responding to current conditions of each individual theme, including analysis of export markets as indicated in 12.1.6.2 (5). By keeping doors open, increased opportunities can be expected in the course of carrying out this company's scenario. Therefore, the selection of long-term strategies are crucial.

Summarizing the aforementioned points, the plan's KSF becomes the following:

- (1) Securing the trust and cooperation of OEM customers in engine business
- (2) Fostering genesets as this company's core business
- (3) Execution with regard to appropriate conditions of other businesses

In addition, midterm issues regarding the long-term strategy for the future growth of this company can be given as the following:

- (1) Expansion of the basic engine business (expanding product line, expanding OEM customers, commercializing engine systems as a set with engine-related products)
- (2) Geneset specialty maker (product technology, production technology, sales channels)
- (3) Establishing appropriate system for new products and new businesses
- (4) Earnest efforts toward exportation
- (5) Establishing sub-supplier operations for stabilizing business (including expansion of ambulance operations)

This is the essential configuration of the manufacturing industry, and is the creation of new product development prowess and marketing strength against the backdrop of a manufacturing base always maintained at the highest of levels.

Product planning per product lineup

6.2.3 Product planning per product lineup

6.2.3.1 Engine product planning proposal

First of all, it is necessary to decide on what kind of engine to develop to conform to Euro 3 standards. The company's current engines are used in trucks and buses with special bodies, and in industrial use loaders. The study team is proposing a restructuring plan, considering use of the engines in the same segment. However, the automobile market, as was analyzed in 10.2.1(3) and in (4), is becoming divided into two segments: vehicles that use this company's engines and long distance transport vehicles. In Western Europe, this company's product class engines are becoming used more in the latter segment.

On the other hand, market truck users seem to be dissatisfied with this company's engines, and their share of OEM products is falling. This point can be understood from the experience in Japan shown in Figure 6-2-5.

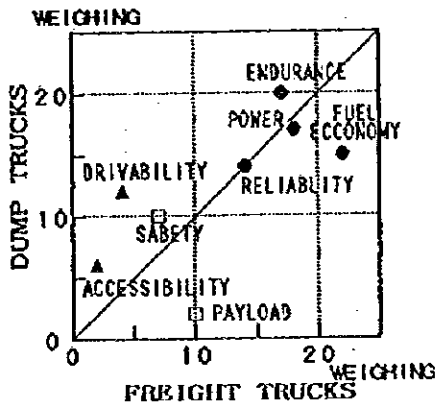
The figure takes up customer requirements in elements of driving operability in the same types of engines as those manufactured by this company that Japanese users do not have problems with in regard to long distance transport vehicles such as endurance, power, fuel consumption, and reliability. In Japan, NA engines⁶⁶ are used to counter this.

This company is implementing Euro 2 countermeasures, mainly in the form of inter-cooler and turbo functions. As a result, however, even though output has been increased, it is not enough for low speed trucks that often encounter stop and start operation and steep grades when transporting in cities or over short distances. Though mid-sized vehicles, Star S.A. trucks have adopted NA engines or turbo engines with reduced output. Bus OEM customers

⁶⁶ Natural aspirated engine. An engine that does not use turbocharging.

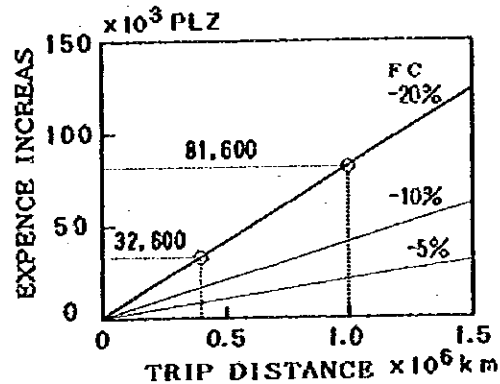
are conveying their wish to use automatic transmissions, but this company is slow in responding.

Typical need evaluation of truck users



DATA: TRUCK USER SURVEY BY JAMA (1987):
 ● ISSUES OF ENGINE;
 ▲ ISSUES STRONGLY RELATED TO ENGINE;
 □ ISSUES RELATED TO ENGINE & VEHICLE

Fig. 6-2-5 Examples of market customer requirements



ESTIMATING CONDITION:

- FUEL CONSUMPTION (VEHICLE) 30l/km
- DIFFERENCE IN COMPETITION 20%, 10%, 5%
- FUEL COST 1.36 PLZ/l

Fig. 6-2-6 Market customer fuel consumption

As one of this company's choices in strategy, a shift of market target to transport vehicles is possible. However, as a midterm plan, we propose placing a priority on the current market segments. The reason for this suggestion is that, as long as customers do not decide to discontinue use, we think that the responsibility of a supplier is supplying the current products in the best possible condition. Besides that, the competitiveness of this company's engines and the strategy of OEM customers are important. It is hard to imagine that OEM customers will use this company's engines in confrontation with overseas vehicles in long-distance transport vehicles. On the other hand, vehicle engines for domestic users, even though the market is small, are probably important. This company's strategy is something the company has to choose for itself. However, it is necessary to conduct sufficient consultation with customers. In the following section are written our proposals for the two choices.

First of all, if the company were to continue with the current target market, the company would come to an agreement with its OEM customers regarding countermeasures for the current weaknesses, taking opportunity of Euro 3 development, requesting the vehicle side for cooperation. This agreement would also be important as a motivating tool for the quick adoption of the current Euro 2 engines. Prior to beginning development, deliberations regarding target price (including costs) would be held based on data about the customer vehicles and those of the competitors. Deliberations regarding confirmation of the target price would take place at each stage of the development process, based on performance and the newest environmental data available, and then if necessary, it would be important to revise specifications.

The product concept is the improvement of fuel consumption. Figure 6-2-6 is a comparison with the inter-cooler specifications of a competitor; supposing the distance accumulated by

the user is the target B10 life of 400,000km of the vehicle in which the engine is installed, the fuel ratio load disparity of 20% nearly rivals the unit price of the engine. However, compared with the NA engine, it is competitive (refer to Chapter 7). If the current situation is approved, it is possible to allocate financial resources from a variety of countermeasures to the improvement of fuel consumption. However, users in this segment are sensitive about their initial investment, making both bus and trucks dependent on the strategies of OEM customers. A detailed technical countermeasure will be discussed in Chapter 4, but it is necessary to grasp technological trends of post-processing countermeasure equipment, such as DPP (diesel particulate filters), which are expected to be adopted due to strengthened regulations, and to adopt these technologies in the company.

As for buses, it is important to speed the development of measures to deal with the issue of automatic transmission, and to manage the remaining issues as items for conforming to Euro 3. In adopting automatic transmissions, there are parts that convey the engine's current operating conditions to the transmission, and further, controls for power-train integration. Countermeasures for driving operability in Japan, including changes in the gear ratio of manual transmissions, are currently being deliberated upon. Selecting the number of gears and gear ratios for large trucks even in Europe and the U.S. is commonly based on the user conditions of car users. Thinking of its as a major business opportunity, the creation of sets of the components and parts that become necessary with the implementation of these countermeasures with engines can become a marketing issue.

As users of the target vehicles will not directly reap the technological benefits of engines that conform to exhaust standards, they are sensitive to costs. It is impossible for engines alone to absorb the costs of countermeasures; it is therefore crucial to increase overall vehicle prices or obtain the cooperation of OEM in reducing costs.

If these target market countermeasures succeed, the company's engines can become competitive with engines made in Western Europe.

On the other hand, in the case of aiming at recovering the lost territory in the long distance transport area, where demand is great, agreeing to the implementation of the same countermeasures as those written above is probably necessary, even if they are not reflected simultaneously. In addition, for improving fuel consumption to meet the needs of long-distance transport vehicles, comprehensive countermeasures covering the entire vehicle overall, such as gear ratios, selection of tires, cargo distribution (selection of axle placement), and vehicle air resistance, not only the engine, are necessary, and therefore OEM cooperation is indispensable. If we are to have confidence in the realization of these fuel-consumption countermeasures, it can be forecast that an effect can be had on the strategies of vehicle makers. It is therefore worth the effort to try.

In trial calculations of the preconditions set out in Figure 6-2-6, the price disparity with competitor engines is appropriate from the point of view of the costs borne by the user over the life of the vehicle. This will lead to an increase in earnings potential for both the vehicle and the engine. In order for the car industry in Poland to become competitive internationally, it is necessary to set out to take on the challenge together with customers as a long-term issue. Either of the above choices will lead to the easy utilization either in construction vehicles or in other applications of the results of establishing competitiveness as an automobile engine.

6.2.3.2 Proposal for Product Planning of Genesets

As discussed in 12.1.6.2 (3) sales of the Company's large Jenesets is the main objective, but a synergy effect accompanying the introduction of small and medium-sized series was evident, which increased the sales of large models. In 10.3.3 it became clear that the Eastern and Western European markets are of the same structure, and there is great demand for the 100 to 300 class. For this segment, if the Company's engines are used in multiple configurations, it will enable a wide-ranging response possible.

Based on the above observations, the aims of medium term product planning in order to grow Jenesets as a core product, and to secure the expected profit, are:

- (1) Enhance the large series which has a high rate of return, and make it the core of improving sales.
- (2) As a policy for doing so, carry out sales policies for the medium and small series.
- (3) Achieve market penetration amongst consumers of the image of "Diesel Mielec" through sales of Genesets, thereby supporting the engine business.
- (4) As more minor aspects, link on to improving the internal added value and improving products and production technology

Large Genesets answer the needs of individual users. They open out frontage as far as possible and prevent scattering. Constant generation specifications work towards expanding items while maintaining an awareness of the demand in surrounding countries. The following exist as measures to counter fuel economy and the environment; use of the Euro 3 engine, gas engines and cogeneration of joint supply of electric heat. The following two are necessary as channel countermeasures; improved incentives for dealers who act as the direct salesman; and route sales using networks such as architect's offices, industry unions and gasoline stands, etc. A catalog giving clear explanations of the many applications (with English side by side), and a technical manual to explain the financial advantages and disadvantages for each user must be prepared as sales tools. Large Genesets are manufactured on a "produce to order" basis, but a sales system like that of Volvo trucks is desirable, in which the customer's usage conditions are heard at a meeting on each order.

The sales of Jenesets as a whole, including the large models, is proportional to the number of salesmen. A product configuration that makes it easy for dealers to make an effort should be created. The width of the Company's lineup is the key to catching interested customers. The present configuration is shown in Table 12-1-10 and 12-1-14, and brought together in Fig. 6-2-7. There is a big gap between the 15 to 30 kVA class and the 80 to 150 kVA class, and it is difficult to link the synergy of the smaller models to the larger models, so it is necessary to add one more product line. The incentives for dealers are also important. It is vital to increase to will to sell of dealers and salespeople, including route sales offices through pricing strategies and regular visits to the directors responsible.

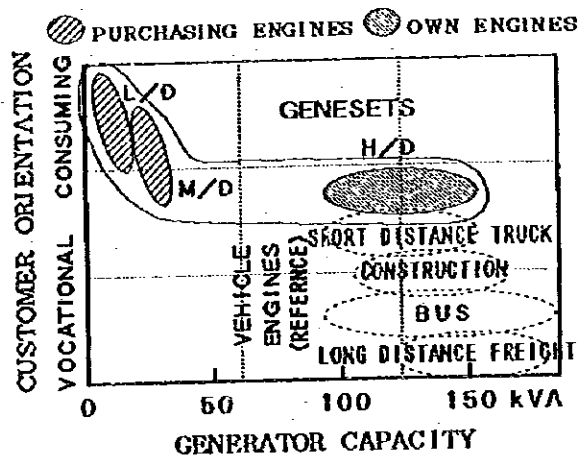


Fig. 6-2-7 Jeneset Positioning

In order to improve corporate image through medium size/small Jenesets targeted at consumers, it is necessary to carry out quality assurance at the Company. In order to do so it is necessary to carry out design, testing and production within the Company itself as much as possible. It is also important to utilize the experience gained in superb quality achieved through the introduction of ambulances. It is important to convert the results of design/testing and production into the Company's own technology through patents and the like, and using it in the Company's own engine products, as well as publicizing it at each opportunity such as society journals, industry journals and publications for the general public, thereby making the whole world aware of the Company's Jeneset technology.

Geneset can be introduced into new markets such as agricultural equipment industry without competing with OEM customers, and as such is the shortest route to the Company's completed products. Private label brand delivery contracts with large trading houses such as Electimt exist as a means of reducing the burden of sales, and if some of the Company's own brands are to be maintained the alternative proposal of using dual channels is also possible.

6.2.3.3 Proposal for Product Planning of Ambulances

As analyzed in Figs. 12-1-4, ambulances are products which are not linked to conventional products or unique technology. Thanks to this product the Company's marketing function was born, promotions succeeded, and it was received favorably by users. It is necessary to build on each experience to further the Company's business in this area.

Although there are many vehicles on the market which are decrepit and require replacement, the business is not as simple as the Company had thought. There are restrictions as to the budget of intermediaries of the public authorities and charitable organizations which make the

purchasing decisions, which makes this a product type in which the needs and wants of users do not immediately result in sales. In this tender, Polonex was selected based on the sense of values of the intermediaries. The Company is not in a position to provide product at a Polonez price by cooperating with public organizations. The Company still continues to appeal to the support of users and wait for the opportunity of full-scale purchases of ambulances.

It is also important to search for related products that will maintain business in the meantime. For example, obtaining the support such as the orders for body conversions of vehicles from the Company's partner, Fiat, is one proposal for the continuation of the ambulance business, while at the same being a challenge in a new field instead of ambulances.

We proposed to carry out an evaluation of the continuation of the ambulance business in the year 2000.

6.2.3.4 Proposed Export Strategy for Product Planning

The export discussed in 6.2.2.2 of this chapter proposed action in response to the actual conditions. The basis is to handle export products together with those in the new product development plan. Each time a case occurs, regulations are required for the procedure to make a decision on whether to invest resources considering the impact on medium to long-term plans and the necessity of quality assurance. We should strictly abstain from shipping without performing quality assurance procedures. Even if the limit is exceeded, if execution is deemed necessary, the medium to long-term plan must be revised with resolute decision.

In the future, when we tackle full-scale export, it will involve accommodating the substantial sense of values in Paragraph 6.2.2.2, but it is necessary for the export coordinator to fix the marketing function and the design function, and constantly ensure that site research is not neglected. In addition, as the load is too great for the Company alone, it is appropriate to form a strategic alliance with a local corporation or an international trading company such as Elektrim.

6.2.3.5 Processing by Commission

It is appropriate to accept processing by commission in order to secure profits. The Japanese experience is that even major parts manufacturers commission work from other manufacturers in an effort to stabilize plant management. The example also exists in Poland of Jelcz assembling Mercedes Benz's Vito wagon on a commission basis.

Processing by commission entails business being promoted centering around the process engineering division. It is necessary to perform management to ensure that a similar level of customer satisfaction to that of the Company's own products.

Meanwhile, we are bothered by the low rate of internal manufacture of the Company's products including engine Geneset. The production plan is a part of the Company's corporate strategy, and it is necessary to review management based on the product plan of this proposal. Internal/external production and processing by commission should be treated as one of those strategies.

6.2.3.6 Service Business

As analyzed in 10.2.2 (3), the unique custom between automobile manufacturers and parts manufacturers in a planned economy is tending to move towards the same direction and approach as that taken in other foreign countries. We propose that the direct transactions in parts and services with the Company's market users respects the standpoints of the OEM who exchanged claim contracts with the user, a formal commission contract is exchanged with the OEM customer, and is carried out under an OEM strategy. From the OEM's point of view, the problems with the current situation are as follows.

- (1) The user makes an order knowing that the Company is cheaper, and accepting this order interferes with the profit plan of the OEM.
- (2) Engine trouble is not always the fault of the engine itself, and there is a danger of a drop in OEM customer satisfaction if inadequate countermeasures are taken.
- (3) It becomes impossible for the OEM to form a clear view of the full picture of quality trouble in a major part such as an engine.

There are cases such as those of Cummins and Caterpillar from the U.S. in which customer service is carried out directly, but this is based on the unique practice of the customer purchasing the engine directly from the engine manufacturer and then commissioning assembly to a vehicle manufacturer. The service of manufacturers is an important aspect of engine selection.

This survey organization received complaints (3) from automobile manufacturers. There is unlikely to be any dissatisfaction with service of either OEM or the Company if formal procedures are followed.

6.2.4 Product Development Management

Product development is carried out with participation from most of the functions of the company, and for automobile manufacturers normally takes 36 months. In this period it is necessary to make important decisions such as capital investment and authorizing budgets. Companies prescribe the corporate regulations for quality assurance, and when proposing the respective product developments determine and implement the scheduling determined by each section of management. Fig. 6-2-8 shows an outline of a proposal based on the process of quality assurance procedures being carried out by automobile manufacturers in various countries, and prepared by adding the procedures necessary for the Company which is a sub-supplier. A detailed process table was prepared through discussions with the Company, so it is attached to the last page of this chapter, p.6-37 (Fig. 6-2-8P). Fig. 6-2-9 is an example of scheduling of a proposed medium-term product mix plan. Automobile manufacturers in each country spend adequate lengths of time on the development of new products, and carry out testing on trial manufactures twice. In Japan, in industries other than the automobile industry,

in many cases testing finishes after testing has been performed on the trial manufacture once. This is because the manufacture of automobile engines and bodies requires huge capital investment, so the time taken to prepare the plant is used to implement trial manufacture testing twice to make absolutely sure.

PROGRAM PHASE		PROCEDURE	APPROVAL (A) & DECISION (D) AT EXIT OF PHASE	
P 0	BUSINESS DEFINITION	PROPOSAL (OPPORTUNITY, MARKET, PRODUCT)	① PROPOSAL (A), CONCEPT (D)	OPERATING BUDGET
	PRODUCT CONCEPT	MARKET REQUIREMENTS & CONCEPT	② PRODUCT CONCEPT (A)	
	PRODUCT PLANNING	DESIGN SPEC. PROGRAM PLAN	③ PLAN/STRATEGIES (A) DESIGN START (D)	
P I	PRODUCT & PROCESS	DESIGN	④ DESIGN (A), BUDGET (D)	PROJECT BUDGET
P II		ASSURANCE	⑤ PRODUCTIVITY GOAL (A)	
P III	PROCESS & TOOLING	PROCESS STANDARD MARKETING SCHEDULE	⑥ QUALITY/MARKET PLAN (A) CORRECTIVE ACTION (D)	OPERATING BUDGET
P III	PROCESS VALIDATION	QUALITY REPORT		
P III	START OF PRODUCTION	QUALITY REPORT, MARKET REPORT	⑧ FINAL PROGRAM APPROVAL	
P 0	REPEAT PRODUCTION	MARKET FEEDBACK INFORMATION & QA	⑨ QA PRODUCT REFINE (A)	

Fig. 6-2-8 Program Management Process of Product Development

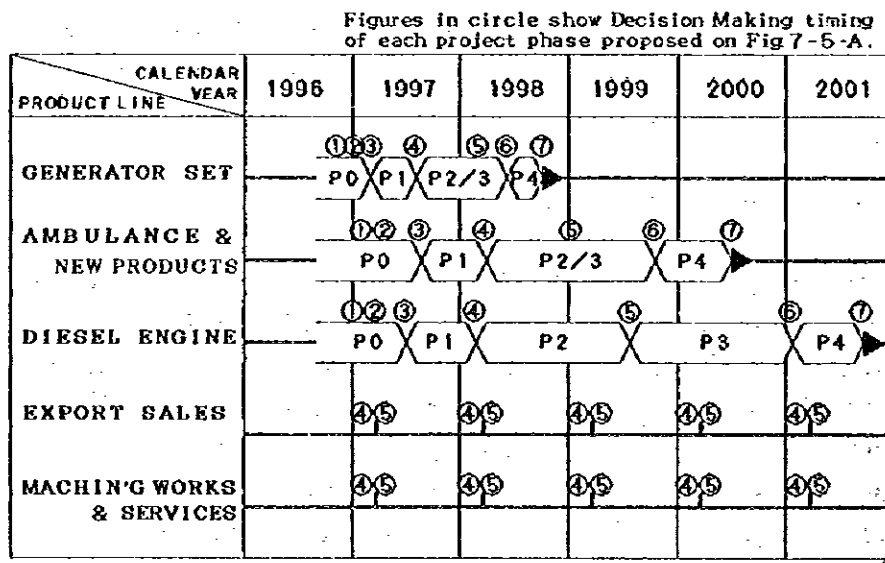


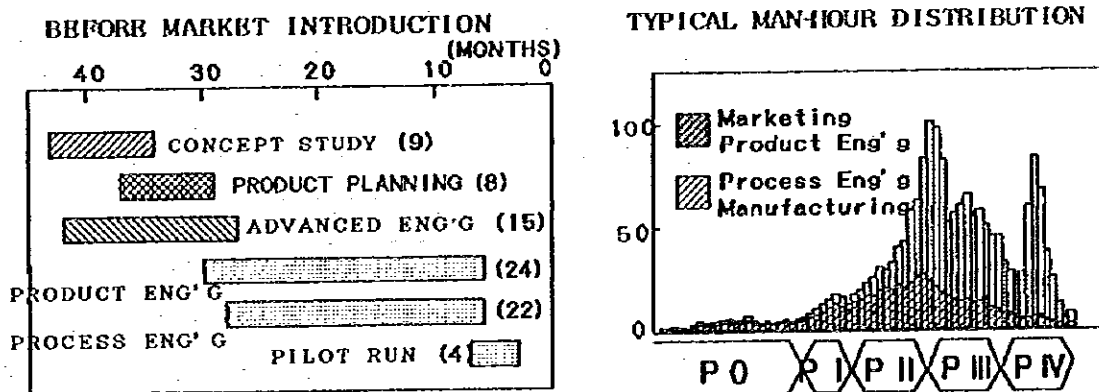
Fig. 6-2-9 Development Process and Decision Making

The figures below are the average lead times for various countries in the Development Strength Survey ⁷⁷ carried out on passenger vehicle manufacturers from various countries in 1986. In the automobile industry, lead time generally refers to the period from concept determination (i.e. start of planning work) to start of production.

Japan	42 months	(12 samples)
Europe	50 months	(9 samples)
U.S.A.	50 months	(6 samples)

Fig. 6-1-10 shows the timing and implementation period of the process for each function that participates in development in the same survey. The product engineering division and the process engineering division commence review almost simultaneously and work together until the start of production in many cases.

The right hand side of the same diagram shows the trend in MH by function in the passenger vehicle development of US automobile manufacturers. For reference purposes the phases of management review of the development processes proposed to the Company is shown alongside. Naturally, the MH of the process division becomes overwhelming large when it comes to the production preparation stage of the development process. There are great merits to production and design working at the same time, in terms of quality assurance, investment, reducing product cost, and shortening lead time.



SOURCE: CLARK, K. B. HARVARD BUSINESS SCHOOL INSIDE DATA OF A U.S. CAR MANUFACTURER

Fig. 6-2-10 Product Development Lead Time

Participation of parts manufacturers has also cemented itself in this cooperative work, but in Poland Jelez and Autosan have not yet reached this point. When suppliers develop new products, it is almost impossible for them to supply a sample on which they have completed quality assurance to the automobile manufacturer for initial trial manufacture. Almost all sub-

⁷⁷ Clark, K.B., Harvard School of Business (1987)

suppliers provide their initial trial manufacture products as samples for the initial testing of the automobile manufacturers, then carry out testing in parallel in the form of joint development. In the proposal in Fig. 6.2-9, OEM evaluation testing is carried out at P III. In order to acquire international competitiveness in Poland it is vital that joint development work between automobile manufacturers and parts manufactures is established as soon as possible. This timing corresponds with P2 in the proposal. In such a situation, preliminary functional testing, production planning and cost estimates that are done before development take on even greater importance.

6.3 Improvements in Management Systems

6.3.1 Organization

The present organization was reorganized in 1995 aiming clearly at changing its structure to be functional and more effective. At issue is the practice of management and how it could function with a horizontal organization, which is not described in the organization chart. There are limitations for the improvement of efficiency individually by the unit divisional operations. Cooperation between divisions will be the direction for further improvement. The restructuring committee and other committee organizations for production management expect the leadership of top management to make these organizations function horizontally. Permanent organizational change would be introduced later, after confirming the activities and outcomes.

6.3.2 Human Resources Management and Development (HRM/HRD)

Management systems for wages and HRM/HRD are identified as being progressive, focusing on jobs and performance and incorporating incentives and rewards for employees' improvement activities in their workplace. The following issues may indicate further improvements needed in the management systems.

- (1) No particular examples are observed in connection with small group activities and any other improvement schemes such as suggestions. This reflects experiences the Company encountered in the past. They should promote activities where the experimental practices formed in the production division would be learned.
- (2) Authority and leadership of the middle management is substantial in the Company. Management systems including personnel appraisal may be improved. A few examples of evaluation forms of Komatsu and Zexel are attached at the end of this report.
- (3) A multilateral approach for employees' education is expected centering on the ISO related training programs and also incorporating broadly the programs from the point of view, management development. Reviewing KSF and strengths and weaknesses of Mielec Engines Co., it would be recommended for the Company to restructure its education systems, focusing on the areas such as "low cost supplier", "customer satisfaction and marketing" and "leadership" (See Fig. 6-3-1). Those topics may be incorporated in relation to training in order to fill the gaps of KSF that were discussed in section, 5.3.

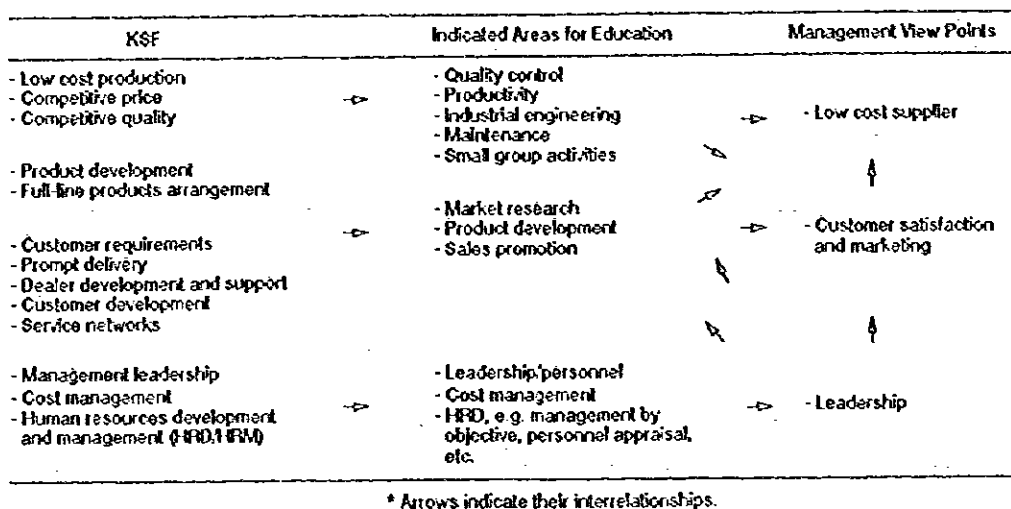


Fig. 6-3-1 Restructuring Education Systems

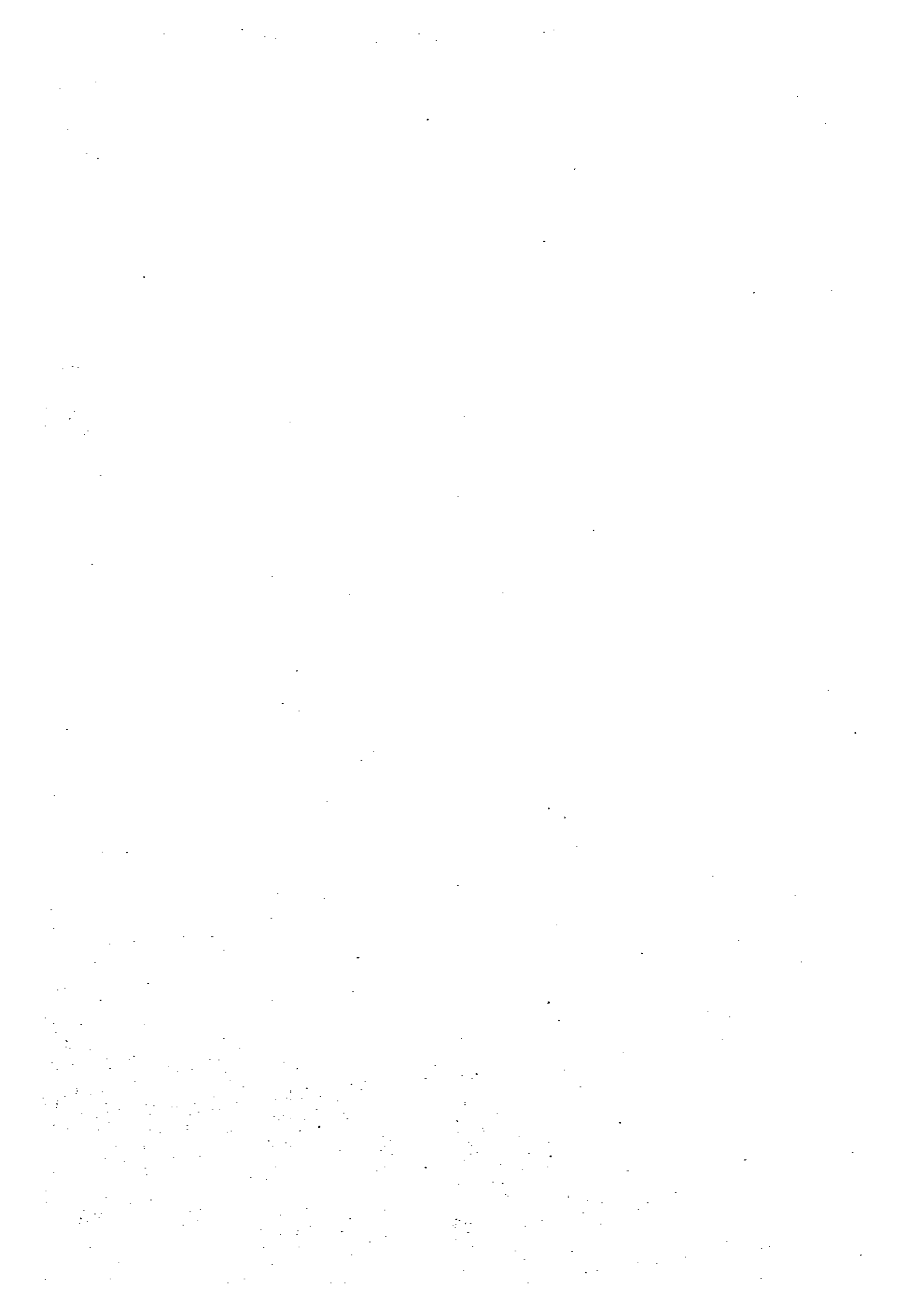
6.3.3 Financial and Cost Management

Strategies in financing and accounting may go certainly in two directions. Specifically,

- (1) Programs for reserving working capital by means of, for example, reducing inventories and improving turnovers of accounts receivable, and the implementation and maintenance of the newly established "cost centers."
- (2) Tactics for generating more cash flow prospective to the mid-term, in other words, strengthening financial strategy as opposed to production strategy. Starting the cost accounting system is also urgent in order to allocate resources effectively on targeted areas. This is to be done in collaboration with the restructuring committee.

6.3.4 Information Management

The computer system is assumed to be operating fully in the near future. Cooperation between divisions that relate to cost accounting systems may promise success, otherwise the system itself does not work. Regarding the processing of information, various duplication among divisions are observed. Simplification of work may bring an enormous contribution to the utilization of human resources.



Propozycja dot. procesu rozwoju produktów w Wytworni Silników PZL-Mielec

Faza	Podstawowe zadania do realizacji	Zadania do realizacji w każdej fazie procesu (= zadania, które wymagają zatwierdzenia produkcja obejmuje również zaopatrzenie) (Produkcja obejmuje również zaopatrzenie)	Przegląd dokonywany przez kierownictwo po zak. każdej fazy	
P 0	Opracowanie ogólnej koncepcji działalności firmy	-Jasne określenie szans powodzenia działalności gosp. firmy -Jasne określenie koniecznych do spełnienia w procesie planowania produkcji i rozwoju produktów warunków =Przygotowanie projektu planu rozwoju (marketing)	① Polecenie opracowania ogólnej koncepcji firmy	
	Opracowanie koncepcji produktów	-Opracowanie koncepcji produktów (z punktu widzenia klienta) =Specyfikacja produktów (cel) -Opracowanie koncepcji produktów (z punktu widzenia firmy) =Przegląd projektu =Przygotowanie planu rozwoju produktów (dot. technologii produktów i produkcji oraz codziennych zadań i budżetu)	② ③ Zatwierdzenie koncepcji	
Wprowadzenie systemu sterowania konfiguracją	P I Projektowanie produktów	-Kreslenie projektów, przygotowanie planu zatwierdzenia produktu -Przygotowanie planu produkcji -Przygotowanie planu działalności marketingowej =Przegląd projektu =Projekt docelowej ceny produktu =Specyfikacja projektów	④ Polecenie rozpoczęcia działalności rozwojowej	
	P II Zatwierdzenie projektów	-Wprowadzenie systemu sterowania konfiguracją -Zatwierdzenie produktu -Zaprojektowanie oprzyrządowania, realizacja projektu procesu technologicznego -Opracowanie systemu sprzedaży i dystrybucji dla OEM -Opracowanie projektu produkcji masowej =Przegląd projektu	⑤ Podjęcie decyzji dot. rozwoju i inwestycji	
	P III Przygotowanie oprzyrządowania	-Przygotowanie ostatecznej wersji projektu produkcji masowej -Koniec przygotowania oprzyrządowania i procesu technologicznego -Zatwierdzenie produktu przez klienta (OEM), -zawarcie umowy Opracowanie planu dostaw i wejścia na rynek =Przegląd projektu	Równolegle powtarza się procedury technol. prod. z PII.	⑥ Polecenie przeprowadzenia produkcji pilotazowej
	P IV Zatwierdzenie produkcji	-Przeprowadzenie produkcji pilotazowej (osiągnięcie zamierzonego celu) -Realizacja planu działalności marketingowej -Przygotowanie sprawozdania		⑦ Podjęcie decyzji dot. produkcji
	P IV	Początek produkcji i sprzedaży	-Realizacja produkcji -Koniec przygotowania zw. ze sprzedażą -Sprawozdanie na temat jakości	⑧ Podjęcie decyzji dot. sprzedaży i dostawy
	P 0	Realizacja codziennych zadań	-Feedback dot. realizacji codziennych zadań, ulepszanie -Badanie trendów w technologii (produkcji i produktu) oraz prowadzenie działalności eksperymentalnej -Zapoznanie się z bieżącymi trendami w branży i sprawdzenie szans powodzenia działalności gospodarczej firmy	(- Audit na temat realizacji codziennych zadań) - Polecenie opracowania planu rozwoju na nadchodzący okres

Fig. 6-2-8 P Program Management Process
Proposed to Mielec Engines Co,

7 Policy Suggestions for Economic Reforms

7 Policy Suggestions for Economic Reforms

7.1 Macroeconomic Policy Issues

7.1.1 Possible Economic Situation of Poland in the Year 2001

Since it will require at least 5 years for the successful restructuring of Mielec Engines Co., the year 2001 is taken as the target year of the restructuring plan for the company. The present Section prospects the Polish economic situation in the year 2001.

Poland's political, social and economic target of national importance to be accomplished by the year 2001 is the realization of the Polish membership in the European Union. Here, the realization of the target is considered to be a precondition, and all the obligations connected with this target are to be met by the year.

7.1.1.1 GDP Growth Rates

The GDP growth rates have maintained positive figures of 5.2 % in 1994 and 7.0 % in 1995 and prospected to be 6.0 % in 1996. It is forecasted that it will be able to maintain 5.0 - 5.4 % growth for the remaining years of 20th century. Whether Polish economy might maintain the growth or not depends on factors of export growth, the reform of industrial structure, the restructuring of state-owned enterprises and continuous introduction of foreign direct investments. However, it can be assessed that the Polish economy has the potential of realizing the GDP growth of more than 5 % for the rest of 20th century and expand its size of economy 28 - 30 % bigger than the present one.

7.1.1.2 Rates of Unemployment and Inflation

The rates of unemployment and inflation still remained high. However they are stable in the downward trend, and rates of inflation in coming years are expected to lower up to 17 % in 1996 and 12 % in 1997. Concerning the unemployment rate, it is also in the downward trend from its peak of 16.9 % in the middle of 1994 and came to 14.1 % as of July 1996. In order to meet the economic criteria of the EU membership, it will be necessary to lower the inflation rate up to 5 - 8 % by the year 2001 and the unemployment rate to 8 - 10 % by the same year.

7.1.1.3 Budget Deficit

Concerning the amount of budget deficit which is a factor of raising the inflation rate, it is necessary to make efforts to narrow the gap, although it has already fulfilled a criterion of being not bigger than 3 % of GDP (2.8 % in 1994). Further promotion for the restructuring of state-owned enterprises, reforms of social security system and tax system will be important. By the

year 2001, privatization of state-owned enterprises will be further proceeded c.f. 7.1.1.4 below, formulation of reform programs will be prepared for social security system, and changes of tax systems will be adopted by the Council of Ministers, be passed by the Sejm and be came into force covering income taxes for legal persons and natural persons, property tax and indirect taxes.

7.1.1.4 Privatization of State-Owned Enterprises

The privatization of state-owned enterprises will be further proceeded through the National Investment Fund's program (Mass Privatization Program) in addition to the systems of privatization through Capital Privatization and Direct Privatization. The combination of these privatization methods will prepare the way for the privatization of big state-owned enterprises and those of financial sector and, by the year 2001, private sector will account for 80 - 85 % of GDP which is now about 60 %.

7.1.1.5 Trade

In order to maintain the GDP growth, the promotion of export will be vitally important. The main factor of it is the international competitiveness of the Polish products. The low wage alone will not be a determining factor of the international competitiveness by the year 2001, but the reform of industrial structure and the technological progress will be the basis for it. The amount of import will also increase toward the turn of the 20th century, since the Polish membership in the EU will require the lower tariff rates, the abolition of import tax (scheduled in 1997), the demand increase brought by the maintenance of economic growth, the increase of foreign direct investment and resulting increase of import materials and equipments which will effect the increase of export in the medium- and long-term perspective. The largest share of trade will be with the EU at the turn of the century, but the role of Poland for the economic reform and reconstruction in CIS countries will be strategically important. The amount and share of trade with those countries will also increase in accordance with the normalization of trade. It may be reasonable to expect the share of 25 % for trade with those countries. The rate of exchange is now reasonably felt to be kept too high for industries in competition with foreign producers. However, taking into account its impacts to the economy as a whole including that of inflation, it can be assessed that the correct policy at the present stage of economic reform is chosen as far as the rate of exchange is concerned.

7.1.1.6 Investment

In 1995 foreign direct investment in Poland amounted to \$2.1 billion and that of the first half of 1996 recorded nearly the same amount. A large number of big foreign enterprises were attracted to Polish booming economy, a large domestic market and its cheap labour. They entered the Polish market in the early nineties through strategic alliances with domestic enterprises. Investment

growth and exports will share the leading role of making the Polish economy dynamic and lively, introduce modern technologies of production and managements and create the firm foundation for its further economic growth in the future. In order to consolidate the international competitiveness of the Polish economy and to catch up fore-runners, it will be required to keep investment growth of annual 10% to the year 2001, which is considered to be reasonably possible to realize.

7.1.2 Policy Suggestion

(1) Continuation of Present Macroeconomic Policy Direction

As far as the macroeconomic situation of Poland is concerned, its performance to date is indicating good results comparing with other economies in transition, which are highly evaluated by international and bilateral aid agencies. Particularly the growth of GDP is encouraging. It is considered by economists in and out of the country that Poland has potentials of keeping around 5% growth of GDP until the year 2000. Polish economists tend to forecast 5 - 6% growth, while economists in international agencies view 4 - 5% growth. The Study Team's view on the macroeconomic policy of Poland is that the appropriate policy direction and policy measures have so far been taken by the government. Therefore, it is necessary to keep the present macroeconomic policies with fine tuning of them based on the careful monitoring of macroeconomic progress.

(2) Remaining Economic Problems which Need Particular Attention

Polish economy has, of course, some major economic problems including:

- 1) high inflation rate,
- 2) high unemployment rate,
- 3) fiscal deficit,
- 4) trade deficit,
- 5) slow pace of the privatization for large-scale state-owned enterprises, and
- 6) expanding regional economic disparities.

Concerning rates of inflation and unemployment, they are still in excessively high. However, it is important to point out that they are not fluctuating but continuously in downward trend and showing signs of improvement.

Among them, the trade deficit is getting worse in 1996 and needs to monitor cautiously. The first nine months of 1996, the trade deficit reached US\$5.26 billion, which is up by nearly a six-fold from a year before. Revenues from exports during the first three quarters of the year were 6% higher than the same period of last year, but the growth of imports by 30.3% far exceeds the growth of exports. However, the volume of foreign exchange bought by Polish banks was reported to be US\$619 million greater than amount of foreign exchange sold by the banks. The surplus was mainly due to unregistered border trade, the earnings

from which totaled US\$5.52 billion. However, the foreign exchange surplus from unregistered trade should be considered as additional revenue. Poland should aim to reach the balance through the performance of formal trade without that of unregistered border trade.

(3) Cautious Approach to the Exchange Rate Adjustment

As is clearly mentioned in the "Industrial Policy Program for 1995-97", the exchange rate continues to serve as an important instrument of export promotion. "The principle of realistic rate adjustments should become a basic tenet of exchange rate policy, i.e. the range of adjustment should be linked to inflation rates. Without this, the exchange rate would no longer serve as an instrument promoting exports, and would even serve as an incentive to increase imports" (p.19 of the Industrial Policy Program). The Study Team basically shares the view. The present rate of exchange is reasonably felt to be kept too high for exporters and industries who are facing the severe competition with foreign products and is in fact kept in higher side (c.f. Leszek J. Jasinski and Jolanta Zombirt, "Exchange rate policy and convertibility of the zloty" in "Poland's Foreign Trade Policy 1994-95"). However, taking into account the impacts of exchange rate adjustment to the economy as a whole including those of inflation, debt repayment and fiscal deficit, it is not advisable to change the exchange rate in order to stimulate exports. The Study Team is of the view that the appropriate exchange rate policy has been taken by the monetary authority of Poland.

7.2 Industrial Policy Issues

7.2.1 Assessment of Situation

7.2.1.1 Current Industrial Policies in Poland

As is discussed in the "Industrial Policy Program for 1995 - 1997" adopted by the Council of Ministers on May 1995, the focus of industrial policies in Poland is to obtain better international competitiveness of the Polish industry and secure economic growth in an open economy environment. In order to achieve these objectives, three priority directions of government strategy, namely:

- 1) export-oriented policy for a high rate of export expansion as the primary driving force of Poland's economic development;
 - 2) technology policy for increased innovation and improved competitiveness of industry; and
 - 3) policy of structural changes for various sectors through privatization, restructuring of enterprises, changes in the industrial structure and in regions of high industrial concentration;
- were chosen. In the following sections, specific suggestions related to these three policy issues are discussed.

7.2.1.2 Trade Issues

(1) The Role of Government Sector for Export Promotion

The tasks of the government sector related to export policies involve with the improvement of the international competitiveness of the Polish economy and, more specifically, include the following:

- 1) the policy of international treaties concerning multilateral agreements, including the integration with the European Union, trade liberalization within CEFTA, implementation of the Uruguay Round decisions and the participation in the World Trade Organization, and bilateral agreements;
- 2) formulations of the Customs Law and a Custom Code as well as the enhancement of efficiency in customs procedures;
- 3) issue of licenses, export and import permits, quotas, in line with the international treaties and the country's own economic and industrial policy;
- 4) anti-dumping proceedings and commercial defense instruments;
- 5) tuning the level and composition of imports through tariff and non-tariff instruments;
- 6) creation of a system of export financing through guarantees and export insurance;
- 7) incentive measures for export promotion through preferential export credits and tax incentives for exporters; and
- 8) export promotion activities on foreign markets and provision of market information for small- and medium-exporters.

(2) Poland's Organizational Scheme for Trade Promotion Abroad

There are many types of trade promotion organizations depending on the division of roles of government in each country. In Poland, the Commercial Councilor's Offices (CCOs) are in charge of trade promotion. At present, the CCOs are set up in 66 countries, operate abroad and perform export promotion activities. However, the setting up of CCOs did not necessarily keep pace with the political changes to, particularly, the former USSR countries. Only in late 1994 and early 1995, the Minister for Foreign Economic Relations issued regulations concerning the establishment of CCOs in Lithuania, Belarus, Kazakhstan, Latvia and Estonia (Janusz Chojnia, "Functions, statute and organization of the Ministry for Foreign Economic relations"). Although the CCOs are considered to be the basic source of market information for many of Polish exporters and expected as important agents for promoting Polish exports, Polish exporters tend to conduct their own market research hiring foreign agents than to utilize CCOs and their functions. Since Polish enterprises are in a process of establishing the business links with countries of market economy and newly-independent countries, more knitted relationship between CCOs and Polish exporters and industries as well as institutional development of Polish export promotion function are indispensable.

(3) JETRO's Function for Trade Promotion

From the viewpoint of close relationship between public and private sectors in export promotion, Japan's JETRO (Japan External Trade Organization) has worked quite important and strategic role and functioned well in the process of Japanese advance to world market in the post-war period. JETRO started its export promotional activities in late 1950's, which include:

- 1) overseas economic and market research,
- 2) collecting and supplying overseas market information,
- 3) trade consultations and answering trade inquiries, and
- 4) participating in exhibition and organizing trade fairs, etc.

These activities were closely linked to the Japan's industrial policies in those days including the selection of high-potential export industries and glowing sectors. The activities of JETRO, in parallel with the rapid economic growth of Japan, have expanded in order to cope with the trade and capital liberalization in the 1960's. They are followed by the promotion of overseas Japanese investments in natural resource development and the export of industrial plants in the 1970's.

From the latter half of the 1970's, JETRO added new roles of promoting imports to Japanese market and mediating between Japanese and local enterprises for their business links as the importance of acquiring natural resources and primary products increased, trade frictions with Europe and the U.S.A. increased and Japan's trade surplus expanded. At the same

time JETRO's successful experience and know-how of export and investment promotion have been transferred to many developing countries.

(4) Trade Partners for Poland

Concerning the trade partners with Poland, the largest share of trade will be with the EU countries at the turn of the century as is now. However, the role of Poland for the economic reform and reconstruction of economy in CIS (Commonwealth of Independent States) countries will be strategically important, since Poland had close industrial linkages with those countries until late 1980's. Furthermore, Poland has the successful experience of transforming its centrally-planned economic system to that of market-oriented and is expected to transfer its experience of economic reform to countries under similar, but more serious, situation of Poland's early 1990's. The economies in those countries are recently indicating the sign of recovery and have huge size of potential markets in various agricultural and industrial products of Poland. In order to further strengthen the business linkages with those countries and secure the potential markets, Poland might selectively consider its direct investments to industries in those countries.

7.2.1.3 Technology Issues

Current Polish "Industrial Policy Program" has rightly defined the technology policy as shaping the interconnections between the areas of education, science and economy. The actual situation is, however, that the obsolete and outdated facilities of enterprises caused by poor financial condition and the isolation from advanced industrial information and technologies under the former system prevent them from conducting researches for industrial application and even from applying the research results in industrial practice. Particularly, small and medium-enterprises require special attention and assistance in securing access to modern and innovative technologies and research results made by scientific research institutions.

So far, the modernization of production technologies and facilities resulted mainly from the participation of foreign capital. The technological innovation through this track will continue to be important for the foreseeable future. At the same time, to attain international quality standards by the improvement of domestic production technologies should also be pursued. The Council of Ministers issued a decree, on 20th May 1994, regarding deductions of investment expenditures for research and development from taxable income and reductions of income tax up to 50% of income before tax. This is certainly a major incentive measures for enterprises of pursuing technological development by their own source of funds. From this viewpoint, untied and low interest rate loans with long grace period as well as grant money of technical cooperation from international and bilateral aid agencies would be made available for the development of technologies, particularly for the areas of establishing national technology standards and quality assurance systems, technologies for environmental impacts, training of staff qualifications, etc.

7.2.1.4 Structural-Change-Related Issues

In order to foster a more competitive and efficient industrial sector, Poland still needs to solve many structural adjustment problems. Many state-owned enterprises which are still engaged in uneconomic activities in the longer term continue to exist. Those enterprises are justifiable to stay in business from the viewpoint of providing employment opportunities for the time being, but the future prospects are quite weak. To support those dull sectors might resultantly cloud out the high-potential and new industries. Poland must, therefore, accelerate the privatization of state-owned enterprises and the restructuring of enterprises and industries.

Restructuring of enterprises is generally executed on various spheres of their management and operation. The most common types of restructuring include:

- 1) Improvements in the entire structure of the enterprise's organization and that of the head office;
- 2) Changes (reduction, in many cases) in personnel;
- 3) Changes in management techniques;
- 4) Improvements in production methods, quality control and maintenance procedures;
- 5) Changes in the promotion and sales methods;
- 6) Introduction of new marketing strategies including methods of advertising, promotion and public relations, distribution of products, market segmentation, product mix, price policy; and
- 7) Introduction of new products.

Many restructuring plans tend to consider reduction in the number of personnel (i.e. 2) above) as precondition or final goal for the successful restructuring. However, in many cases, it causes negative response, or even intense opposition, from workers and trade unions and brings considerable delays in the implementation of the restructuring plans. Therefore, changes in personnel should be considered as one of the techniques of restructuring rather than precondition of it, which, of course, is required to implement in many cases.

7.2.2 Policy Suggestions

7.2.2.1 Government's Role in Implementing Industrial Policies

In Poland the Government's role in the post-socialism period is considered to the areas of providing a framework for the market economy, of improving the functioning of them and of reducing the institutional and infrastructure bottlenecks. Industrial policies are accepted only within the limits of those general framework of Government's role. However, in order to make industrial policies always relevant to actual economic situation, the important Government's role would periodically monitor and evaluate the effects to the economy and industries of implementing those policies whether programs are adequate, or funds are allocated effectively and efficiently between

programs, or if there is any additional and supportive measures to get the better results. The results of monitoring and evaluation should be informed to and reviewed by all related departments in the Ministry and further actions be devised.

7.2.2.2 Trade-Related Measures

Poland has already successfully gained access to West European markets since its start of the economic reforms in 1990 by the mutual efforts of both Polish and European governments through making use of their geographical, cultural and historical proximity. However, export promotion in other regions, in which Poland lacks such proximity, calls for explicit support from the government to the private effort for the export promotion even in the market-oriented economic system. The followings are strategic and institutional measures to be taken for the export promotion by the Polish government:

(1) Strengthening of Polish representation abroad and of back-up services to them

The total image of Poland would strongly influence on the decision-making of consumers for selecting products. It would be appropriate to launch a campaign for selling the country's reliable image to promote the Polish products in strategic markets. At the same time, the number of commercial attaches in untraditional markets for Poland is short in terms of both number and experience in export business of market economic system. The number of commercial attaches in strategically important countries/markets would be increased and back-up services from new Ministry of Economy including the dispatch of experts and consultants who are knowledgeable in specific markets, products and industries would be provided.

(2) Setting-up of an integrated trade information system

Quick access to market information is vitally important for successful trade promotion. Polish CCOs in the world would have on-line access through a global network to the computer data bank system of, for example, "Polish Trade (and Investment) Data Bank", which would also has links with private sector.

(3) Strengthening of CCO's function by sector and country/region

To penetrate into the foreign markets, more integrated and targeted approach to information by sector and country/region on foreign markets, trade fairs, foreign inquiries, business consulting, etc. are required. From this viewpoint, the present function of Polish CCOs seems to leave further strengthening.

(4) Further strengthening of export finance, insurance and guarantee system

Export promotion requires a huge amount of funds, while export financing function of Polish financial institutions are limited. The scheme composed of short and medium term export finance and targeted particularly SMEs through interest subsidies and direct credit facilities would be further strengthened as well as export insurance and guarantee systems.

(5) Promotion of exports with Eastern Europe

Although the largest share of trade will be with countries of the European Union, the share of trade with countries of former Soviet Union and others in Eastern Europe will also increase in accordance with the normalization of economy in those countries and of trade with them. In fact, there may be many market potentials in those countries and possibilities of reconstructing former business contacts with them, since those countries were major markets of Polish products at the time of centrally-controlled economy. At the same time, the successful experience of economic reforms in Poland will be transferable to those countries.

7.2.2.3 Technology-Related Measures

Measures to strengthen Polish technologies for improved competitiveness and increased innovation are wide-ranged. There are many issues to be done for the technology development of Polish industry, including (1) promotion and coordination of research and development activities by enterprises, academic institutions and the public sector, (2) establishment of scientific and technical information system, (3) institutional and legal infrastructure for technological development, (4) quality assessment and improvement of Polish products, (5) collaboration with foreign institutions for research and development activities, (6) development of technologies in small and medium enterprises; all relate each other and inter-connected. To initiate the technology policies effectively, the following institutional set-up has the highest priority for realizing collaboration among enterprises, academic institutions and government.

(1) Strengthening of "Technology Agency"

In order to coordinate the policy direction of technological development among various actors in the industry, academic and public sectors and the exchange of research and development results among them, the expected role and function of Technology Agency is very important. The main goal of Polish technological policy would be to make the products of Polish industry competitive in the international markets by raising technical standards, by decreasing material and energy consumption in the production process, and by making products compatible with the technical and legal standards in force in the EU and EFTA countries. For those purposes the Technology Agency would work and function in (1) commercializing applied research and development, (2) supporting implementation of

research results in production, and (3) monitoring strategic government programs in industry. If it works well as is expected, it will effectively decide Poland's industrial structure in the future. It was originally planned to function in 1995, but will start to operate in 1997. In order to make narrow the technological gaps between the high level of innovation in the West and the current situation of that of Poland, the priority must be put on the strengthening of the newly-established Technology Agency.

(2) **Emphasis on technology development for domestic parts industry**

Taking an example in the automotive industry, it is in the new stage of selecting enterprises which would help the real development of Polish automotive sector and its technological innovation rather than setting up of factories for mere assembling works. At this stage, the development of technologies for domestic automotive parts industry is strategically important for fostering the own technology of international competitiveness and, therefore, particular financial support for the industry in the light of developing domestic ecological technologies, which have high priority of urgency and applicabilities to various industrial technologies, would be justified.

7.2.2.4 Structural-Change-Related Measures

In order to realize structural changes and foster a competitive industry in post-socialist Poland, privatization and restructuring are vital. Privatization is important for creating the private ownership which seek after the efficiency in management and operation of enterprises and prepare and implement business plans for the future in medium- and long-term perspectives. The following measures are suggested to implement for the successful implementation of privatization and restructuring in Poland.

(1) **Emphasis on creating competitive market conditions**

More emphasis for the privatization policy would be directed towards creating longer-term-oriented competitive market conditions rather than raising short-term-oriented revenues. Particularly, effort would be directed to the establishment of efficient and well-functioning financial sectors, which would certainly boost private investments.

(2) **Emphasis on development of domestic sectors through SME development**

Through foreign direct investment for strategic foreign alliance, Polish enterprises are linked to the foreign investors' production units in other countries and integrated into their global production, product development and marketing strategies. This has realized the objective of shifting industries towards the supply of internationally-competitive products to date and for some years in the future. However, the foreign direct investment is not a synonym

to development of domestic sectors. Measures to encourage entrepreneurship and development of parts suppliers to those foreign sectors, particularly the development of small- and medium-sized enterprises (SMEs) would be put higher priority.

(3) Promotion of restructuring through the shift of resources

The restructuring in Polish industry is currently taking place mainly in the sector which output of products are declining. In the future, the restructuring by expansion of certain sectors should take place through the shift of resources, including labour and capital, from one sector to another. This will require for enterprises to retain a large part of current revenues and to be available with fund for modernization and expansion of production facilities at reasonable interest rates. This again requires the establishment of efficient and well-functioning financial sectors.

(4) More active financial sectors' participation in privatization and restructuring process

The debt/equity swap in the early stage of privatization and restructuring of state-owned enterprises in Poland had certainly positive effects towards the realization of their goals. However, some financial institutions tend to sell equities of their possession as soon as possible rather than becoming stable equity holders and financial experts guiding their customers and the infant private enterprises to a new market-oriented economic environment. The financial institutions' attitude towards privatization and restructuring should not be restricted only to the portfolio investment but would be made for strengthening the Polish economy and industry in the longer term perspectives.

7.3 Regional Development Policy Issues

7.3.1 Assessment of Situation

Regional economic problems in Poland are caused not only by Poland's own process of economic transformation from former centrally-planned economic system to market-oriented system but also by the influence of incidents which took place beyond Poland's borders including the reunification of Germany, the collapse of the former Soviet Union and the division of Czechoslovakia into two independent states. The Mielec area has been particularly hit and lost markets of its major products by the collapse of the former Soviet Union.

At present, the inter-regional economic disparities are steadily widening in Poland and yet on the track, as is shown in the regional difference of unemployment rates by voivodship, of forming equitable economy and society. Multi-functional regions with diversified economic structures of industries and services, relatively well-developed infrastructures and international connections such as big cities of Warszawa, Krakow, Katowice, Wrocław, Poznan and Gdansk have proven to better off in a new situation, while regions with undiversified economic structure and dominated by state-owned agriculture and traditional industries have run into problems.

Among factors which aggravate the regional economic imbalances, following institutional and financial factors need particular attention:

- 1) lack of preparing regional development planning function in the voivodship level,
- 2) lack of human resources for planning, formulating, implementing and administering the regional development policies in market economic principle, and
- 3) scarcity of funds to be used for regional development.

7.3.2 Policy Suggestions

Although to empower the regional development planning function to voivodship may require constitutional procedures and is beyond the discussion in this study, but the present institutional arrangement of preparing development plans only by state level and the local (gmina) level and lack of that by voivodship level is certainly far from satisfactory. At the same time, it can be pointed out that some regional development problems need consideration of regions beyond the sphere of voivodship. In this regards, the voluntary cooperation of nine(9) voivodship Regional Development Agencies (RDA) in the south-eastern part of Poland, "Malo Polska", to prepare the wider regions' sectoral development plans, in which the planning of particular sector is distributed to each RDA according to its retained expertise, seems to be an interesting attempt and is awaited for the positive results. However, each sectoral plan is prepared by the leadership of a particular RDA and the result would immanently tend to lack the inter-sectoral consideration and comprehensiveness.

(1) Preparation of Integrated Regional Development Plans for Regions in Voivodship Level and Inter-Voivodship Level

From this viewpoint and to cope with problem factors of 2) and 3) in the above paragraph (Section 3.1), the technical cooperation with international and bilateral aid agencies might be considered (e.g. Comprehensive Regional Development Study of JICA's Development Survey scheme). At the same time, the integrated regional development approach for the formulation of regional development plans in voivodship level or inter-voivodship level might be advisable to introduce rather than sector-by-sector planning approach, which is appropriate to be applied to sectoral development plans in the national level, since many economic, social, ecological and institutional factors in the region level are generally inter-related each other and would be appropriately taken into account simultaneously.

(2) Policy measures required for attracting investors to Mielec Area

Although the incentive measures for investors to the Mielec Special Economic Zone (SSE) are attractive, not many investors have actually decided to invest in the zone and enjoyed its benefits. Many potential investors may be still in the process of studying and selecting the site of making their business in Poland.

Under a market economy, infrastructure must meet quite different requirements than in the previous centrally-planned economic system, which will inevitably modify the rules governing Poland's infrastructure network and systems. In the process of Poland's transition to a new political and economic system, it has confronted with new challenges. The following challenges are especially important:

- 1) to meet requirements of various independent business activities;
- 2) to develop the national infrastructure network in line with the country's new economic system; and
- 3) to make consistent with the EU's infrastructure network systems.

However, the current situation of infrastructure development in the Mielec area is not sufficient to meet those requirements and leaves many uncertainties for its future development programs. In order to induce the potential investors to make actual investment in the Mielec SSE, following measures will be required:

- 1) To prepare the document introducing the economic and social situation of Mielec and its surrounding area explaining about the real situation of South-Eastern part of Poland. (Presently the documents on Mielec SSE are available. But the potential investors would like to obtain information on wider area, not restricted to Mielec itself.)
- 2) To prepare more concrete plans of developing infrastructure. Current situation of infrastructure in the Mielec area will be totally unacceptable to many potential investors.

Development plan for A-4 Motorway must be made concrete and other infrastructures including the expansion of airport, the modernization of railways, telecommunication systems, potable water and sewage systems, etc.

- 3) To develop various facilities for urban life in the Mielec area, aiming to invite international businessmen and their families including sports and recreational facilities, cultural and educational facilities, the international-class hotel(s) with facilities of holding conferences, etc.
- 4) To establish "Science (or Industrial) Park" with laboratory equipments for the technological development of various industries.