

4.4 Current status of human resource development and relevant issues

Concerning the human resource development in China (particularly development of engineers and technician who support enterprises), since the shift to the socialist market economy system, the country has been suffering various issues such as (1) a gap between social demand and training contents provided by training agencies, (2) difficulty in training agencies to ensure management cost, and (3) the low level of enterprises' awareness for training. Hangzhou City also has the same situation as mentioned above. The City has been coping with the issues step by step but is required for further improvement in its management mechanism.

4.4.1 National government organizations relating to human resource development

After 1980's, the national government entrusted the main responsibility for development of vocational education to municipal governments. The ninth National People's Congress in 1998 passed a bill of reforming the mechanism of the State Council. After the bill was passed, the function of the State Council concerning the control and guidance on vocational education in the industrial sector was decreased and responsibility of municipal governments for human resource development was increased. For example, the State Administrations (Machine -Building Industry, Textile Industry, Light Industry, National Nonferrous Metals Industry, etc.), which will be merged with the State Economy & Trade Commission due to the reform of the State Council's mechanism, was released from the responsibility for vocational education. Instead, the control of various vocational schools that belonged to the above State Administrations was transferred to municipal sectors. Although the responsibility of the State Council for vocational education was lessened, it is still a core supervising agency in the macro sector for vocational education plan.

Government agencies that serve as the core of vocational education and human resource development are the (State) Ministry of Labor and Ministry of Education. The functions of the two ministries overlap in part but are generally separated as follows: The Ministry of Labor is in charge of technical development and training and job introduction for society members including those employed and unemployed, while the Ministry of Education supervises the education and training for providing capable social members. The state institutions generally engage in planning of macro-scale projects. Practical training and education are supervised by municipal government under the control of the State Administration of Labor and the Board of Education.

(1) Vocational education control mechanism in the State Council

Municipal governments take the full initiative in implementation of plans and projects for vocational education, arrangement of schools, setting of specialized courses, collection of students,

job introduction after graduation, etc. In urban areas, province and central city governments are generally in charge of planning and implementation, while in rural areas, the county government is directly concerned with planning and implementation under the guidance of province, autonomy districts, and city and district under the direct control of the state government.

As an organization for vocational education and its management in the State Council, there is the National Science and Technology Education Guidance Organization. This Organization is mainly responsible for improving the level of service related to science technology and education by drafting plans for them. This Guidance Organization consists of Minister and Vice-Minister of the State Council, Vice-Chief Secretary to the State Council, Director of the National Development Planning Commission, Director of the State Economy & Trade Commission, Head of the Ministry of Education, Director of the Commission of Science, Technology and Industry for National Defense, Head of the Ministry of Financial Affairs, Head of the Ministry of Agriculture, President of the Chinese Academy of Sciences, and President of the Chinese Engineering Academy.

(2) Ministry of Education

The Ministry of Education is composed of department and state administration sectors, which amount to 21 in total. Of the sectors, the Vocational Skill Education Department and Social Member Education Department play an important role for fostering and training human resources. These two departments control the ordinary education nationwide including urban and rural areas, secondary vocational and academic career education for social members, and cultural and technical education projects for social members. Their major functions are as follows:

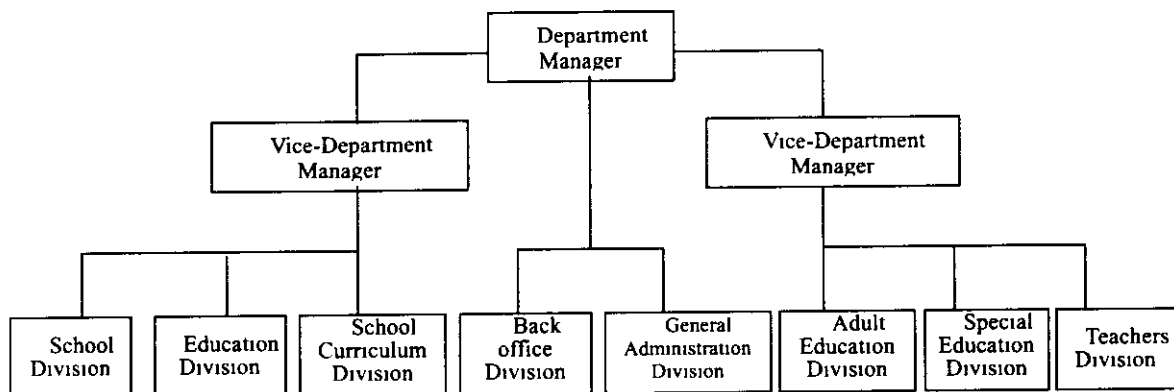
Drafting and management of plans and instructions for the implementation concerning secondary vocational and academic education and cultural and technical education projects for social members.

- 1) Guidance on management operations for academic career education in vocational skill schools.
- 2) Planning of basic rules for establishing these schools and guidelines for school management and evaluation.
- 3) Determination of courses to be taken at these schools, official course guidelines and goals and inspection of textbooks.
- 4) Guidance on moral education and teacher development plans for these schools.

- 5) Guidance on plans for arranging and improving educational equipment, books and facilities for these schools.
- 6) Guidance on the self-taught people who sit for examination into secondary specialized education and improvement of distance education curriculums.
- 7) Guidance on the collection of students, employment introduction and employment instructions implemented in the secondary vocational school education.
- 8) Guidance on the integrated reforming experiment performed in cities, agricultural districts and enterprise education.

The organization to perform the above-mentioned duties consists of the following:

Figure 4.4.1 Vocational Education and the Organization of Social Education Department



(3) Ministry of Labor

Major tasks for the State Ministry of Labor are follows: (1) Drafting of state and industrial standards for vocational skills and their promulgation, (2) Establishment of a job qualification certificate system and a job skill appraisal system, (3) Drafting of development plans and management plans for technical schools, (4) Drafting of plans and measures for job skill development for corporate employees and employment assistance for those unemployed or laid off. (5) Drafting of various regulations and policies for development of engineers, encouragement for them, implementation of technical contests, (6) Drafting of policies for implementing technical training before employment, (7) Drafting of policies for fostering teachers who engage in technical schools and services related to vocational education, and (8) Drafting of textbook standards for technical schools and institutions related to vocational education and planning of an evaluation and certification system

4.4.2 Human resource development in Hangzhou City

Relevant sectors of the central and municipal governments provide operational guidance and services under the principles of basic laws by paying regard to the plans drafted by their subordinate governments (autonomous unit governments such as province, city and county)

First, development of engineers and technicians and certification of the skills are implemented by the Ministry of Labor, Board of Education, Economic and Trade Commission, and supervisory agencies by industry type (e.g., Ministry of Transportation for transportation-related vocational training, City and Town Construction Committee for construction machinery). Of these, the Ministry of Labor and Board of Education play a core role.

Cities and provinces prepare a variety of education and training courses for corporate executives, workers, unemployed people and young people before being employed. A good balance is kept between the acceptance capacity and the number of applicants in the institutions that foster new technical workers such as secondary vocational training schools, secondary technical schools and vocational high schools. These institutions are endeavoring with a small budget to bring up technicians that satisfy social needs.

Hangzhou City also arranged 50 to 60 vocational training institutions for social members including the "Job Application Training Center" and "Re-employment Training Center," which provide technical training for re-employment to the unemployed of which number is said to amount to 20,000 to 30,000 in the City's urban area, and assist those who aim for job change or promotion by acquiring new skills. These vocational training institutions for social members include 20 schools that provide the course for training high-level engineers.

◆ Issues

Although technical schools under the direct control of Hangzhou City are key schools authorized by the State Ministry of Labor, they have a difficulty in fulfilling social needs because they fail to introduce sufficient equipment due to small budget. Particularly, technical training for machine work has a great inconvenience due to the shortage of fundamental equipment such as lathes. In addition, it is hard to ensure instructors who can provide education and training that meet social needs due to the shortage of human resources.

Some of the large-scale enterprises run or owned by the national government have their own training facilities in their plants and have less difficulty in receiving assistance from public agencies. Meanwhile, small and medium enterprises have difficulties in establishing their own training facilities and receiving public assistance due to the shortage of funds and workforce. Moreover, top executives of these small and medium enterprises have generally lower awareness and do not consider that the injection of funds into employee training will become a key to corporate revitalization and quality

improvement. Particularly, although the knowledge on financial management and marketing is an essential item for expansion of corporate performance and ensuring of profits, small and medium enterprises cannot afford to enjoy the benefit of education for managers and executives which are performed under the control of the Board of Education

(1) Administration of Labor of Hangzhou City

The Administration of Labor offers the following services under the following organization. (1) job introduction for workers, (2) guarantee for labor (3) workers' wages (4) skill learning and certification for workers, and (5) safe production management (transferred to the section other than Ministry of Labor [Administration of Economic Trade]).

1) Organization of the Administration of Labor of Hangzhou City

The organization of the Administration of Labor is shown in the figure below.

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- a) Organization Propaganda Division
 - b) Policy and Regulations Division
 - c) Labor Inspection Division ————— • Labor Inspection Branch Office
 - d) Mine Safety Inspection Division
 - e) Division of Inspection for Safety of ——— • Vessel Inspection Office
 - High Temperature Pressure Vessels
 - f) Labor Dispute Division { • Job Skill Certification Center
 - g) Labor Ministry Office { • Building Management Division
 - h) Inspection Office
 - i) Labor Force Office ————— • Employment Bureau
 - j) Wage Division
 - k) Labor Insurance Service Office ————— • Social Insurance Office
 - l) Job Skill Development Division ————— • Hangzhou City Technical School attached to City: 1 school (Note 1)
 - attached to County : 5 schools
 - m) Job Safety and Health Inspection Division ——— • Safety Inspection (Note 2)
 - n) Safe Production Office (Note 2)

Note 1: Number of staff - 150; Number of students - 1800. A key school authorized by the State Ministry of Labor

Note 2: m) and n) are actually one sector.

Fig. 4.4.2 Organization Chart for the Administration of Labor of Hangzhou City

2) Technical education

Administration of Labor controls training and certification of vocational skills for those eligible

for working and Vocational Skill Development Division of the Administration of Labor is in charge of practical operations. The Administration of Labor of Hangzhou City manages 18 technical schools comprehensively, one of which is directly controlled by State Administration and five of which is under the direct control of the Administration of Labor of the County (City). In addition, the City has one job application training center and 13 re-employment training centers, which provide vocational re-training to those laid off or unemployed. The City also has secondary vocational schools (for those who graduated from primary junior high schools), which are under the control of the Board of Education.

Target people and objectives of the skill education controlled by the Administration of Labor are summarized as follows: Target people Unemployed people (for ensuring their right of job application), job applicants, young people preparing for employment

1) Type of technical education Three year training in a technical school (secondary vocational training school) for graduates from junior high schools

2) There are two types of secondary technical schools (called Type-One School): Secondary vocational training schools controlled by the Board of Education and secondary technical school controlled by the Administration of Labor both types of schools provide three-year training courses with similar contents. Major differences between these schools are job types to be covered and the focus on technical matters in the secondary technical school. On the other hand, secondary vocational training schools cover a broad range of training courses such as finance, accounting, nursing, light industries, spinning, food processing, sightseeing and public entertainments

3) A vocational high school is also an education training institution under the control of the Administration of Labor. The school is different from the secondary technical school in its courses prepared to meet social needs in recent years such as electric appliance repairs, secretary course, computer course, and art course. The high school has high popularity because students can learn job skills in addition to general education subjects as taught in ordinary high schools. On the other hand, the secondary vocational training school focuses on job skills. However, its courses are not advanced but are committed to conventional types of industries. In addition, the secondary technical school is more committed to conventional types of industries than the secondary vocational training school and is focused on job skills.

4) As other skill education, there is technical education for the unemployed and the workers in active service. (technical education for those in active service). Target workers for the skill education provided by the Administration of Labor are workers on beginners,

middle, and advanced levels, engineers, and high-level engineers. ^{Note³⁾}

5) There are about 50 to 60 job skill education centers for social members in Hangzhou City, 20 of which have a training course for high-level engineers. Training courses of the center include car repairs, machinery and electric appliance repairs, computer operation, driving skills, sewing, and confectionery Courses for CAD or graphic design are not opened due to the low demand.

6) Skill education is implemented in societies

The organization chart concerning the technical education and training by the Administration of Labor is as follows:

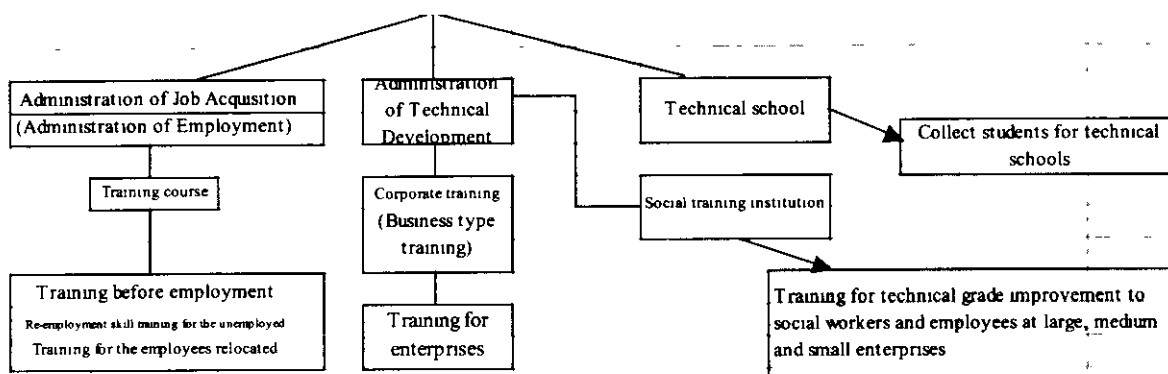


Fig. 4.4.3 Organization Chart Concerning the Technical Education and Training by the Administration of Labor of Hangzhou City

(2) Board of Education of Hangzhou City

The Board of Education is an organization as significant as the Administration of Labor for human resource development As described in the preceding (1) Administration of Labor of

Note 3) Types of job re-education courses

(1) Job application training center (11 locations in the City)

(2) Re-employment training center (ten locations in the City) Laid off people are generally characterized by "old age," "low culture level" and "low skill level," so easy service-industry courses are prepared for them (such as watering, housemaid service, security, cleaning and planting) About 1,000 people finished the course from January to the end of May this year and about 50 percent of them were re-employed

(3) Both centers mentioned in (1) and (2) have similar 30 occupation courses The number of users of both centers amounted to 30,000 for 1999

Hangzhou City, secondary vocational training schools are under the control of the Board of Education. Key concepts for human resource development by the Board of Education are "education for managers and executives," "post education," and "adaptability education," in addition to functional and technical education.

1) Education for managers and executives

Based on the guidelines drawn up by the Ministry of State Economy and Trade and the Ministry of Chechiang Province Economy and Trade, the Propaganda and Education Division of Hangzhou City Economy and Trade Committee sets out and implements annual plans for the education of managers and executives, which are classified into (1) post education, (2) academic career education and (3) adequacy education. These educations are generally intended for government-run and government-owned enterprises, which are consequently large-scale ones.

2) Post education

In post education, lectures for smooth progress in corporate management and control are provided to plant managers, sub-plant managers, party secretary, sub-party secretary, and chairman of the Labor affairs committees. ^{Note⁴⁾}

Corporate executives are required by the state for the academic career appropriate as a manager of the enterprise. They are required for the academic career of at least graduates from a technical college with a three-year course. This post education is performed for the corporate executives who do not have such academic career due to historical reason.

3) Adaptability education

The main subject for adaptability education is how to solve the issues enterprises encounter in the process of operational innovation. ^{Note⁵⁾}

Note 4) Economy management, corporate strategy management, marketing, financial management, human resource management, study of financial statements, international trade, economy law, socialism feature theory, and leader techniques, etc

Note 5) The education consists of three courses: how to proceed with in-company management, market development and cost control. Each course is lectured by college instructors and corporate executives for a few days.

(3) Training for other vocational skills and techniques

Training for other vocational techniques is implemented in 1) training centers by business type, in-company (large company) training schools, and other technical schools. There are a large number of enterprises with training facilities in Hangzhou City including non-operating ones (the actual number is unknown due to no statistics available) Training courses offered in-company training facilities are classified into the ones for external society members and internal employees. For example, training schools for transportation jobs foster drivers of automobiles, trucks and buses, and schools other than in-company ones do not provide training for skills to operate specific "construction machines." Training schools of large companies merely provide training before employment (the training before employment is not technical training but focuses on theories, so it needs no facilities). However, some of the training schools have substantial facilities and education curriculums. For instance, an in-company training school in Xiaoshan City owns equipment introduced from Germany and organized curriculums. The control on this training school is transferred to the municipal government. In addition, a television manufacturing plant has a similar training school

- In-company schools are called "Employee Schools" and it has three significant meanings to pass the examination test for such schools.

- Allowed to take the skill certification test after graduation (junior engineer, semi-senior engineer, senior engineer)

- Issue of a graduation certificate In some cases, a certificate that allows for entry into an advanced school (college) is issued.

- A student who achieves an excellent performance can be employed by the company that owns the school.

There are also training centers according to business types, which are supervised by public organizations related to each industry, e.g., the training center for commercial business type is under the control of the Trade Office.

With regard to in-company training centers and their competent agencies, the control is being entirely entrusted to the City or social education organization and the conventional policy of control or regulation will be changed. Accordingly, in-company training centers, which had been under the control of the Administration of Machinery and will have no competent agency after the change, will be allowed for the management based on companies' own reasonability.

(4) Current status and issues

The City provides a variety of education and training courses to corporate executives, workers,

the unemployed, and young people before employment but suffers from the following problems:

- 1) Demand for technical training in Hangzhou City is declining every year. This is not because the number of school age people is decreasing but because the number of students who intend to receive technical training is reducing. In addition, Hangzhou City places emphasis on higher education rather than vocational training schools, considering development of ordinary high schools. Therefore, it is hard to say that secondary vocational training schools are growing except a few key schools. In fact, each technical training school is suffering from the shortage of facilities for education and training as well as of material expenses for practice and maintenance and management fees for equipment. ^{Note⁶⁾}
- 2) Corporate executives and even workers have a negative attitude toward technical training for the employed workers, which brings insufficient utilization of the training system.

Pre-employment training for employees and skill improvement training after employment are specified as necessary in the "Outline of the Educational Reform and Development in China" published by the State Council of Chinese Communist Party and are clearly prescribed in the "Labor Law" as well. However, the fact is that some companies do not provide skill improvement training or even pre-employment training.

With regard to the participation in training by corporate employees, most enterprises have a payroll distribution system based on the wages for the skills required for employees' positions. However, the problem is that actual skill wages (allowances) do not correctly reflect the technical levels and labor values for technical workers. Therefore, motivation for workers to participate in training and the control system for participation are insufficient. Hangzhou City had not legal basis for employee education before 1995. On and after 1995, various regulations and statements were published such as "Tentative Regulations for Hangzhou City Workmen Education : June 1995," "Regulations Concerning Continuous Education for Hangzhou City Special Engineers June 1996," and "Minor Statement on the Tentative Regulations for

Note 6) For management of these training institutions, enterprises (regardless of state-owned, state-run or private ones) have to pay a tax named "Employee Education Expense," at 1.5 percent of the payroll for total employees and this fund is appropriated to the management cost for those training institutions. A school where technical training will be performed is a technical school in Hangzhou City we visited with Mr. Soeda the other day (which has no machine processing facilities). This school is based upon a three-year course. Academic career education is conducted in the first two years and technical education is provided in the third year. The management cost for these schools is supported by seven fund sources, the largest of which is said "Employee Education Expense (Workmen Education Expense)" granted from the national government. However, said percentage of 1.5 is not sufficient to support these schools.

Hangzhou City Workmen Education: January 1998 " However, most enterprises are not compliant with these regulations.

Workers also tend to have a negative attitude toward training courses because they will not have a pay raise event if they take one.

The average term for corporate executives is generally 3 to 4 years and their greatest concern during the term is to grow sales. They consider therefore that the training will not lead to sales increase. Moreover, they think that (1) the company has to pay training expenses and that (2) the training is not effective and useless for actual manufacturing by their companies. They consider that training on an OJT system is rather effective.

The quality and quantity of technical workers are falling every year in Hangzhou City compared with other cities in Chechiang Province (1997 Report by the Administration of Labor of Hangzhou City). This is considered attributable to the lower awareness by enterprises and employees as mentioned above (refer to Table 4. 4-1)

Table 4.4.1 Actual Conditions of Enterprises' Vocational Education and Training in Hangzhou City and Comparison with Surrounding Cities (as of the end of 1997)

	Hangzhou			Ningbo			Wenzhou			Shaoxing		
	Number of participants	Participation rate	Rank	Number of participants	Participation rate	Rank	Number of participants	Participation rate	Rank	Number of participants	Participation rate	Rank
Training for overall employees	200368	32.5%	4	164562	35.0%	3	194388	41.3%	1	129286	36.9%	2
Training for executive officers	46697	49.6%	4	75880	51.2%	2	101504	55.7%	1	56661	50.0%	3
Training for technical specialist	31640	50.3%	1	47878	49.8%	2	25305	40.0%	4	23445	38.0%	3
Training for managers and executives	18143	56.8%	3	12992	53.4%	4	10856	66.9%	1	9221	59.2%	2
Ratio of successful applicants for the training of manager	2959	9.3%	4	3614	14.8%	3	2935	17.3%	2	5282	33.9%	1
Continuous education	15102	12.8%	1	10072	10.7%	2	2218	3.0%	4	3133	5.1%	3
Workmen	137126	26.3%	4	88689	27.4%	1	12884	32.3%	1	72625	30.6%	2
Participants in technical and workmen training	96962	31.0%	3	64568	30.0%	4	67549	36.5%	1	56137	34.6%	2

Source: Board of Education of Hangzhou City etc (November 1998)

The central government started a system in which a job applicant is required for any skill certificate to be employed (The system started on July 1, 2000 for 90 types of skills. The certificate

is officially referred to as "Certificate for Finishing Vocational Skill Training" or generally called as "Job Position Eligibility Certificate"). However, the system is not running well due to insufficient conditions. Since the environment for introducing the skill certificate system for 90 items is not completed, Hangzhou City started the system provisionally with regard to 30 items to avoid possible confusion which will arise in both job applicants and enterprises. ^{Note⁷⁾}

(5) Results of the questionnaire survey

1) Overall evaluation (current issues, current concerns and future issues)

About half of enterprises is suffering from the shortage and development of human resources (Fig. 4.4-2). Enterprises that answered, "It is not our current issue but we have concerns about it" amounted to a high level at 31 percent. The percentage of the enterprises that answered, "It will become an issue in future" is not so high but stands at 18 percent. Thus, enterprises are highly concerned about the problem of human resources. Then, we develop specific discussions about "What are the issues for human resource development?" based on the results of the questionnaire.

2) Issues held by individual enterprises and methods of human resource development

The greatest issue for human resource development was "unclear development programs." Next came the answer, "unclear distinction between guidance and development." Enterprises are thinking of the significance of human resource development but do not know how to deal with it.

3) Education and training for employees

The second greatest issue is education and training for employees (Fig. 4.4-3. Issues Held by Enterprises). In particular, all respondent enterprises in the electric and machine sectors are

Note 7 This skill certification is granted after examining whether an applicant has the minimum required skill for the job. For instance, when applying for a job as waitress, it is examined whether an applicant has the basic capabilities such as customer service and tray service. This examination is controlled by the Administration of Labour of each administrative unit (city, district, county, town) but certification is not solely authorized by the Administration of Labour but in some cases, the industry directly issues a certificate not through the Administration of Labour. Training institutions may issue skill certificates when training courses are completed by submitting objectives and programs for the training to the Administration of Labour and obtaining the approval therefrom.

struggling to solve this issue. Meanwhile, most of such enterprises perform education for employees (Fig 4 4-4) through OJT. However, the "education and training through OJT are unsuccessful" according to the results of the questionnaire

This, stated reversely, implies that enterprises consider OJT as the most effective means. However, enterprises would not think that OJT is the sole means to improve technical levels. It would be correct that enterprises expect government authorities in technical education to conduct training that enables their employees to learn useful techniques and skills for the work front

To provide technical and skill training that are useful for the work front, it is necessary to perform the training that meets customer (enterprises) needs. Computer training, for example, is provided by many institutions such as vocational high schools, technical schools and chambers of commerce. However, enterprises send their trainees into such training courses without specific knowledge on the contents of the training. This would cause a mismatch between corporate needs and training contents, which may lead to the reluctance of enterprises to participate in government-led training. There are various levels of computer training: (1) Planning of an information system for the entire company (2) Development and operation of an internal system. (3) Solution of general system troubles. (4) Creation of home pages. (5) Operation of basic software (6) Performance of easy work such as data entry.

It is required to plan training based on the circumstances of this region and to perform training with clarified contents and guidelines, which also holds true for technical and skill training.

According to the questionnaire survey, enterprises that perform education and training for employees at an outside school or center did not reach 40 percent of all enterprises that answered the questionnaire. Enterprises in electric and machine sectors do not depend on outside training institutions at all. Although they cannot obtain expected results from in-house OJT, they do not have trust in the effectiveness of external education and training institutions. The reasons for this are "difference of practice facilities installed in external education and training institutions from those at work front," "difference of the contents of education and training from the ones enterprises expect," "reluctance of enterprises to share training cost," etc.

4) Technical support

At present, enterprises expect domestic technical and skill training for technical support. However, in the near future, they expect overseas technical and skill training. It might be significant to perform technical and skill training abroad in line with the advancement of globalization, but it would be necessary to investigate why overseas technical and skill training are expected in the survey under review.

Let us compare the learning of techniques and skills to travel. The learning focused on theory due to old facilities inappropriate for training can be compared to virtual travel using a map on the desk, while education and training with practice only is like the travel without a map. Corporate executives are considered to expect the actual travel with a map (technical and skill training).

5) Human affairs

The greatest concern held by enterprises is "in-company education and training" (Refer to Fig. 4 4-6). Particularly, all respondent enterprises in electric and machine sectors show concern about this. This shows that these two sectors are seriously concerned about this issue including the fact that they recognize the education and training for employees as the greatest issue as mentioned in section 3). Their next concern is "employment of higher educated employees." Small and medium enterprises are suffering from the difficulties in collecting excellent or higher educated human resources and conducting effective in-company education and training.

In addition, it seems that the lifetime employment system is also collapsing in China and that capable employees are leaving the companies for better jobs.

Thus, how to develop business and how to enhance "morale among employees" at the same time are also great concern to enterprises.

To sum up the above, small and medium enterprises are unable to employ higher educated employees, to achieve results for improving employees' qualities through education and training, and to improve production and quality improvement due to their low morale, while excellent employees leave the company. Therefore, in future, difference from major and foreign companies is expected to become increasingly serious.

6) Human resources needed by enterprises

Types of human resources needed by enterprises (Refer to Fig. 4 4-6) are "employees with management ability," "employees with sales or marketing ability," and "employees with manufacturing technology," which account for 60%, 32% and 31%, respectively. According to the survey results, enterprises seem to realize the limitation on corporate management, to be unsatisfied with the current status of sales increase and market expansion as well as with the quality and functions of their products. They place little emphasis on language skills.

As China is going to join WTO soon, globalization is considered to increasingly proceed in future. In this age of easy access to foreign information through computer networks, presence of many enterprises that hardly recognize the significance of English causes a fear that the state might be left behind the trend of globalization.

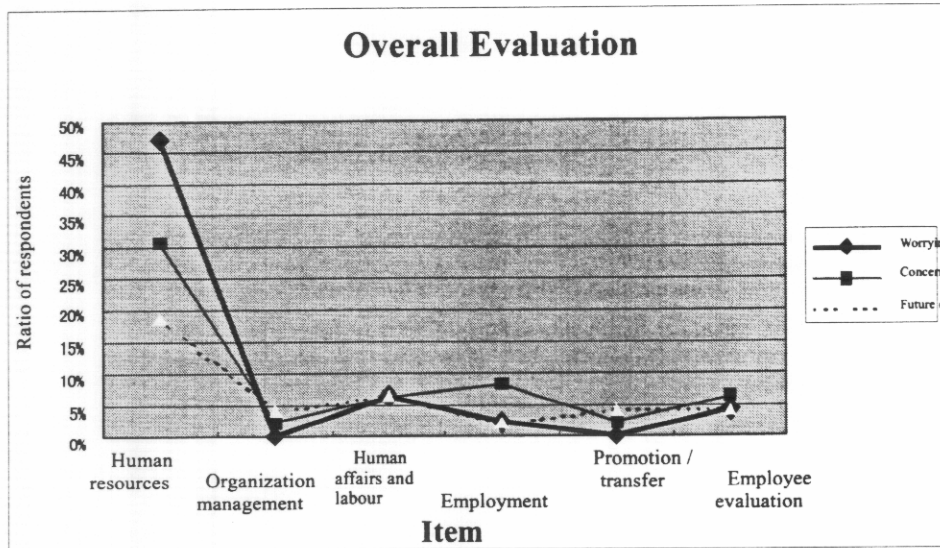
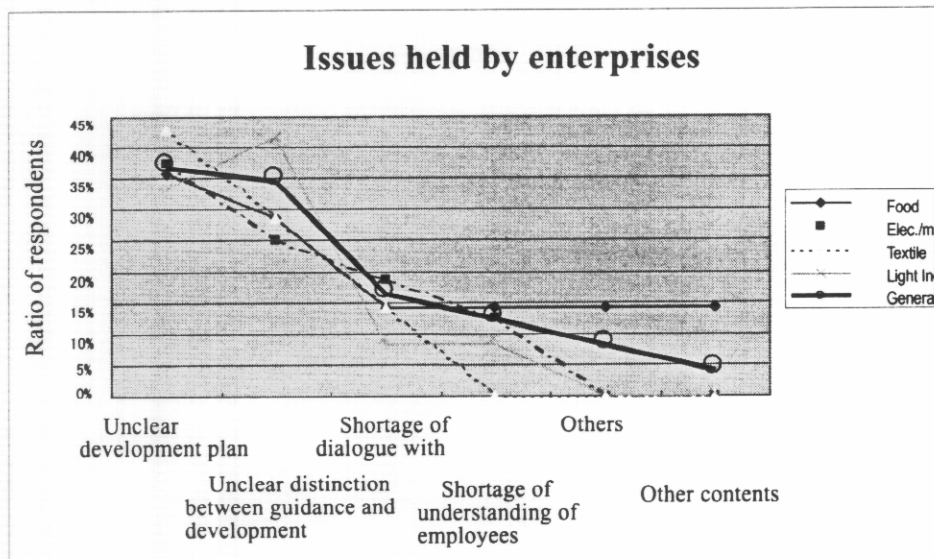


Fig.4.4.4 Overall Evaluation



Fi4.4.5 Issues Held by Enterprises

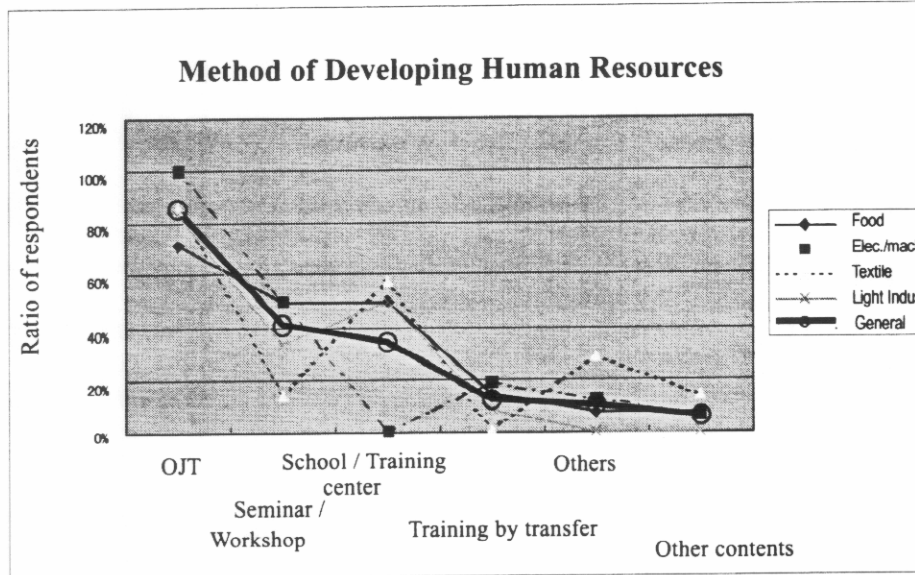


Fig.4.4.6 Education for Employees

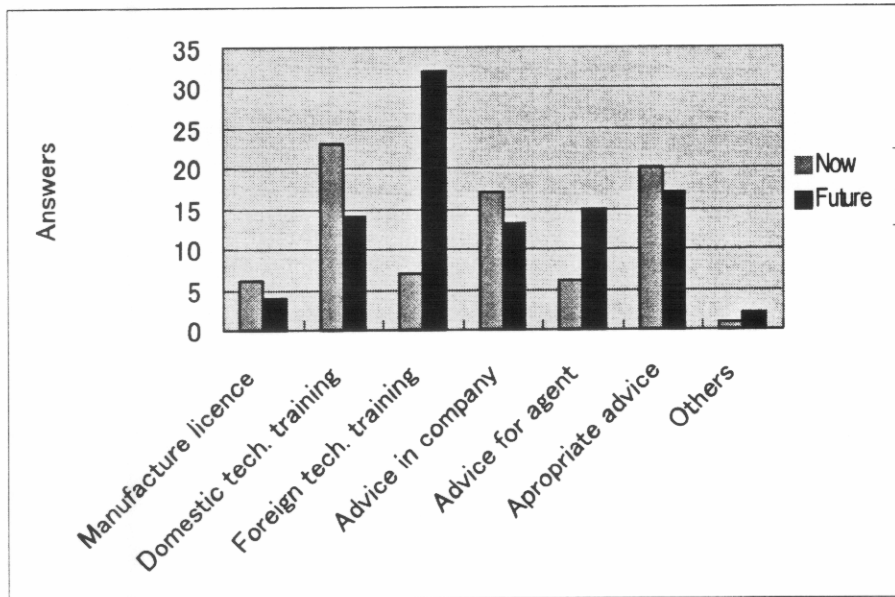


Fig.4.4.7 Present and Future Technical Support

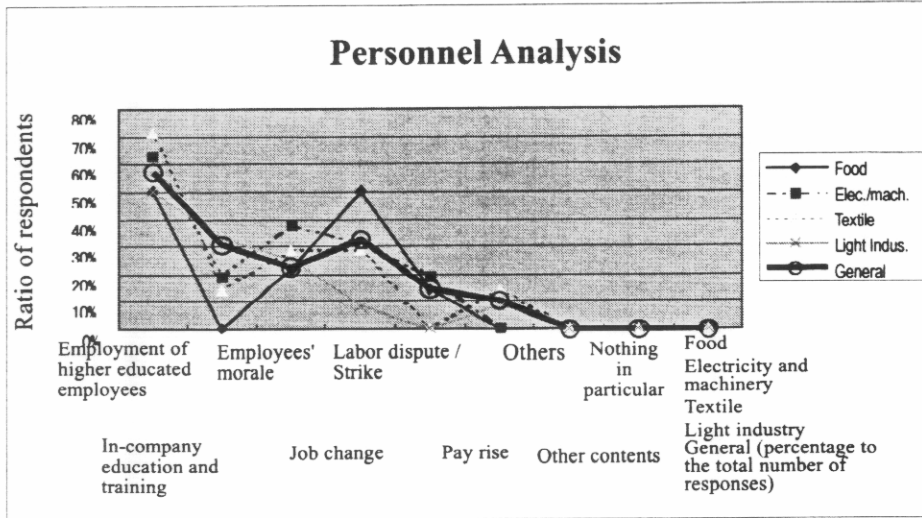


Fig.4.4.8 Employee Education and Training

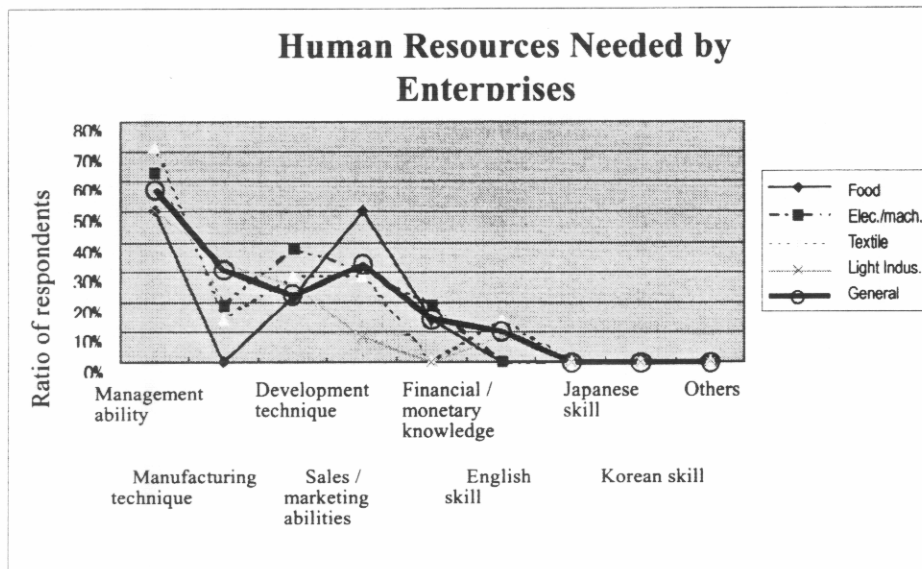


Fig.4.4.9 Human Resources Needed by Enterprises

4.4.3 Direction for developing organizations and human resources

(1) Significance of and responsibility for promotion of small and medium enterprises

As small and medium enterprises have weak power of organization, the ability of proprietor is a largest factor for business development. However, private enterprises in particular have only to pay tax in order to perform their responsibility for contribution to the state and societies in accordance with their profits. Thus, a company's activity can be equal to its profit-pursuing activity. Therefore, to put it in an extreme, enterprises may perform their activation and survival behaviors on their own responsibility. However, small and medium enterprises accept workforce and, considering their influence on national economy, it would cause a great economic loss if they are ignored. For development of economy in Hangzhou City, the City is liable for improvement of environments surrounding small and medium enterprises, particularly for giving assistance for solving their problems of management and human resource development."

(2) Present support institutions

The following institutions place emphasis on support for and development of small and medium enterprises: Hangzhou City Economic Committee Propaganda Division, Small and Medium Enterprise Division of Hangzhou City Economic Committee, Hangzhou City Small and Medium Enterprise Service Center, and the Vocational Skill Development Division in the Administration of Labor of Hangzhou City. In particular, Small and Medium Enterprise Division of Hangzhou City Economic Committee and Hangzhou City Small and Medium Enterprise Service Center have been established for the purpose of promoting small and medium enterprises. In addition to the above, Hangzhou City Technology and Creation Promotion Center for Small and Medium Enterprises (quasi-public corporation), New Technology and Trade Center, Hangzhou Property Right Transaction Center, and Hangzhou City Industrial and Commercial Enterprise Federation (Chamber of commerce and industry) cooperate to promote small and medium enterprises. Hangzhou City Engineer Association also supports engineers. However, those institutions do not have an established history of small and medium enterprise promotion and are struggling for effective support measures, suffering from various problems. Therefore, they have not yet achieved a significant effect.

This is because there are issues with both institutions that practice plans for promoting small and medium enterprises and objective enterprises.

(3) Systematization for human resource development

As pointed out in the preceding section "(2) Present Support Institutions," various institutions including administrative agencies such as Hangzhou City Economic Committee Propaganda Division and small and medium enterprise divisions under the control of said Committee are

providing support services. However, it is hard to say that they are producing effect

Functions are not clearly shared among the Administration of Labor, which is the largest organization for practicing human resource development, the Board of Education, vocational training schools as their subordinate institutions, and technical schools. Moreover, requirements from enterprises are not sufficiently taken into consideration. In these respects, the relevant institutions need to collaborate

(4) Problems on implementation

Institutions that implement education and training have various problems such as "Support programs are not sufficiently organized," "There are few full-fledged specialist on small and medium enterprise promotion," and "Budgets for support are not enough."

Meanwhile, it seems that enterprises are considering, "Various promotion programs conducted by public agencies are not widely recognized" or "Education and training by public agencies are unnecessary" In the questionnaire survey, some respondents also pointed out, "Contents of skill and technical training provided from public agencies are not fit for enterprise needs."

1) Establishment of improvement plans for human resource development

Projects for human resource development and traveling guidance service for enterprises are required for their continuity and stability because they have various issues to solve for their implementation such as budget measures, system improvement for practical and cooperative institutions, creation of curriculums and determination of specific service contents. In relation to this, budget measures or approaches are different in implementation between short-term and medium- / long-term improvement measures. Therefore, it is practical to implement short-term and medium- / long-term improvement measures separately.

2) Improvement in recognition of promotion measures and agencies for human resource development

Unless services provided from government agencies are recognized by enterprises, they will not be utilized or promotion measures could not attain expected results. Therefore, it will be a great help to seek cooperation from mass media as well as to endeavor to make continuous publicity activities using PR magazines issued by Hangzhou City and various relevant institutions (the Administration of Labor, Board of Education, Hangzhou City Industrial and Commercial Enterprise Federation, etc.). In addition to this, it is effective to communicate through the small and medium enterprise network.

3) Opening of a guidance service counter by fostering consultants including small and medium enterprise management consultants

Response by specialists to requests for consultation from small and medium enterprises ensures reliability of the government's promotion system and enables practical examination and guidance. It is not favorable for enterprises that an administrative agency directly grasps their financial condition. Therefore, it is practical to authorize a support guidance institution that belongs to a quasi-public corporation for this function.

4) Deployment of engineers and improvement of training contents

It is impossible to meet enterprise needs without expansion of training facilities and equipment or improvement in the quality of instructors. In this sense, it would be significant to consider that training and education institutions should focus on practical training and provide lectures on theories to support practice.

4.5 Information network sector

4.5.1 Environment for the Internet use in China

In recent years, the world IT industry based on computer networks represented by the Internet is rapidly growing, especially in the fields of computers, communications and relevant industries, which have developed by exerting influence on each other. The situation is the same in China, where the industries of computers, software and communications have grown up to play a major role in Chinese economy. The features of Chinese computer industry are summarized as the following three points.

- (1) Rapid expansion of the industrial scale
- (2) Large-scale extension of domestic brands in the PC market
- (3) Great dependence of key parts (CPU, memory, etc.) on foreign makers

Table 4 5 1 shows the "Conditions of the Chinese Computer Market." The gross output, which has been rapidly growing since 1995 and reached 97 34 billion yuan in FY1998, amounted to 280 billion yuan in FY2000

This is an increase of 36.6% from the previous year (1999) The gross output for FY2001 is estimated to be 388 billion yuan, up 36 85 from the previous year.

Table 4.5.1: Conditions of the Chinese Computer Market

		Results for FY2000		Estimate for FY2001	
		100 million yuan	Year-on-year (%)	100 million yuan	Year-on-year (%)
Gross output		2,800	36.6	3,880	36.8
Sales	Hardware	1,600	22.6		
	Software	230	30.7	303	31.7
	(Basic software)				
	(Intermediate software)	(73.8)			
	(Application software)	(9.2)			
		(147.0)			
	Information service	320	34.2		
	(System)				
	(Network)	(250)			
	(Database)				
	(Special service)	(53)			
		(1)			
		(16)			
Total		2,150	25	2,750	27.9

Source: CCID (Institute for Research of Development of Chinese Electronic Information Industry), SAIDI Information Advice Corporation

Table 4.5.2 shows "Top Ten Brands in the Chinese PC Market for 1997 and 1998". The number of PCs sold in 1999 reached 5,068,000, of which a domestic brand "Legend" has the top share in the market at more than 14 percent. Domestic brand PCs account for about 78 percent of the market including domestic assembled ones. The number of domestic brands among the top ten amounts to seven.

However, key parts of these domestic brand PCs such as CPU and memory are dependent on import from foreign markets and domestic makers only assemble them. Thus, China is surely approaching to a big power in the IT industry but it seems to take more time to become one in the true sense of the word.

Table 4.5.2: Top Ten Brands in the Chinese PC Market for 1997 and 1998

Rank	1997			Rank	1998		
	Brand	Sales (10,000 units)	Market share (%)		Brand	Sales (10,000 units)	Market share (%)
1	Legend	43.6	12.5	1	Legend	58.5	15.7
2	IBM	24.5	7.0	2	IBM	26.7	7.2
3	Compaq	22.8	6.5	3	Founder (Fangzheng)	21.8	5.8
4	Tondru	20.1	5.8	4	Compaq	20.3	5.4
5	HP	18.8	5.4	5	Golden Great Wall	19.2	5.1
6	Founder (Fangzheng)	13.5	3.9	6	HP	18.6	5.0
7	AST	9.5	2.7	7		14.4	3.9
8	DEC	8.0	2.3	8	Asian Wave	11.4	3.1
9	Golden Great Wall	7.5	2.1	9	Starts	11.0	3.0
10	ACER	7.2	2.1	10	Hisense	7.6	2.0
Total		175.5	50.1	Total		209.5	56.2
	Others	174.5	49.9		Others	198.5	43.8
Grand Total		350.0	100.0			408.0	100.0

Source: CCED-MIC

The software industry has been also developing along with the growth of the computer industry. One software company after another had been established from the end of 1980's to early 1990's. Of those newly established companies, Beijing University Fangzheng, Shenyang NEU-Alpine Software Co., Ltd., UFSOFT and Chinese Software Corporation have grown up into representative major

software companies in China. However, the industry has various problems such as exceeding focus on PC application software, smaller sales compared with advanced countries, and insufficient technical capability, service and training systems.

The following have become apparent from the results for FY2000:

- (1) The ratios of software and information service markets are growing compared with the hardware market
- (2) Linux is rapidly prevailing as basic software.
- (3) Demand for the products relating to Internet security, financial software and management software are increasing.
- (4) Internet provided a huge market and created a background for producing relevant products.

Table 4.5.3 shows "Development of the Communication Service Industry from 1980 to 1998." The communication industry is one of the highest growing industries in the rapid-growth Chinese economy and ranks higher among the world market both in quantity and quality, gradually catching up with the advanced countries.

The average annual growth rate of ordinary telephones for 1998 was 22.9 percent, and the number of household users was 87,350,000, ranking second to the United States in the world market. The number of portable phones was 23,570,000, ranking third to the United States and Japan. According to the results for FY2000, fixed phone users numbered about 144 million, portable phone users numbered about 70 million, and the prevalence ratio amounted to 67 percent, either of which ranked second to the United States.

In terms of the quality of communications, optical cables are mostly used for networks and digital lines and microwave are also used. The market volume for communication products for FY2000 was 130 million Yuan and is expected to continue growing and reach 210 million Yuan (+61.5%) for 2001.

Table 4.5.3: Development of the Communication Service Industry from 1980 to 1998

	1980	1998	Average annual growth rate (%)
Number of fixed phone users (10,000 households)	214	8735	22.9
Total amount of telephones (10,000 units)	417	13143	21.1
Telephone prevalence rate (%)	0.43	10.53	19.4
Capacity of telephone switchboards (10,000 lines)	443.2	13490	20.9
Local call automation rate (%)	30	100	6.9
Long-distance call automation rate (%)	10.7	100	13.2
Number of long-distance call lines (10,000 lines)	2.2	163.1	27
Total length of long-distance optical cables (10,000 km)	0.8	18.26	19
Number of mobile phone users (10,000 units)	n.a.	2356.9	-
Mobile phone prevalence rate (%)	n.a.	1.89	-
Number of pager users (10,000 units)	n.a.	3782.7	-
Facsimile communication fees (10,000 times)	5.4	789.9	31.95

Source: Information Center of the Ministry of Information Industry

Supported by the growth of these computer and communication industries, both Internet users and businesses are greatly expanding.

Table 4.5.4: Trend of the Number of Internet Users

	Internet Users	Computer Hosts	Websites
1998.7	1,175,000	542,000	3,700
1999.1	2,100,000	747,000	5,300
1999.7	4,000,000	1,460,000	9,906
2000.1	8,900,000	3,500,000	15,153
2000.7	16,900,000	6,500,000	27,289
2001.1	22,500,000	8,920,000	265,405

Source: CNNIC

Table 4.5.4 shows the trend in the number of Internet users, which has been doubling semiannually since 1998.

In line with the growth in the number of users, the numbers of host computers and web sites also show a sharp increase.

However, a comparison of the number of users, 22.5 million, with the total population of China, 1.3 billion, will suggest that the market is expected to greatly expand.

Internet businesses are becoming active. According to the surveys by CCID and SAID Information Advice Corp., the market of Internet business is rapidly expanding.

Table 4.5.5 shows a summary of market volume for FY2000 results and FY2001 estimates.

According to the table, sales to individuals through the Internet (B to C sales amount) are expected to grow largely in line with the growth in the number of users.

Table 4.5.5: Internet and e-Commerce Market Size

	Results for FY2000		Estimate for FY2001	
	100 million Yuan	Year-on-year (%)	100 million Yuan	Year-on-year (%)
Internet services market	53	72.3	64	20.8
B to C sales amount	3.9		13	233.3
B to B sales amount	767.7		942	22.9

Source: CCID, SAID Information Advice Corporation

Table 4.5.6 shows typical profiles of Internet users.

According to this table, average users are mostly singles aged 35 or less. Their income is mostly higher than the average, generally within the range between 1,000 and 2,000 Yuan. More than half of the users use PCs at their home. A great number of users pay Internet fees on the personal basis. In terms of regions, Internet is used mostly by people of East such as Shanghai and Chechiang Province, and then by people of North such as Beijing, and South such as around Cantonese Province.

	North	Northeast	East	South	Southwest	Northwest
2000.7	25%	6%	35%	23%	6%	4%

Source: CNNIC statistics

The actual status of the Internet use is that young, single elites in East, North and South, who have more earnings than the average, use PCs at home.

In Japan, the Internet first spread among enterprises and then became popular among households.

Therefore, the Internet is expected to fully prevail among households in China from now on because it has just started spreading among enterprises.

Table 4.5.6: Profile of Internet Users

Age	35 or younger			36 or older		
	84%			16%		
Married or unmarried	Single			Married		
	63%			37%		
Monthly income (Yuan)	500 or less	501~1000	1001~2000	2001 or older	No income or others	
	15.31%	25.94%	23.35%	14.98%	20.42%	
Place of use	Home		Office	Internet cafe		Others
	60.27%		43.92%	20.55%		23.83%
Payment	Personal		Corporation		Both	
	63.37%		14.15%		22.48%	
Region	North	Northeast	East	South	Southwest	Northwest
	25%	6%	35%	23%	6%	4%

Source: CNNIC (July 2000, Jan 2001)

4.5.2. Improvement of Internet infrastructure in Hangzhou City

Hangzhou City is located near Shanghai, the eastern part of China, which is one of the advanced regions for Internet environments as mentioned before.

There are pay phones almost everywhere in the City, which are installed as a pair of phones for IC and electromagnetic cards. What is more outstanding in the City than these pay phones are portable phones, which are so prevalent that almost every citizen seems to have one.

PC sales stores are mostly located in the Hangzhou High-tech Industry Development District and there are four large-scale stores. We visited two of them for survey. Compared with Japan, the number of items was fewer but domestic products were sold more than imported ones. Comparison might not be accurate, but prices there seemed about 10 percent cheaper than Japan. There is a method of purchasing PCs assembled on ordered specifications. These order-made PCs are priced 10 to 15 percent cheaper than ready-made ones, so experienced users often purchase PCs with this method.

Another difference from Japan in PC sales is the guarantee period after sales. The period of gratuitous guarantee is principally one year in Japan, but generally three years in China. However, complete gratuitous guarantee lasts only for a year and parts are charged during the remaining two years.

We also visited Hangzhou City Branch Office of Chechiang Province Telecommunication Corporation to hear the outline about the spread of optical fibers. They said that optical fiber networks are substantially improved in Hangzhou City, but almost unimproved in rural districts. They plan to improve those districts in accordance with the residents' needs. Refer to our visit record described below for details.

Record of visit to the Hangzhou City Branch Office of Chechiang Province Telecommunication Corporation

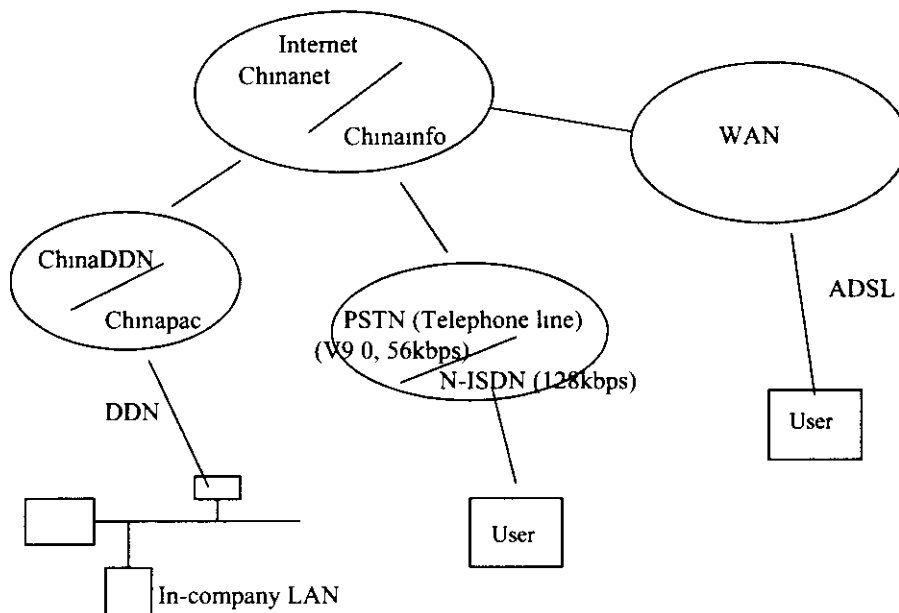
Contents We had explanation about the outline of cable communications in overall Hangzhou City Communication environment is sufficiently provided in the City but is going to be prepared in rural areas from now on

Optical cable

FTTC cables are installed circularly in the main areas of the City The installation was started several years ago and the cables are installed in every new building. The cable environment is therefore established in the urban area and, concerning rural areas, cables are installed in major seven areas (Yuhang City, Xiaoshan City, Fuyang City, Linan City, Tonglu, Chunan, and Jiande City, The cables used for these areas are STH synchronized digital cables

Internet

- The Internet prevalence ratio is unknown Of the City's population of 1 75 million, about 200,000 people use the Internet. This figure is based on the number of applications for services of the telegraph company, so the actual number is expected to exceed this More than 90 percent of users are individuals, particularly those with higher income and students
- Users can choose freely their network among 8 to 9 types



- PSTN is a line service provided through general telephones and has a capacity of 56 KBPS at maximum.
- There are two types of services for ISDN
 - Basic Rate $64KB \times 2 = 128KB$
 - PRRI, maximum of 2MBPS
- The ADSL service began with the capability of concurrent access by 3,000 lines
- High-speed WAN (Wide Area Network) has the processing capability of 2 5GB, which can be upgraded to 40 GB with WDN (Wireless Data Network)
- IDC service, one of the URL management services, is available Enterprises entrust maintenance of their systems by leaving a set of their computers to service providers There is also a method of leasing part of a host computer This service is very popular due to its low cost.

(To be continued)

- Connection fee for ISDN is about 600 Yuan. Communication fees are 10 sen for 3 minutes per one time, or 4 Yuan per hour during the daytime, or 2 Yuan per hour during the night time. Chinainfo provides the same services for half of these.
- Communications through telephone lines and ISDN are charged basically upon quantities, while a charging system upon fixed quantity is applied to DDN, which is advantageous for opening a Web site.
- In future, ADSL and WAN are going to replace ISDN, which is actually behind the times. The time for shift is not fixed but preparatory work has already started. ADSL is going to be used for the area where users are not collectively located, and WAN for the area where users are collectively located.

ISDN service is currently available, while the service for ADSL, which has higher functions than ISDN, is also started. Telecommunication Corporation plans to totally shift to a system based on ADSL and WAN in future and is preparing for the shift.

However, there are various troubles in actual use such as, "Hard to connect the Internet" and "Reception is available but transmission is not." Thus, it seems that the processing capability of the computers controlling lines has not caught up with the rapidly increasing needs.

As new business to give solutions to these problems, there is a new move in IDC businesses which act as agent for the Internet connection. IDC businesses contract with multiple major optical network companies to enable swift connection and optimum route selection for stable communications. This service was started by a private company in Hangzhou and originally aimed at corporate, not personal, users.

4.5.3 Current status and issues concerning IT in Hangzhou City

We visited relevant organizations including the Hangzhou City Economic Commission and received explanations about the actual conditions of information processing including introduction of computers. We had expected detailed statistic data on IT but failed to obtain them. As we continued the survey, we came to know that detailed data are not disclosed as a rule and that IT-related data are going to be organized from now on because of the recent sharp development.

However, we think that we were able to grasp the outline through direct hearing from the responsible person. In line with the recent development of the computer industry and spread of the Internet, major agencies and enterprises including public offices are installing computers and the environment for providing information through the Internet is being rapidly improved.

Some sectors of public offices which had highly needed computers for their operations installed them at an earlier stage. For example, the Ministry of Electric Power built up a real-time system in 1986 to collect the data on substations, and the Administration of Labors introduced a homemade general-purpose computer in 1987 to manage the welfare pension system. Around 1995, the Administration of Personnel Affairs, Administration of Township Enterprises and

others began introduction of PCs for the purpose of data processing. In 1996, a welfare pension counter service system of the Administration of Labour was completed, which enabled districts to provide counter services using PCs. From 1998 to 2000, computers were introduced into public sectors on a full-scale and the Administration of Personnel Affairs completed its in-house network. PCs were allocated to every staff member, one for each, to upgrade efficiency in processing services and the Administration of Labour completed a job introduction system. The system connects even sub-districts (small autonomy unit in a district) with exclusive lines and enables such districts to provide counter services. In addition, each relevant sector of the Administration opened home pages to provide human resource information through the Internet. The Administration of Labour is also promoting the construction of an in-bureau network, aiming for the "one PC for each staff member" system. Technical Information came to be provided through the Internet also in Hangzhou City these one or two years as one of preferential measures for high-tech enterprises, which have been implemented under the national government's initiative.

One of the providers of technical information is the Information institute of the Hangzhou City Municipal Science and Technology Commission which opened the web sites of "Science and Technology Information Network" and "Chinese Start-up Investment Cooperation Network" and the other is the New Technology Promotion Station of Chechiang Province Planned Economy Committee, which opened the web site of "Chinese Technology Creation Chechiang Information Network." The former provides general technique information including patent, literature, newspapers and magazines in cooperation with the Tsinghua University. As regards investment, it provides support information for starting up ventures. The latter, focusing on transfer of new technology, introduces research and development information, engineers with development technologies and enterprises. This service is a subsidiary network that belongs to the nation-wide network.

They have just started providing information--in 1999 and 2000, respectively. Refer to the visit record for details.

The Small and Medium Enterprise Service Center of Hangzhou City Economic Commission also built an information service network, which was opened on March 28, 2001 aiming for full-scale provision of information by the administration including support information, counter information, square for dialogue with enterprises, and introduction of relevant agencies and networks. To start this service, the City referred to Shanghai and Shenzhen where the same type of service was already started.

Although computerization of data processing in public offices is progressing, the data processing system does not seem flexible: it is inapplicable to the processing different from the fixed one because the system was built with too much focus on report to superior organizations. For example, we asked the Administration of Township Enterprise, which has information on the

enterprises of less than a certain scale, to provide data in a manner different from the government statistics. However, the data we received were not sufficient. Moreover, the system is directly connected to upper municipal governments but is not linked with relevant public offices. This needs to be solved in future.

To survey the private sector, we visited several companies that support IT development by carrying on Internet-related business and producing software. We also visited a company that supports networking. This company was just established this year but, by providing information on its home page and considering the advent of e-commerce era in future, it provides various services such as connection to the Internet, sales of integrated enterprise management software, construction of business-to-business network, and intermediation of business between enterprises. This company seems to be very promising as it is also familiar with actual conditions of small and medium enterprises.

One of the companies based in Hangzhou to provide financial and enterprise resource planning (ERP) software has grown up rapidly in recent years into one of the major companies in China. Considering the internationalization brought by the Internet, this company developed international financial software and started selling it.

However, the majority of software companies is small and committed to contracting with major or foreign companies. Few of them directly contribute to local economy. This issue also has to be solved in future.

The Internet environment in Hangzhou City is not yet sufficient but, in the city excluding the country area, the environment for purchasing hardware, support for system construction and communications is almost established. The contents of information on the net are becoming substantial, particularly on human resources and technical information.

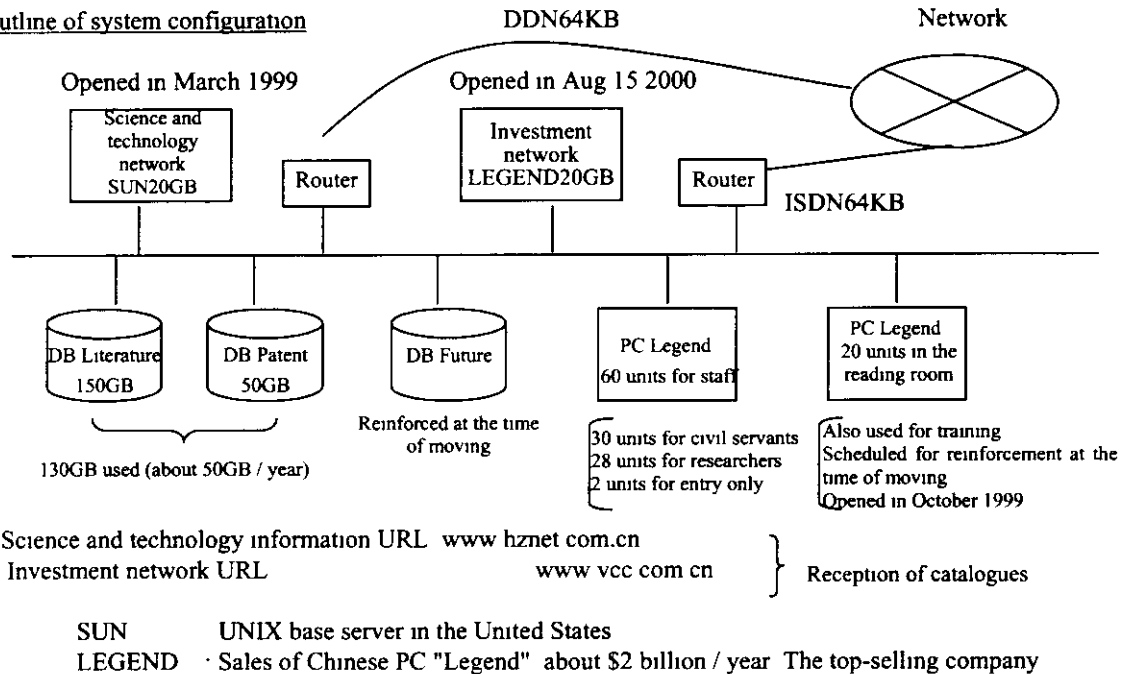
However, the Internet principally stays on the level of personal use. The actual status is that single elites centering around computer-related engineers use the Internet.

From now forward, as the environment for the corporate use of Internet including enterprise and public offices is becoming improved, the Internet use is expected to greatly develop. However, there remains a little uncertainty in the systems for providing software and support considering expected full-scale introduction of computers into enterprises.

Record of visit to the Information institute of Hangzhou City Municipal Science and Technology Commission

Details We heard the explanation about the science and technology information network system while seeing its demonstration. In cooperation with the Tsinghua University, literature on science and technology, patents and information collected by researchers are provided for free through the Internet. Their first home page was opened in March 1999 and then the page for start-up investment cooperation network was started on August 15, 2000 to support venture companies. The Institute is going to move to the central area of Hangzhou City in January or February 2001. Taking the opportunity of moving, the Institute is going to reinforce the system's memory capacity and communication capability to improve convenience for users.

Outline of system configuration



Outline of the explanation about the Science and Technology Information System

- It took two years to develop the web site. The site was opened in March 1999
- There is a total of about 200,000 accesses to the site so far
- The data provided through the site covers various fields of science and technology such as patents, literature, newspapers, magazines, research reports, institutions, government information, etc. Tsinghua University cooperates with the Institute in providing information on literature and magazines
- The site aims to provide information to researchers in enterprises and universities. Small and medium enterprises account for a great part of enterprises in Hangzhou, so the web site is substantially for small and medium enterprises.
- A reading room was opened in October 1999 and was used by researchers and students. Some of them study hard staying there all day long
- The Institute charges users for 50 Yuan per day as the reading fee. The use of the room is fee of charge as a rule but the Institute is thinking of collecting membership fees in future according to the size of enterprises within the range of X,000 to XX,000 Yuan
- Two exclusive staff members enter data and 28 researchers collect and enter data as well
- The maintenance fee for the site is about one million Yuan per year

(To be continued)

- The Institute is going to move to the central part of the City in January or February next year, aiming for increase in the number of users. Taking the opportunity of moving, database and communication capability will be reinforced. Under the current communication capability with the speed of 64KBPS through DDN, only ten-odd people can access the site at the same time. Therefore, the capability will be upgraded to 1MBPS
- The reading room is also used as a training room. The Institute so far cooperated in holding "one-day computer seminars," one of the education programs organized by the central government
 - Results 5 times x 40 people = 200 people in total (one machine for two people)
 - Target Small and medium enterprises and township companies
- The Institute also held internal training seminars of the Municipal Science and Technology Commission
 - 2 times x 5-day course How to use applications (word processor, spread sheet, etc.)

Start-up investment cooperation network

- The Institute launched a home page on August 15, this year to support start-up for venture companies
- As no huge data is necessary, one PC unit is enough to manage the site
- About 100 people access the page every day. Of them, 50 to 80 people daily access from overseas, who seem to be students studying in US, Hong Kong, or other to launch business after returning home
- The Institute also responds to inquiries by e-mail.

Record of visit to the New Technology Promotion Station of Chechiang Province Planned Economy Committee

1. Outline

The Station was founded in 1988 and it has passed 12 years since the foundation. The Station so far conducted the projects on 50 items as a new technical model. The method of conduct is that the national government or a province implements a project by selecting a model enterprise. If good results are obtained, the government or county plans to spread the technology among other enterprises through exhibitions or journalists.

There is another method of spreading technology in addition to the above. That is practical use of new technology using invested funds. By this method, projects on 12 items were so far carried out. For example, the Station establishes a company that produces paper patterns for printing with PC by allying with a company that has relevant technology and invested in the Center, and the Station encourages small and medium companies to use the company. At this stage, the Station collects the funds invested. The Station also tried this method for fiber industry in collaboration with Chechiang University. In addition, it has taken the initiative of joint development by the industry, university and government.

Note This method was taken for high-tech business under the "Torch" project and for general technologies under the "Seed" (Star) project. This "Torch" is under the control of Chechiang Province Municipal Science and Technology Commission.

The name of this Center is going to be changed to Chechiang Province Technology Creation Service Center in future.

The Center is an information service station, which exists in each province as a subsidiary network of the nation-wide "Chinese Technology Creation Network."

The Center is positioned as one of the Chechiang Province Network. This service basically aims to provide technical service to small and medium enterprises.

(To be continued)

2. Organization and management

30 staff members

Network: 8 people

Cooperation development 4 people

Technology development and spread: 2 people

Investment employee: 3 people (investment management before conducting an investment project)

Financial affairs, Personnel affairs, General affairs

3. Network

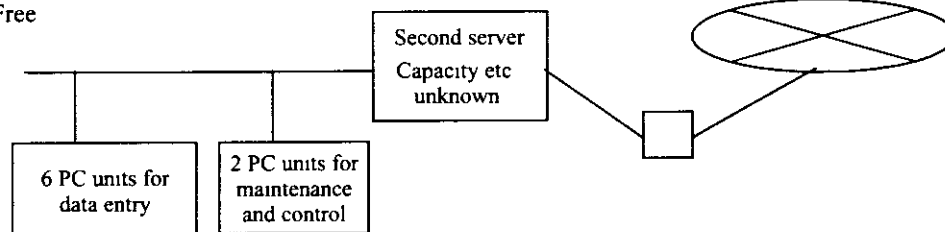
- The network was established to cover the province on September 26, 1999. The information on products and regulations are introduced through the network. There are ten menus on the network, through which technical information can be searched. One of the menus introduces even processing details, accuracy and equipment for individual manufacturers. It needs permission from the province to describe such details on the network.

- Outline of the network structure (Certain items are unclear because the system administrator was absent)

Name of network: www.ctizj.com (Parent net: www.ctim.com.cn)

Users: government-affiliated people, small and medium enterprises

User fee: Free



Home page design and network naming: Unified

- There are about 600,000 small and medium enterprises registered in Chechiang Province. The Center aims at the registration of 6,000 enterprises in one year, and 60,000 companies as a final goal. The data on enterprises are obtained from the Municipal Science and Technology Commission and can be registered freely.

- The network is connected to the Province's network server. In the Province, the network is called as Chechiang Province Subsidiary Network of the Chinese Technology Creation Network.

- Management is based on a self-supporting system and is far from easy. Income sources are earnings from investment (in stock), service fees and development fees. Thus, the Center takes the form of a third sector. Staff members are neither current nor former government employees.

4. Others

- The problem with this Center is a little financial assistance from the national government.

- The Center extends no loans. The Chechiang Province Science and Technology Department has venture funds.

- This Station plans to collect development funds of 25 million Yuan. 15 million Yuan + α (of which 500,000 Yuan is a subsidy from the national government).

4.5.4 Introduction of IT in small and medium enterprises

We conducted the survey of enterprises by using a questionnaire and visiting enterprises. In the first stage of the survey, we visited enterprises based upon the request from the examination group (of the survey team) or voluntarily visited six companies to see work fronts. In the secondary stage of the survey, Based on the examination chart prepared by the examination group, we visited seven companies that introduced computer systems at an earlier stage and heard the status of introduction directly from the responsible persons.

The computerization in enterprises is roughly classified into three phases.

The first phase is mechanization and computerization of the production sector, and the second phase is mechanization and computerization of key operations conducted by backoffice and management sectors, etc. The last phase includes mechanization and computerization of information operations such as information sharing and exchange using in-house LAN, as well as connection with affiliated companies through a network. The last phase is expected to lead to the Internet or e-commerce.

Since the survey at this time was focused on PCs, we selected the survey items that relate to the second and last phases. Accordingly, we estimated the status of the first phase by visiting front sites such as factories and hearing from the examination group.

As a result, it seems that the mechanization and computerization to be implemented in the first phase have not been started in light of the history and national status. The second phase has just started but it seems that the last phase is also going to start judging from the use of the Internet.

(1) Summary of the information related questionnaire results

Table 4.5.7 shows the collection of answers to the questionnaire. We received answers from 44 companies out of the 52 companies we sent the questionnaire. Table 4.5.8 shows the introduction of PCs and the use of home pages and networks. The results show that 41 companies of the 44 respondents introduced PCs, of which 9 companies use home pages and 17 companies use the Internet.

Table 4.5.7: Collection of the Questionnaire

	Machinery and electronics	Spinning	Food	Light industries	Total
Number of companies surveyed	17	5	15	15	52
Number of answers collected	15	5	13	11	44

Table 4.5.8: Use of PCs, Home pages and Internet

	Machinery and electronics	Spinning	Food	Light industries	Total
Number of companies surveyed	15	5	13	11	44
Use of PC	15	4	13	9	41
Opened HP	6 (8)	0 (1)	2 (5)	1 (3)	9 (17)
Use of Internet	7 (8)	0 (2)	6 (8)	4 (7)	17 (25)

The numbers in parentheses indicate the number of companies that answered that they aim to use the object.

All these numbers were more than we had expected. However, as the numbers in parentheses showing the number of companies that aimed to use HP or Internet when installed PCs imply that about half of the companies could not achieve their aims. It seems that they had much interest in the Internet but failed to use it for some reason.

In addition, as a result of visit by the examination team, there were some companies that have their own home pages but described nothing about it in the questionnaire. Therefore, it seems that there will be actually more companies that have opened their home pages.

Table 4.5.9 shows information sources. First came customers, partners and markets, and second came exhibitions and trade fairs, and then came the use of Internet.

Table 4.5.9: Information Source (multiple answers)

	Machinery and electronics	Spinning	Food	Light industries	Total
Newspapers, magazines and publications	2	0	5	4	11
Exhibitions and trade fairs	7	3	9	6	25
Customers, partners and markets	12	4	10	10	36
Province, city, public agencies and universities	0	0	2	2	4
Industry groups and commercial and industrial associations	2	0	1	3	6
Relatives, acquaintances and friends	0	0	0	0	0
Internet	7	0	6	4	17
Others	0	2	0	0	2

Next table shows the purposes of introducing PCs. What is most characteristic is that the "use of e-mails and Internet" ranked as first. Next came "labor and workforce saving" and "to become superior in competition." In addition, about half of the companies achieved their aims. In some items however, only one-third the respondent companies achieved their aims.

Table 4.5.10: Purposes of Introduction (multiple answers)

		Machinery and electronics	Spinning	Food	Light industries	Total
Labor and workforce saving		7(5)	4(1)	7(5)	6(2)	24(13)
Use of e-mail and Internet		8(7)	2(0)	8(4)	7(4)	25(15)
Request from customers and suppliers		3(1)	0(0)	6(3)	3(0)	12(4)
To become superior in competition		9(5)	2(0)	8(4)	5(0)	24(9)
To enhance employees' motivation		4(2)	0(0)	4(2)	3(1)	11(5)
TO publish a home page		8(6)	1(0)	5(2)	3(1)	17(9)
Status of operations and business Early data collection	Order reception and placement	7(3)	0(0)	7(2)	2(0)	16(5)
	Progress in operations	4(3)	0(0)	7(4)	6(1)	17(8)
	Profit / fund management	5(2)	1(0)	5(3)	3(0)	14(5)
	Others	1(1)	0(0)	2(1)	0(0)	3(2)

The numbers in parentheses indicate that number of companies that have almost achieved their aims.

The following table shows the results of a survey on the factors that obstructed introduction. They first mentioned "Shortage of skills of the person in charge of the corporate system," and then "Lack of appropriate operation packages" and "Tardy improvement of the in-house operations compared with the system." Other reasons mentioned were "Lack of employee training at the time of introduction" and "Lack of package information."

**Table 4.5.11: Factors that Obstruct Achievement of Introduction Purpose
(multiple answers)**

	Machinery & electronics	Spinning	Food	Light industries	Total	
Shortage of understanding by top management	1	0	3	0	4	
Employee training at the time of introduction	2	0	3	5	10	
Tardy operational improvement compared with the system	4	1	4	3	12	
Lack of understanding of operations by system venders	4	0	7	7	7	
Lack of package information	4	1	3	2	10	
Lack of appropriate packages	9	0	1	2	12	
Shortage of skills by the person in charge of the corporate system	2	1	4	5	14	
Costs spent more than expected	Development cost	2	0	1	2	5
	Introduction cost	2	0	0	2	4
	Management cost	1	0	0	4	5

It is estimated from the data above that companies tried to introduce PCs for using e-mails and Internet as they can purchase PCs at cheaper price but they need an engineer with a considerable level of skills to establish an e-mail system. Therefore, it seems that they somehow established a system that enables access to the Internet but that they fail to go further due to lack of preparation.

Even when introducing a small PC system, it needs for its effective use to review the current work contents and flow of information before introduction. Then, it needs preparatory work including pre-introduction training for employees, and fostering of in-house exclusive staff or examination of outsourcing, in necessary. Full examination has to be made on package software to be installed and corporate operations should be improved in accordance with the package. It seems that the companies introduced systems without preparing for the matters mentioned above

Table 4.5.12: Who Directs Computerization (multiple answers)

	Machinery & electronics	Spinning	Food	Light industries	Total
Top management	6	2	8	4	20
Internal director in charge of computer system	10	4	6	5	25
External venders, consultants	0	0	1	0	1
Others	0	0	0	0	0

Table 4 5 12 shows the companies' answers about who directed computerization. First came "Internal director in charge of computer system" and then "Top management." The table might indicate an ideal pattern because no companies mentioned "other" person for direction and many answered that "top management" directed computerization. However, it often occurs that top management often demonstrates leadership so strongly that subordinates sometimes have a difficulty in following them.

Next shows their answers to the question about significant matters for advancing computerization. A large number of companies mentioned "Driving force of top management" and then "Work improvement." This shows that they have a problem in understanding computerization: the order of their answers should be reverse.

Then, next should come "Planning expected to achieve effect," "Employee training," "Software technology that meets needs" and "System vendors with leadership and technology." This seems to be a reasonable order of answers.

Table 4.5.13: Significant Matters for Advancing Computerization (multiple answers)

	Machinery and electronics	Spinning	Food	Light industries	Total
Selection of regions to be computerized	4	0	5	1	10
Driving force of top management	10	2	6	4	22
Work improvement	4	2	6	2	14
Planning expected to achieve effect	2	3	3	3	11
Employee training	3	1	2	5	11
Software technology that meets needs	5	1	4	1	11
Employees who understand work and information technology	4	1	2	1	8
System vendors with leadership and technology	7	0	4	1	11
Preferential measures for loans and tax systems.	5	1	4	1	11
Others	0	0	0	0	0

The companies strongly desire for "preferential measures for loans and tax systems" to the extent similar to technical and internal problems.

Next table shows the difficulties in obtaining information. It is reasonable that "Shortage of staff" came first. However, it leaves a little uncertainty that "Language problem" comes next and "Selection of information" and "No available information" have a considerably high percentage.

Table 4.5.14: Difficulties in Obtaining Information (multiple answers)

	Machinery and electronics	Spinning	Food	Light industries	Total
Do not know from where to obtain information	1	0	0	0	1
No available information	4	1	1	2	8
Selection of information	4	1	3	2	10
Cost	2	1	3	1	7
Language problem	5	1	2	4	12
Shortage of staff	6	2	5	3	16

We so far described the actual condition of enterprises based on the summary of questionnaire results.

(2) Information obtained from the visit to enterprises

Our main purpose was a tour of a factory when we accompanied the examination team to visit enterprises. When we visited enterprises by ourselves for the secondary survey, we aimed to hear the details from the person responsible for information system. The total number of enterprises we visited amounted to only 13, which might not be enough to grasp a whole picture but its outline is as described below.

There are few heavy industry enterprises in the City and factories as manufacturing sector generally have simple machines and manual processing / assembly lines, introducing little automation. We saw PCs introduced in backoffice and management sectors. They were intensively introduced these one or two years, which indicates rapid prevalence of PCs.

In 1980's and early 1990's, computers were introduced into joint ventures with foreign companies and domestic major companies. These one or two years, computers have been also introduced into the companies that have a farsighted top executive or have grown to a certain level and become stable. Foreign and domestic major companies that early introduced computers used foreign computers or domestic mainframes for technical computation as well as CAD, and then introduced PCs from the middle of 1990's to late 1990's for computerization of key operations. This is similar to the course taken by Japanese enterprises. Meanwhile, enterprises that introduced computer systems these one or two years use PCs from the beginning and conduct rationalization of key operations and information collection through the Internet. This is owing to the rapid improvement of the environment for introducing IT hardware, which allows for the introduction with lesser investment in equipment. In terms of the purposes for introductions, rationalization of individual operations is typically started first, which has been

achieving remarkable effects. For example, a food company introduced computers into the sales department and reduced the number of staff from 10-odd to 5, and another company reduced the number of financial staff from 7 to 5.

We saw several companies introducing one unit after another in several departments, increasing the total number of units from several to dozens. However, they have reached a deadlock in connection between departments. In other words, they had a difficulty in data sharing. When computerization comes to this stage, it needs to introduce an enterprise resource planning (ERP) package, which enables sharing of the mainframe database. This introduction requires construction of a system that meets the needs of individual companies through the review of the conventional method of corporate operations, adoption and fostering of internal staff with information technology, training of employees to deal with new operational methods, and cooperation of capable ERP software suppliers. Enterprises have to be prepared to spend several years and cost to achieve this. These several companies were actually introducing ERP systems or planning its introduction.

Few companies have information system departments. Most companies have one or at most a few staff members in charge who have main jobs concurrently. One of the reasons for such few staff members enough for information system seems to be that about 80 percent of officers have PCs at home even if they have none in the office and they can operate PCs with ease, which is characteristic of China. This also seems to be the reason for companies' less attention paid to employee training for introducing PCs.

A considerable number of companies had their home pages (HP). What was common to the survey companies was entrustment of HP production to external software makers, which caused a restriction that changing HP is charged and not easy.

Staff members in charge of system, even if they can operate PCs, often showed reluctance to create HP or software by themselves.

Staff members in charge of system are rarely information engineers as motioned, and in some cases, a young person was employed with the condition of capability for operating the system immediately after HP was opened or in the middle of its opening. In this case, because he was newly employed, he sometimes worried that he was given little authorization and could not upgrade HP to the newest version or change the design without approval from the top executive even if he considers it necessary.

It also seemed that the enterprises we visited were generally committed to the opening of HP but were less concerned about the utilization and maintenance thereafter. As a worst case, a person in charge ignored customers' requests for samples and catalogues received through the HP without any consultation with others because he thought it costly and nobody around was aware of that. In light of marketing, this company lost a good chance due to its own fault and the lack of awareness in top management made the case more serious.

As another example, a zealous company became a member of a domestic B-to-B network but, in spite of its desire for transactions with foreign companies, the company made few accesses to overseas information sources such as JETRO.

According to the results of the questionnaire survey, a method of using the Internet as an information source is not yet established due to either insufficient domestic information on the Internet or the language problem in accessing overseas, or both. It is also known from the results that the companies are placed in a situation where planning computerization and leading the company are greatly dependent on the leadership of top management. In addition, most companies have only one e-mail address. In many cases, company members including the president have the same address

One of the survey companies had a system engineer who was young but had a plan for future computerization. His trouble was that there was no optimum software available for the company. This is the same in Japan and, to solve this problem, capable companies spend funds and time on developing their own software. In terms of the current systems based on PCs, it is better to fully utilize commercial package software and rather to adjust current operations in accordance with the package and that is what we recommended to the companies we surveyed. We were also asked about excellent package software but we had little information on Chinese package software except financial applications. We heard of a web site that exhibits management software packages for small and medium enterprises but we could not confirm it. Most companies might use such a site, but it is clear that the presence of good package software fit for small and medium enterprises would become a key to the spread of PCs in future.

We have so far described the situation of the companies that have already installed PCs and are considered to belong to an upper category. Small enterprises (excluded from the statistics in China) that are considered to account for the most part of Chinese enterprises want human resources who can operate PCs.

Such enterprises need to adopt young people who have learned PC skills in professional schools or graduated from a university, but they seem to give up introduction of PC systems because they cannot afford to adopt them.

In recent years, Internet access agents have appeared which provide a service to corporate executives who have no PC but need information on the Internet. Such agents collect data required and distribute them. They are rumored to have obtained a huge profit by operating with a few members at a small village in Xiaoshan.

(3) Information from the enterprise examination group

As the enterprise examination group continues examination activities for enterprises, it heard requests from them against administrative and financial institutions. The problems on financial

affairs numbered the most and next came requests for government matters. There were few requests for information related matters partly because full-fledged information systems are not introduced yet. Requests for administrative and financial matters are expected to be reflected in proposals for policies and finance, so we picked up what seems important from the viewpoint of information system. The enterprises complained in terms of policies and tax matters that the period from decision to implementation is too short to prepare or that public announcement of changes should be made immediately. This made us assume that the means to convey information has any problem.

As the management of enterprises has been shifting from state-run to private-run, administrative offices should improve their cultures and acquire speedy operational capability by reviewing conventional operations. There was a strong demand for providing information on new technology development. There was also an opinion that the Institute only provides information similar to the one obtained in the industry. Such information are already provided through the Internet using the sites, "Science and Technology Information Network" and "Chinese Technology Creation Chechiang Information Network " However, the fact is probably not fully known to enterprises or they would not have any means to access the sites. Therefore, information should not be published through mass media only but a system that accurately conveys information to individual enterprises should be established.

There was also a strong desire for exchange of technologies and information among the industry Group actions seem to be somewhat restricted in China but it would be necessary to build an environment that allows to ease such actions

4.5.5 Issues on the spread of IT among small and medium enterprises and the direction of promotion

To sum up what we have so far described about the current status, the industries of PC, software and communications have accomplished a rapid growth under the careful protection of the national government, and, supported by this, the Internet business has started quickly.

However, Internet users in overall China number only 22.5 million (as of January 2001), which is a very small number considering the country's enormous population and land. This situation also applies to Hangzhou, so potential growth is immeasurably great.

Meanwhile, the survey on the profile of Internet users revealed that the current users are generally individuals only and corporations such as public offices and enterprises have just started introduction of PCs and use of the Internet

In terms of the spread of IT environment including PCs and Internet, the entire China including Hangzhou is only at a stage where the introduction of IT hardware has just begun during these several years.

Therefore, computerization should be promoted simultaneously by not only small and medium enterprises alone but also public offices.

Below are described the details of computerization to be promoted by the administration, details of support for computerization to promote for enterprises, and issues from the viewpoints of both sides.

(1) Issues on IT spreading with the administration

1) Information disclosure by the administration

The basis of administrative operations is providing services to residents. Contents of services provided by the administration should be published as clearly as possible but it is difficult to disclose information effectively. This situation also applies to Japan, where publication using the Internet is becoming effective in recent years. Although the information on technology and human resources is open to the public through the Internet in Hangzhou, it is also needed to publish the measures taken by the administration. In this relation, it was a good decision for the Information Service Center of the Small and Medium Enterprise Department, which had planned a large-scale information disclosure plan using the Internet, to have implemented the plan at an earlier stage by aiming to provide information as a first step.

The home page for providing information as mentioned above was opened on March 28, 2001, and this survey group cooperated in the opening as its pilot project.

We therefore recommend continuous working on home page improvement to make it more attractive.

Supporting marketing is also one of the key services of the small and medium enterprise service network, so it is effective to post a marketing-focused column on the home page and introduce following information

- Information on various products exhibitions to be held in various places of the country including Hangzhou City and invitation to enterprises for participation in the exhibitions, introduction of the information on new product development, introduction of marketing development education courses held by the small and medium enterprise service center of the City and universities, and introduction of international trade exhibitions and others held in various places in the world for promoting export.

- Introduction of products of small and medium enterprises in Hangzhou City.

2) Promotion of computerization and networking of the administration

Computerization of the administration is steadily proceeding but is still behind. This is known from the complaints by enterprises about the tardy conveyance of administrative information. The administration should improve the routes and methods of information delivery service to

make it more accurate and speedy. In terms of enterprise surveys by administrative agencies, some agencies investigate the enterprises under a certain level by sampling, while others examine every enterprise including those under a certain level. However, the information collected by such two types of agencies is not effectively used, nor shared by internal organizations of the administration. The administration should eliminate such ineffective factors and aim to improve the service to residents. To achieve that aim, reformation of the administrative organizations is necessary but it would be much easier to promote and aim to achieve networking

3) Promotion of Internet utilization

PR activity using the Internet is powerful and enables a wide and accurate conveyance of information. The current issues in this regard are that few people use the Internet and that most users are individuals. Therefore, the administration should be more committed to PR activities for announcing information disclosure provided through the Internet and facilitate use of the Internet by motivating the enterprises that are behind in introducing PCs. For enterprises, the Internet will lead to rationalization of the organizations and introduction of PCs. Using those PCs, they can use the Internet for transmission and acquisition of information. Thus, Internet is an important tool for them to save time and travel and perform effective marketing in the vast country.

For achieving the promotion mentioned above, attractive information should be also posted on the Internet

In this relation, it is a great progress that the information on technologies and human resources has started to be provided these one or two years. Also, it is significant for motivating enterprises to use the Internet that the Service Center of Small and medium Enterprises Department transmitted useful administrative information on their home page to general enterprises in this March. We consider that the administration should implement further publication of practical using methods of IT and spread-promotion activities

4) Industrial development well-balanced as the city

Since this survey was focused on the enterprises in the manufacturing industry, we proposed measures for developing said industry. However, Hangzhou City has originally developed as a sightseeing place, so it is also important to develop the sightseeing industry and classical, traditional industries (embroidery, carving, etc.). Preference of economy and efficiency would often lead to destruction of nature and the environment. It is also necessary to protect the landscape. Therefore, the following attentions should be paid for industrial development in the information network sector.

- ① Improve the balance of resource distribution with the sightseeing industry and classical, traditional industries. Utilization of the Internet is expected to work effectively in this sector.
- ② The City should set forth original guidelines for the environment and landscape and, if necessary, actively exclude the places inappropriate for sightseeing spots from the list
- ③ The City should also consider subsidies to those who engage in manual work for classical, traditional industries as well as fostering of their successors.

Concerning the sightseeing industry and the environmental protection, we assume that the City has been already practicing its original plans. What should be noted here is succession and development of classical, tradition industries as mentioned in the above ③. Hangzhou City aims for local development based upon the information industry, particularly software. In Japan, many municipal governments post local development based upon the eco-friendly information industry, not on the conventional heavy industries. In this case, invitation of high-tech enterprises is also expected to meet their purpose and some of them take unique measures to invite enterprises.

For example, some municipal governments focus on communications to aim for a communication hub center, and others focus on image processing and multimedia to create new businesses. Kyoto City aims for local revitalization by accumulating and utilizing the designs and techniques applied to traditional industries as well as to tangible and intangible cultural assets with digital technology. As Hangzhou City has similar situation to Kyoto, it would be better to characterize its local development in accordance with the Kyoto type.

We also visited a museum and a library in Hangzhou City for survey. None of them has started full-scale digitization. The museum purchased a digital scanner and was preparing to use it for filing photographs and others. The library completed filing of documents with computers and in-house networking, and started transmitting information through its home page.

This library was aiming for an electronic library as a next step and was monitoring and studying the libraries in Beijing and Shanghai, which are advanced on trial basis. We assume that a sector managing such historical assets will take any measures but, without appropriate preservation and development, traditional handwork industries and public entertainments might become extinct. This sector is also required for revitalization using digital and information technologies.

(2) Issues on the spread of IT among small and medium enterprises

1) Awareness reform for top executives and acquisition of modern management methods are necessary.

PCs are being introduced in public offices and the enterprises larger than a certain size. In Hangzhou City, small and medium enterprises (mainly manufacturing industry) have desire to introduce PCs but often fail to achieve the initial purpose even if they actually installed PCs, due to insufficient skills, short of appropriate package software and unsatisfactory operational review.

Moreover, a great number of enterprises state that driving force of top executives and operational review are important for promoting computerization. This implies that enterprises know that they need improvement of operations to advance computerization, and that strong leadership of top management is required to achieve it because it is difficult to achieve it only by lower level of the employees.

Moreover, they mentioned insufficient skills and shortage of inappropriate package software as the reason for failing to achieve goals. This is true but, in some cases, the failure is considered to be attributable to insufficiency in operational review and preparation for introduction. To advance operational review on a full scale, top management should be firmly determined to act with officers. Therefore, it needs to reform their awareness by learning of modern management theories. Thus, corporate executives should first receive education to spread IT to enterprises.

2) Support for human resource development is necessary

Enterprises need an executive who can promote computerization in the technical aspect and staff members who practically work supported by the executive, which would be a critical point as to whether the enterprise can achieve its goal. According to what we found after the survey in a meeting with a computer related company, most Chinese companies employ computer engineers with a high salary who have passed a national examination and have a qualification without considering in-company training.

General enterprises employ young employees with lower salary who have no PC-related qualifications but can operate PCs. This consequently obstructs an advanced level of PC use.

Normally, enterprises see how new recruits work after they enter into the company. Then they will give a pay raise to a capable employee even if he/she has no official qualification to use computers more effectively.

Junior and middle levels of information engineers are required for basic knowledge of computers and those on the advanced level also need a broad range of special knowledge according to job categories, such as systems analysis, system audit, project manager and microcomputer development engineers

3) Preferential measures for introduction are necessary.

Introduction cost was not a factor for enterprises to give up introduction. This implies that enterprises somehow afford to purchase PCs. However, concerning whether assistance from the government is necessary, the introduction cost is actually a heavy burden for enterprises because many of them hope any preferential administrative measures for loan, tax, etc.,

Therefore, any preferential measure is considered to be necessary for purchasing hardware as well as software to support not only high-tech companies but also general enterprises.

Also In Japan, which has somewhat a longer history than China concerning IT use, as table 4.5 15 shows, the smaller the size of enterprises, the fewer PCs are introduced. Since this would be the same in Hangzhou, preferential measures should be given particularly to smaller-size enterprises in particular

Table 4.5.15: Percentage of enterprises that introduced PCs (manufacturing industry)

	Small and medium enterprises	Large enterprises	1- 5 (employees)	6-20	21-50	51-100	101-300	301-
Ratio of introduction	55.7%	95.3%	20.1%	50.5%	78.9%	87.9%	92.0%	94.0%

Source: "Basic Survey on the Actual Status of Commerce and Industry (1998)" by the Small and Medium Enterprise Agency of the Ministry of International Trade and Industry

There are various tax-related preferential measures for information business and those for small and medium enterprises are mentioned below

① Immediate depreciation system for specific information and telecommunications equipment (PC tax reduction)

The system was established in 1999 and allows enterprises to account for the entire purchase value for information and communications equipment such as PC (less than one million yen) as expense. The system was scheduled in force for a single year only but was enforced for FY2000 because it was welcomed by industry.

② Tax system for promoting investment by small and medium enterprises

In terms of any machine or apparatus that is introduced by a small or medium enterprise and costs not less than 2.3 million yen per unit and specific equipment or furniture such as PC of which total purchase cost for one unit or multiple units of the same type amounts to not less than one million yen, tax reduction of 7 percent of the purchase cost or special depreciation of 30 percent for the initial year is granted

③ Tax scheme for promoting new technology systems at SMEs (Mechatronics tax system)

Tax reduction of 7 percent of the purchase cost or special depreciation of 30 percent for the initial year is granted to up-to-date electronic equipment introduced by small and medium enterprises.

In addition to the above, the government supported PC training through supporting agencies of municipal governments as a project to support promotion of computerization at small and medium enterprises.

Chapter 5 SMEs promoting Policy and measures for promotion

Chapter 5 SMEs promoting Policy and measures for promotion

Important role of SMEs for Hangzhou economy is described in “2.2 Overview of SMEs”. On the other hand, problems facing SMEs are described in “2.3 Present situation of SMEs in Hangzhou obtained through management consulting and guidance”. These two clauses indicate the importance of promoting SMEs. To promote SMEs, SMEs promoting basic policy must be prepared and agreed upon by the departments concerned in the Hangzhou government and the parties concerned (5.1.1). Implementation of the basic policy requires its corresponding organizations, completion of management environment and strengthening of a supporting system to improve management resources. Measures for the above are described in Chapter 5 and their relationship is shown in the following figure.

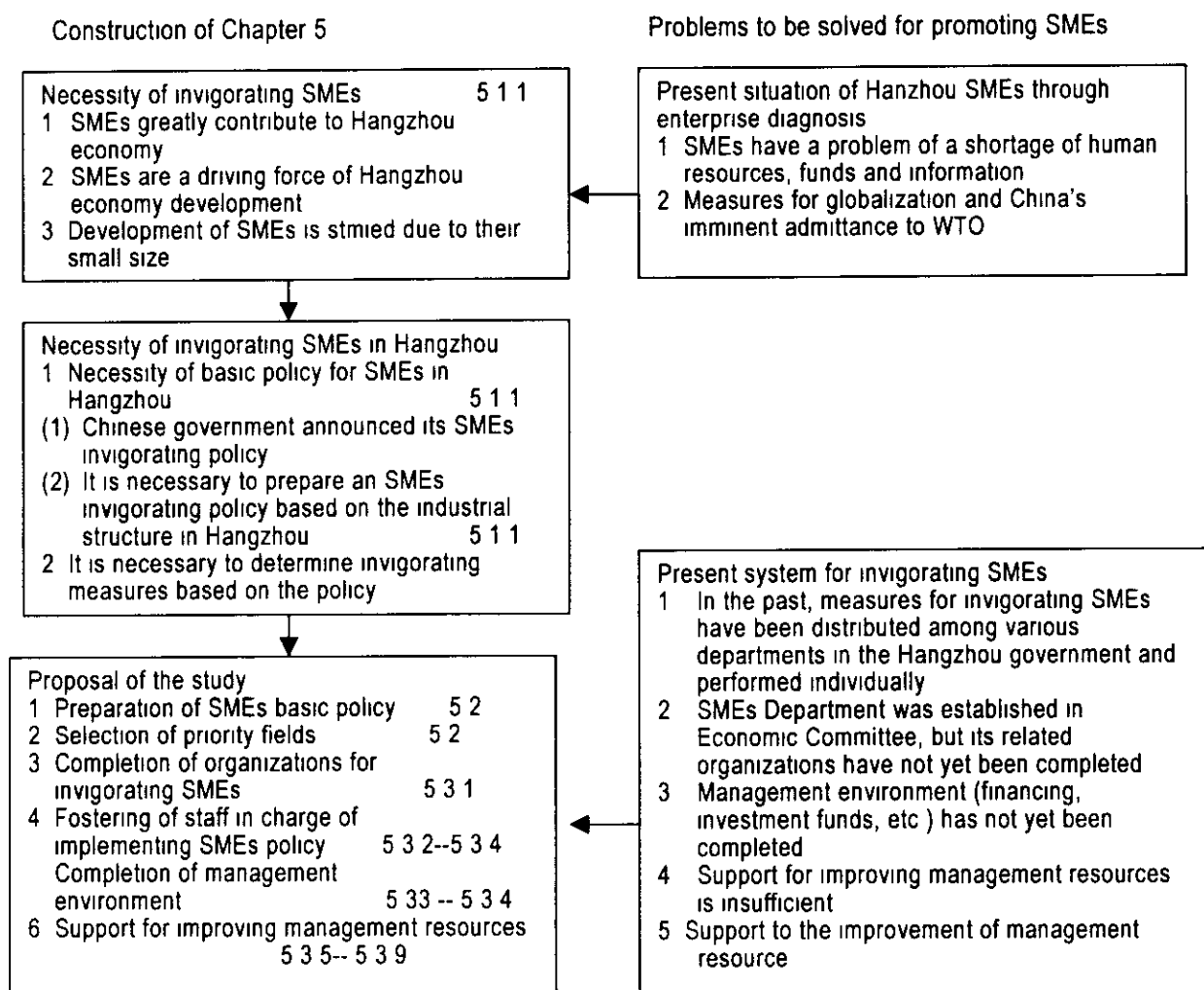


Figure 5.1.1 Structure of Promoting Policy for SMEs

5.1 SMEs promoting Policy and necessity of measures for promotion

5.1.1 Necessity of promoting SMEs in Hangzhou

The following table shows the ratio of SMEs to the total of state-owned companies and non-state-owned companies with annual sales of not less than 5 million yuan, in terms of turnout, the number of employees and total profit tax. SMEs make up 64%, 73% and 46% in turnout, the number of employees and total profit tax, respectively. If companies with annual sales of less than 5 million yuan are included, SMEs make up 99% in the number of companies and increasing its ratio in other items.

Table 5.1.1 Promoting Policy for SMEs and Promoting Fields

	Number of companies	Turnout (0.1 b. yuan)	Number of employees (10 thousand)	Total profit tax (10 thousand yuan)
SMEs	2,367	765	49	59
Whole enterprises	2,474	1,200	67	128
Ratio	96%	64%	73%	46%

Via Hangzhou Statistics Department Source: People's Bank of China Hangzhou Branch Center

SMEs in Hangzhou has made a rapid-paced advance and greatly contribute to Hangzhou economy in terms of turnout, employment and amount of tax payment. Among companies visited by the study group, there were companies exporting their products, contributing to the improvement of international balance of payments.

Many companies visited this time suffer from a shortage of funds, human resources and information. These problems facing SMEs are not peculiar to SMEs in Hangzhou but common to SMEs in any country. Some of the Wenzhou-model companies* see sluggish growth because of delayed response to the market.

* Wenzhou-model companies: one of the characteristics of SMEs in Zhejiang, region-concentrated developing model companies of specific industries independent of the government.

The Chinese government requires that domestic companies perform qualitative improvement of business in order to participate in the international market, to compete with foreign-affiliated companies and to cope with the trend of globalization. The Chinese government actively extends assistance to domestic companies. Through utilizing IT, SMEs are able to enhance their international competitiveness overcoming various barriers such as national boundaries and size of business. Hangzhou has advantages in adapting to globalization and utilizing IT. Hence, if appropriate measures are taken, development of SMEs in Hangzhou will be accelerated.

If Hangzhou government properly deals with problems facing SMEs and promote the use of IT, SMEs will contribute to Hangzhou economy, through increasing export, employment and tax payment.

5.1.2 Necessity of basic policy for SMEs in Hangzhou

SMEs in Hangzhou make a big contribution to Hangzhou economy. For further contribution, it will be necessary for the city government to properly deal with problems facing SMEs and promote the use of IT.

The Chinese and Hangzhou governments recognize the importance of SMEs and are drafting Basic Law of SMEs, and established SMEs Department in State Economy & Trade Commission and Department of SMEs in Hangzhou government, respectively. Concrete SMEs promoting policy is under preparation.

In preparing an promoting policy, it is important to clearly define SMEs to be promoted. The Hangzhou government should effectively enforce measures for SMEs.

As part of preparation of SMEs promoting policy, the study was conducted under the cooperation of Japan and China. The study group makes suggestions to the Hangzhou government based on experiences in Japan.

We propose that SMEs to be promoted are not those engaged in commerce but in manufacturing. It is advisable that target SMEs be selected based on the following table, taking sales amount into consideration.

Table 5.1.2 Category of enterprises and its size (Plan)

	Capital	Number of employees
Large sized companies	>50 million yuan	>500
Medium-sized companies	5 to 50 million yuan	100 to 500
Small-sized companies	<5 million yuan	<100

The Chinese government policy is to promote healthy SMEs and not to protect unhealthy SMEs from going bankrupt. Healthy SMEs can expect appropriate governmental assistance in overcoming internal or external impediments to their development.

The study group makes the following suggestions in consideration of the present situation in Hangzhou.

- 1) Preparation of SMEs basic policy for fostering healthy SMEs
- 2) Selection of fields to be promoted
 - ① Measures for strengthening international competitiveness to cope with fierce competition resulting from the admittance to WTO and rapidly expanding use of IT
 - ② Measures for introducing new- and high-technology to cope with progressing science

and technology and computerization

- ③ Measures for region-concentrated SMEs in consideration of present situation of region-concentrated specific industries in Hangzhou
- ④ Measures for parts-manufacturing SMEs in consideration of existing various assembly industries in Hangzhou
- ⑤ Measures for less-sophisticated product processing SMEs in consideration of good-quality farm produce in Hangzhou, such tea and silk
- ⑥ Measures for specific industry-oriented SMEs in consideration of the present Hangzhou's specific industry promoting policy

Enforcement of the above measures requires completion of laws and regulations, and establishment of necessary organizations. The study group makes the following suggestions for improvement. For details refer to "5.3 Promoting measures."

- Completion of SMEs promoting organizations 5.3.1
- Fostering of staff in charge of implementing SMEs policy 5.3.2
- SMEs loans 5.3.3
- Investment fund 5.3.4
- Fostering of human resources in SMEs 5.3.5
- Fostering of consulting staff 5.3.6
- Preparation of management and cost control indicators 5.3.7
- Completion of facilities for technical development 5.3.8
- On-site management consulting 5.3.9

The following items were conducted as pilot projects.

- Establishment of SME network
- Advisory service for investment fund

5.1.3 Effects of preparation of SMEs promoting basic policy

SMEs promoting basic policy should have been prepared after sufficient discussion between the Hangzhou government and JICA study group in the first place. On arriving in Hangzhou in the second field study, the study group proposed six fields as fields to be promoted and requested the Hangzhou government to arrange discussion between the two parties. The Hangzhou government requested the study group to insert examples in Japan. The study group described six fields in the progressive report (2), including examples in Japan. In the end, we could not have a chance to discuss during the second field study, partly because of the limited time. In the comments on the interim and progressive reports delivered from the Hangzhou government at the end of April, there was no comment on the

matter above. The matter was described in this report based on the description in the progressive report (2).

The study group advises the government to prepare SMEs promoting basic policy on its own, based on the following reason.

- (1) In the course of procedures of preparing SMEs promoting policy, the persons concerned from various fields are given an opportunity to express their opinion on the draft policy. Through spirited debate, a consensus is created on the necessity of the promoting policy.
- (2) A master plan provide an overview of SMEs promoting policy and reveals overlapping or missing parts in policies and systems in the Hangzhou government, leading to effective assistance to SMEs.

5.2 Preparation of promotion plan for small and medium enterprises

In order to promote small and medium enterprises, a basic policy for the promotion including a definition (scale) of corresponding enterprises is necessary. At present, the law of small and medium enterprises is under examining in the central government and its announcement will be expected in near future. In city of Hangzhou, a basic policy considering industrial structure of Hangzhou is required also, in which the field and the measures of promotion should be described. The investigation team had selected the fields to be promoted as shown in the foreword considering following items: 1. Management environment confronting small and medium enterprises. 2. Management resources confronting small and medium enterprises. 3. Problems in future within small and medium enterprises in city of Hangzhou. 4. Present state and problems of supporting of small and medium enterprises.

The basic promotion policy for small and medium enterprises in city of Hangzhou, as well as a summary of contents of selecting reasons / present state and problems / suggestions / effects are listed below.

In addition, several Japanese examples are stated in each item, because it was requested by city of Hangzhou.

Table 5.2.1 Promotion policy and fields to be promoted of small and medium enterprises

Items	Selecting reasons	Present state / problems	Suggestions / purposes and effects
Basic promotion policy for small and medium enterprises	Concrete basic policy is required, because it is under transient period to socialism market economy and beginning period of promotion for small and medium enterprises	In the past, small and medium enterprises were seized according to every industry and ownership, and there was no transversal measures against common problem of small and medium enterprise in Hangzhou (policy for township enterprise existed). At present, law system and organization being arranged. Concrete supporting measures are applied to high-technology industry but basic policy for small and medium enterprises is still primitive.	Definition of small and medium enterprises, selection of fields to be promoted and arrangement of effective supporting measures against confronting problems of small and medium enterprises such as skilled personnel, management / technology, financing, information etc are necessary, and enactment of the basic law including all concerning matters is required. These measures can apply combining to each case, and can arrange and apply in turn from possible one. To execute the measures effectively, arrangement of organization related to promotion of small and medium enterprises in city of Hangzhou and upbringing of personnel engaging to the organization are necessary. Through these measures, sound small and medium enterprises will be developed and contribute to economy in Hangzhou remarkably.

1 Small and medium enterprises required to heighten international competitive position	There are many export enterprises in Hangzhou, but heightening of international competitive position is required corresponding to globalizing international market and joining to WTO of China	Estimation of market demand and analysis of competitive enterprises are not performed sufficiently Positive information gathering including utilization of communication network is insufficient Acquisition of ISO9000 is progressing relative widely but promotion of quality control is poor There are many enterprises completed no manufacturing cost International transparency will be required in future	Heighten international transparency through clarification of accounting system together with improving physical constitution of enterprises by upbringing of personnel and diagnosis / guidance of enterprises Quality control and environment control are also guided so that able to correspond to international standard Intensify training of international business / risk Intensify utilization of IT to get international information Introduce the software companies growing in China and heighten utilization of them Capability that can respond to the systems after joining WTO will be enhanced through these measures
2 Small and medium enterprises of high-technology industry type	Upbringing of high-technology industry is given priority in China Hangzhou has excellent university / research agency and form growth base of high-technology industry	Upbringing measures of enterprises of scientific technology type have being taken already There is cooperation between industry, university, and government, but upbringing of high-technology enterprises is main purpose Not only high-technology industry but also introduction high-technology into management are also included in Chinese governmental policy, but activity to promote utilization of high-technology is expected in future	Introduction of high technology into traditional industries shall be supported Perform training of managers to get information on novel manufacturing technology and products, (proposed to upbringing of personnel group) Modernization of enterprises by utilization of high-technology shall be included in object of investment fund, and cooperation of industry, university and government in this aspect shall be reviewed (proposed in investment funds) Traditional industries will be modernized also through these measures
3 Small and medium enterprises of area concentration type	Specific enterprises are concentrating in a specific area in Hangzhou	Reason of concentration of specific industries in a specific area is generated mainly spontaneous and there was no governmental fostering However, some group of small and medium enterprises of area concentration type have disrupted due to getting behind to respond against market change in aspect of products development and manufacturing technology under trend of internationalization	First of all, urgent synthetic investigation of actual state of economical activities in producing place is required by diagnosis of producing place Based on the investigation results (1) Aim to heighten efficiency of enterprise activities through promotion of between process / horizontal specialization of work of enterprises in producing place (2) Promote technology interchange between enterprises in order to make advance the technology (3) Promote interchange between enterprises positively to perform cooperative research for new product development, arrangement of common inspection room / inspection equipment, cooperative purchasing of raw material, cooperative financing, cooperative propaganda / sales Arrange the promotion system above Disruption of this enterprise group ca be avoided through these measures and growth by heightened competitive position will be expected Immediate start of diagnosis of producing place is proposed

4 Small and medium enterprises of parts industry	There is assembling industry of home electric apparatus and therefore parts industries are existing in Hangzhou	Administrative protection for subcontracting enterprises is not conducted There is no organization to promote subcontractors There is no organization/system that provides enterprise matching	Enforce the law of smoothening of trade Perform the matching service utilizing small and medium enterprises network Establish subcontractor promotion organization Support market extension and self-supporting of enterprises through forming budget of subsidy and trust money for technology development Improvement of technical ability, reinforcement of management strength, establishment of fair trade relationship and stable order receiving for small and medium enterprises of subcontractor type can be expected by these measures Development of parts industries serves to heighten competitive position of assembling industry
5 Small and medium enterprises of primary products processing type	Promotion of foods industry is Chinese governmental policy Foods industry is major industry in Hangzhou In addition, there are farm products as processing resource in Hangzhou	Promoting measures to heighten additional value of locally produced primary farm products is insufficient There is no information that investigation on market needs and possibility of enterprise development had been performed	Perform concrete investigation and planning of measures to intensify cooperation between foods industry and agriculture Support the technology development to introduce high-technology into foods industry Promotion of locally produced farm products processing industry serves to expand employment and to correct area gap between farming village and city
6 Small and medium enterprises in specific industry	There are mechanical/electronics, chemical, medical and spinning / sawing, light industry, foods industry and information industry in Hangzhou as main industry	City of Hangzhou provides enterprise promotion policy for every industry, but small and medium enterprise measures against specific industry of every field are not arranged	Take necessary measures for every specific industry clarifying role of small and medium enterprises With concentrated supporting measures on specific industries that are leading the economy of city of Hangzhou, further development of these industries will be accelerated

5.2.1 Basic promotion policy for small and medium enterprises

5.2.1.1 Background and purpose of policy

Management of enterprises in China has been performed for every ownership and every industry in the past, and has not been taken transversal measures across the small and medium enterprises. However, the small and medium enterprises hold an important position in economy of city of Hangzhou, play an important role to moderate employment pressure and to maintain stabilization of society. In particular, traditional industries hold high position to provide employment.

In order to enable the small and medium enterprises to respond to change of management environment resulted from advanced consumer needs and development of market economy, it is important to bring up the enterprises that can expect maintaining and development of sound management through supporting the modernization / making advance plan of these enterprises.

As for measures of small and medium enterprises in specific field, flexible correspondence appropriate to the each occasion will be necessary together with the basic policy.

5.2.1.2 Suggestions and contents of measures

For the development of small and medium enterprises, substantiality of management resources such as personnel, money and information are indispensable. Properly speaking, though the substantiality of management resources shall be executed under the responsibility of the small and medium enterprises, administrative supporting of city of Hangzhou is also important. On the fields to be promoted are described in this chapter. The suggestions on promotion policy are described in chapter 5.3 for every fields of organization, personnel, supporting of management / technology, finance, investment, information, but the outlines are as follows.

Among the items deeply concerned to this investigation (1) Upbringing of diagnosis staff (2) Diagnosis of producing place are picked up as the measures to be realized in early period. In addition, (1) Small and medium enterprise network (2) Advisory service for investment funds, that had been performed during this investigation are described in chapter 6 as a pilot project.

Arrangement of supporting system

(Arrangement of promotion system)

- 1) As for the organization, it is necessary to arrange administration framework and execution body of promotion policy of small and medium enterprises that enables to take fair and effective measures of small and medium enterprises, through seizing the actual state and problems of small and medium enterprises, planning the entire promotion measures of small and medium enterprises synthetically, and coordinating individual measure executed by each body
- 2) If responsible personnel who execute promotion measures have poor ability, organization established with great pains become useless
- 3) Establish honing system of excellent enterprises and individuals to establish credit of small and medium enterprises and individuals
- 4) New establishment of financial support or considerable increasing measures of amount is required to arrange management environment and to support improvement of management resources, as well as to arrange the organization to promote promoting policy of small and medium enterprises

(Arrangement of management environment)

Provision of funds is hard and therefore arrangement allows to make loan by banking facilities to the small and medium enterprises, as well as establishment of investment funds as provision source of funds to promote modernization such as utilizing of high-technology not only to the high-technology industry but also to the traditional industry

(Supporting to improvement of management resource)

Every small and medium enterprise is troubled by lack of personnel and information. To manage this problem upbringing of instructors is necessary together with upbringing of personnel in each enterprise.

In Japan, the policy to make advance the small and medium enterprise structure (improvement of productivity and compensation of disadvantage in business activity) was applied through the basic law of small and medium enterprises enacted in 1963. In the amendment of this law performed in 1999, the small and medium enterprises are positioned as “Source of dynamism of economy” and arrangement of law system from the policy of uniform level up of the enterprises to positive supporting policy for developing step of enterprises, effort of new business activity etc .

5.2.1.3 Experiences in Japan

- (1) The policy of small and medium enterprises in Japan have being conducted based on the basic law of small and medium enterprises enacted in 1963
 - 1) Japanese economy at the time of enactment of the basic law was under recovering process after the world war. The big enterprises performed rationalization investment positively using national funds
 - 2) The modernization of small and medium enterprises got behind due to lack of funds, resulting magnification of gap in productivity and payment between the big enterprises. The basic law was enacted under the basic ideology that various gaps have to be corrected
 - 3) The scheme of policy was making advance the small and medium enterprise structure, that is improvement of productivity and compensation of disadvantage in business activity
 - (1) To make advance the small and medium enterprise structure, the following supporting measures were taken.
Modernization of installations, optimization of enterprise scale, cooperation of business, rationalization of management control etc..

(11) To compensate disadvantage in business activity, the following measures were taken.

Prevention of excessive competition, promotion of export, fair subcontract trading, control of relation between imported articles.

(2) On the one hand, Japanese economy had recovered rapidly and the balance of trade had gone into the substantial black, and the other hand, relative recession of competitive position and acceleration of advancement of enterprise into foreign countries caused by remarkable Yen appreciation since the summit meeting in 1985, consequently, supporting to the promotion policy of small and medium enterprises have been performed in various overseas countries around Asia. However, the basic supporting policy of small and medium enterprises has been never changed

(3) The basic law of small and medium enterprises was amended in 1999.

- 1) The Japanese economy is sluggish continuously and still in depression, under progressing worldwide globalization and creation of novel industries including IT.
- 2) Accordingly, the environment surrounding small and medium enterprises are changing remarkably in recent years. Under increasing unclarity of economy itself, the activities of small and medium enterprises that are able to exhibit mobility / quickness taking the change as chance are expected.
- 3) Accordingly, the arrangement of law system from policy of uniform level up that the small and medium enterprises seized as the weak uniformly, to positive supporting policy of developing step of enterprises and effort to new business activity become necessary.
- 4) In the new basic law, the small and medium enterprises are positioned as "Source of dynamism of economy in our country" and aim to "Growth and development having variety and vital power".
- 5) In order to achieve the purpose, various measures are taken under the following basic policies of small and medium enterprises: (1) Promotion of management innovation and foundation of enterprise. (2) Reinforcement of management base of small and medium enterprises. (3) Smoothing correspondence to economical / social change.
- 6) Refer to the attached system diagrams as for each measure.

Attached materials

Table 5-2-2 Japanese laws related to small and medium enterprises (general)

Fig. 5-2-1 System diagram of financial measures

Fig. 5-2-2 System diagram of measures on taxation system (Related to small medium enterprises)

Fig. 5-2-3 System diagram of supporting measures on management innovation of small and medium enterprises

Fig. 5-2-4 System diagram of supporting measures on new foundation

Fig. 5-2-4-1 Synthetic supporting by laws

Fig. 5-2-4-2 Supporting of technology

Fig. 5-2-4-3 Supporting of Management

Fig. 5-2-4-4 Supporting of finance

Fig. 5-2-4-5 Other various measures

Fig. 5-2-5 System diagram of measures on security of management resource of small and medium enterprises

Fig. 5-2-6 System diagram of measures on information revolution

Fig. 5-2-7 System diagram of measures on internationalization

Fig. 5-2-8 System diagram of measures on cooperative organization of small and medium enterprises

Fig. 5-2-9 System diagram of measures on making advance

Fig. 5-2-10 System diagram of measures on activation of industry concentration

Fig. 5-2-11 System diagram of measures on labor

Fig. 5-2-12 System diagram of promotion measures of subcontracting small and medium enterprises

Fig. 5-2-13 System diagram of measures on making fair subcontract trading

Fig. 5-2-14 System diagram of the law on security of governmental receiving orders of small and medium enterprises (the law of security of governmental order) (law No.97, 1966)

Fig. 5-2-15 System diagram of measures on prevention of insolvency

Fig. 5-2-16 System diagram of measures on enterprises with small scale

Table 5.2.2 Laws related to small and medium enterprises (General)

The basic law of small and medium enterprises	Stipulate basic ideology and policy on small and medium enterprise measures
The law of synthetic undertaking party of small and medium enterprises	Law of basis on synthetic undertaking party of small and medium enterprises, synthetic execution body of small and medium enterprise measures
The law of finance cooperation of small and medium enterprises	Law of basis on finance cooperation of small and medium enterprises, political finance body of small and medium enterprises
Finance cooperation of national life	Law of basis on finance cooperation of national life, political finance body of enterprises with small scale
Central bank for commercial and industrial cooperative	Law of basis on central bank for commercial and industrial association, finance body against cooperative
The law on finance business by cooperative	Sound development of finance by cooperative
The law on prior financing of finance body of cooperative structure	Make sound the management of finance body with cooperative structure
The law of credit security association	Law of basis on credit security association, credit security body to loaning of small and medium enterprise
The law of credit assurance of small and medium enterprises	Establishment of system to assure liabilities of small and medium enterprise
The law of credit assurance of machinery	Credit assurance system on trade of machinery
The law of investment and upbringing of small and medium enterprises company	Law of basis on investment and upbringing company, investment to small and medium enterprise
The law of limited responsibility cooperative of investment to small and medium enterprises	Smoothen investment to venture business
The law of special measure on taxation	Stipulate special case such as mitigated tax rate on tax and reserve fund
The law of chamber of commerce and industry	Law of basis on chamber of commerce and industry, mainly management guidance for small and medium enterprise in city area
The law of commerce and industry association	Law of basis on commerce and industry association, mainly management guidance for small and medium enterprise in town and village area
The law on organization of small and medium enterprise party	Cooperative undertaking by cooperative / commerce and industry association
The law of cooperative of small and medium enterprises	Making advance of small and medium enterprises through cooperative undertaking by various cooperative
The law of supporting of small and medium enterprises	Supporting undertaking to small and medium enterprises executed by state, prefecture and undertaking party
The law of security of governmental order	Considering governmental ordering to small and medium enterprises
The law of developing body of employment and ability	Law of basis on body, stabilizing employment of labors and increasing welfare
The law of mutual aid of retire money of small and medium enterprises	Aiding system for retirement money of employees of small and medium enterprises
The law of labor power security of small and medium enterprises	Aiding system for security of labor power and improvement of employment management
The law of mutual aid of enterprises with small scale	Aiding system for retirement of manager of enterprises with small scale
The law of mutual aid for prevention of insolvency of small and medium enterprises	Mutual aid system of safe-net against insolvency of trading partners of small and medium enterprises

Table 5.2.2 (continued)**(Making advance of industry)**

The law of promotion of modernization of small and medium enterprises	Promotion of modernization of small and medium enterprise measures and making advance of industry structure
The law of supporting to management innovation of small and medium enterprises	Supporting to small and medium enterprises that develop and manufacture the new products, introduce new manufacturing method of products in accordance with management innovation plan
The temporary law of measures on promotion of creative business activity	Supporting of foundation and technology of small and medium enterprises
The law of promotion to creation of new business	Supporting to small and medium enterprises aiming technology development

(Related to promotion of small and medium enterprises of area concentrating type)

The temporary law of measures on activation of specific industry concentration	Reinforcement of self-supporting developing base of local industry
--------------------------------------------------------------------------------	--------------------------------------------------------------------

(Related to promotion of small and medium enterprises of parts industry type)

The law of prevention for postponement of subcontracting fee payment	Making fair trading and protection of benefit of subcontractors
The law of promotion of subcontracting small and medium enterprises	Modernization of subcontractors and mediation of trade

(Others)

The law of supporting to enterprises with small scale through commerce and industry association and chamber of commerce and industry	Supporting to reinforcement of management base of enterprises with small scale
The law of aid to modernization fund of small and medium enterprises	Loaning by state to prefecture that performing loaning of modernization fund

Figure 5.2.1 System diagram of financial measures

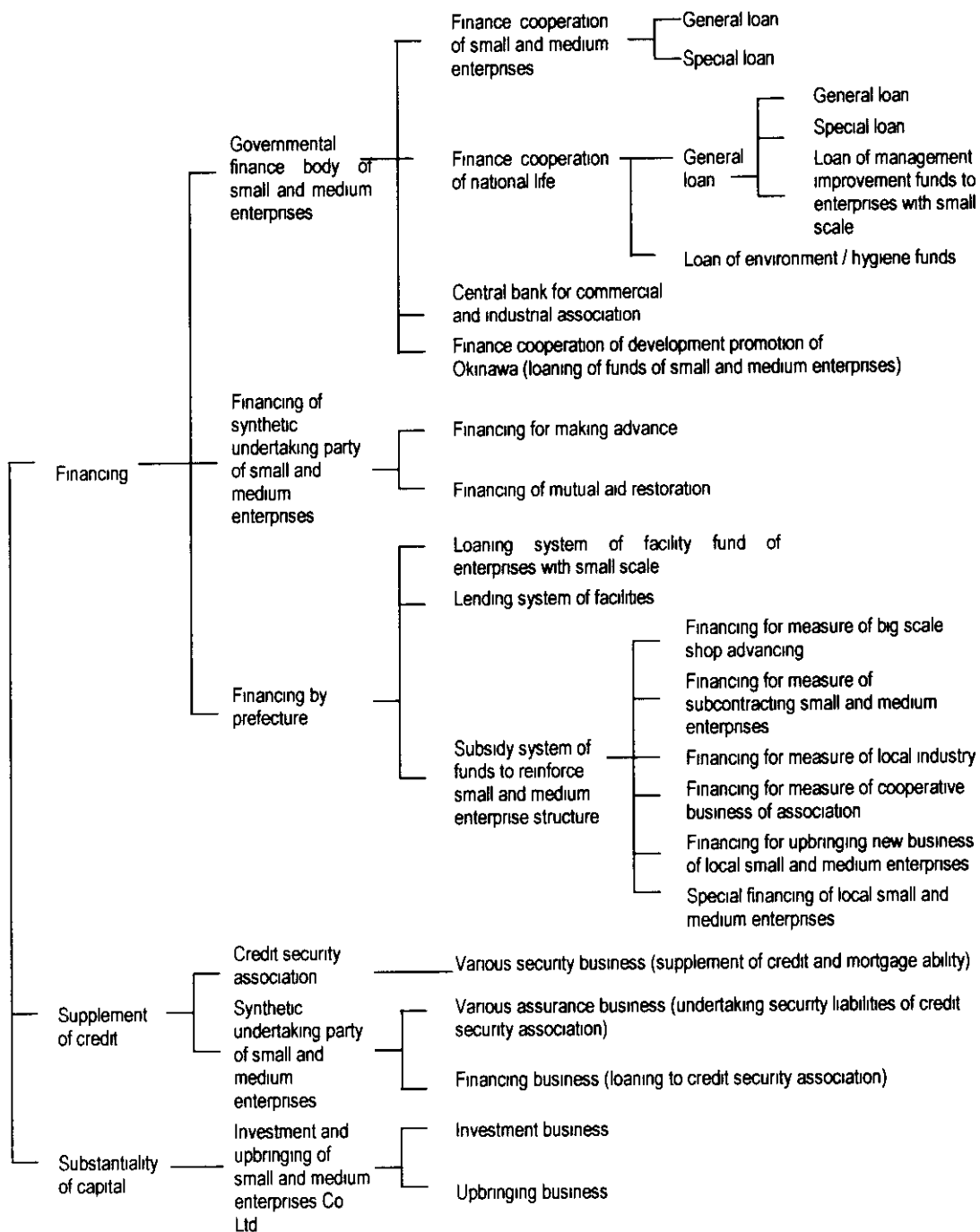
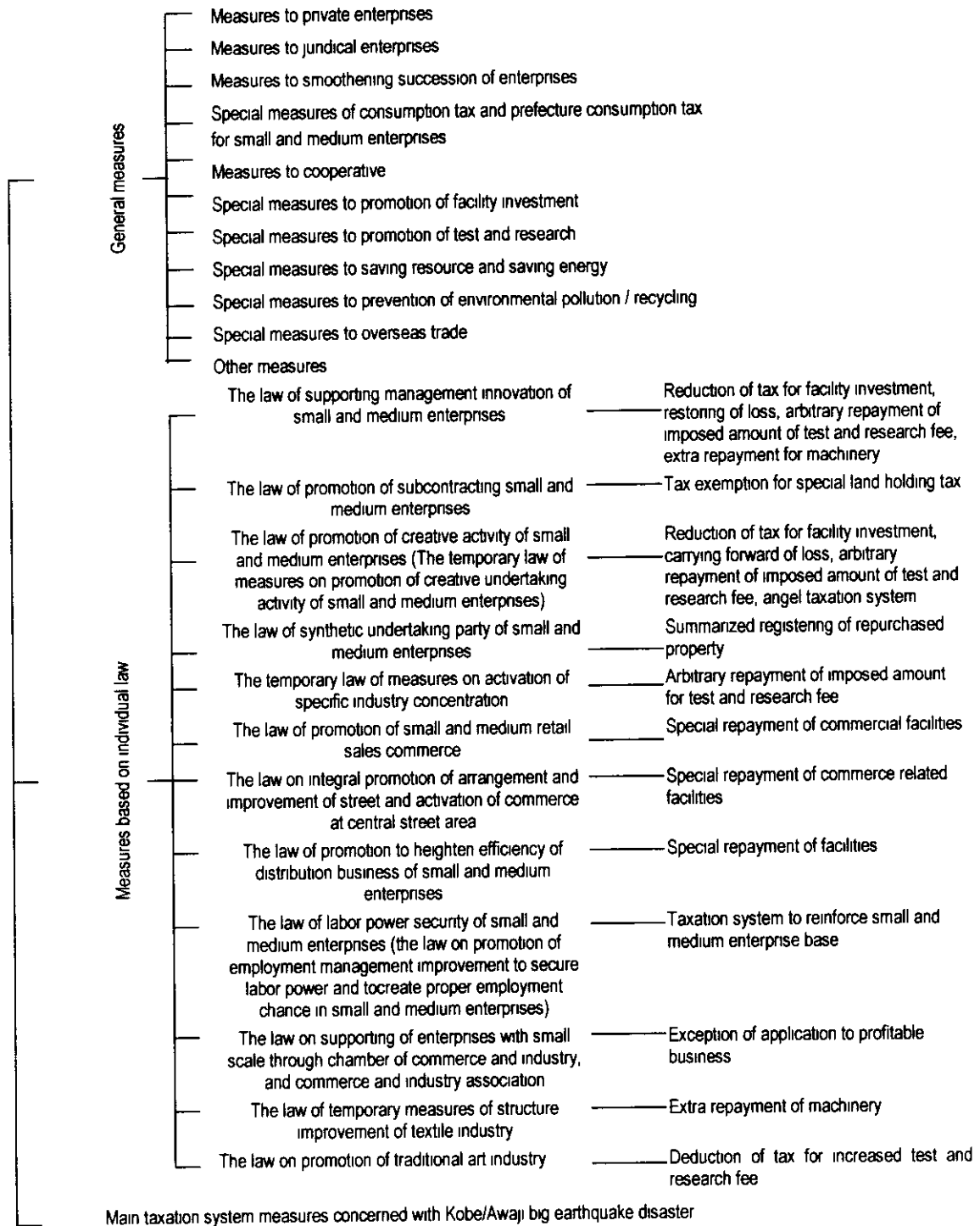
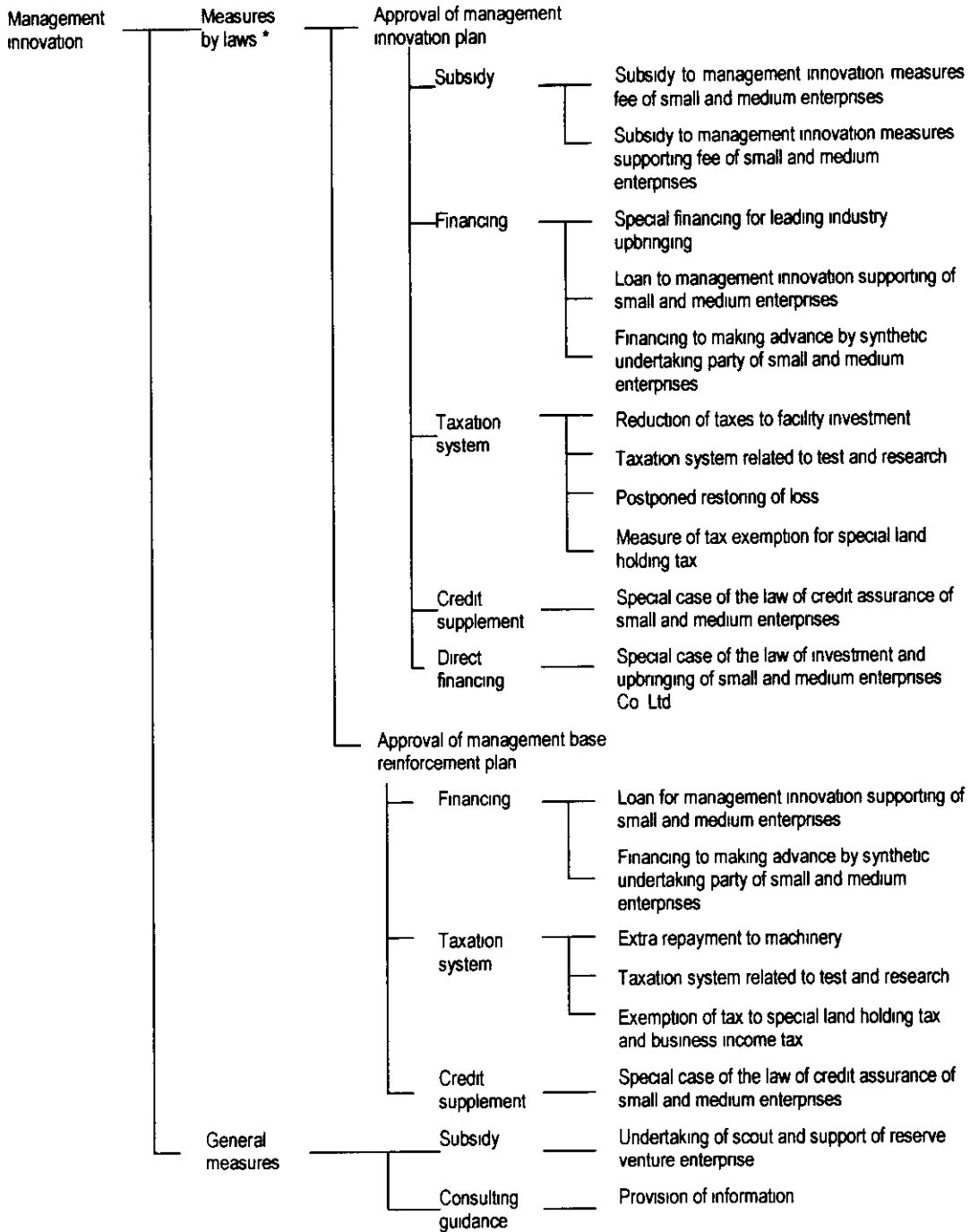


Figure 5.2.2 System diagram of measures on taxation system (related to SMEs)

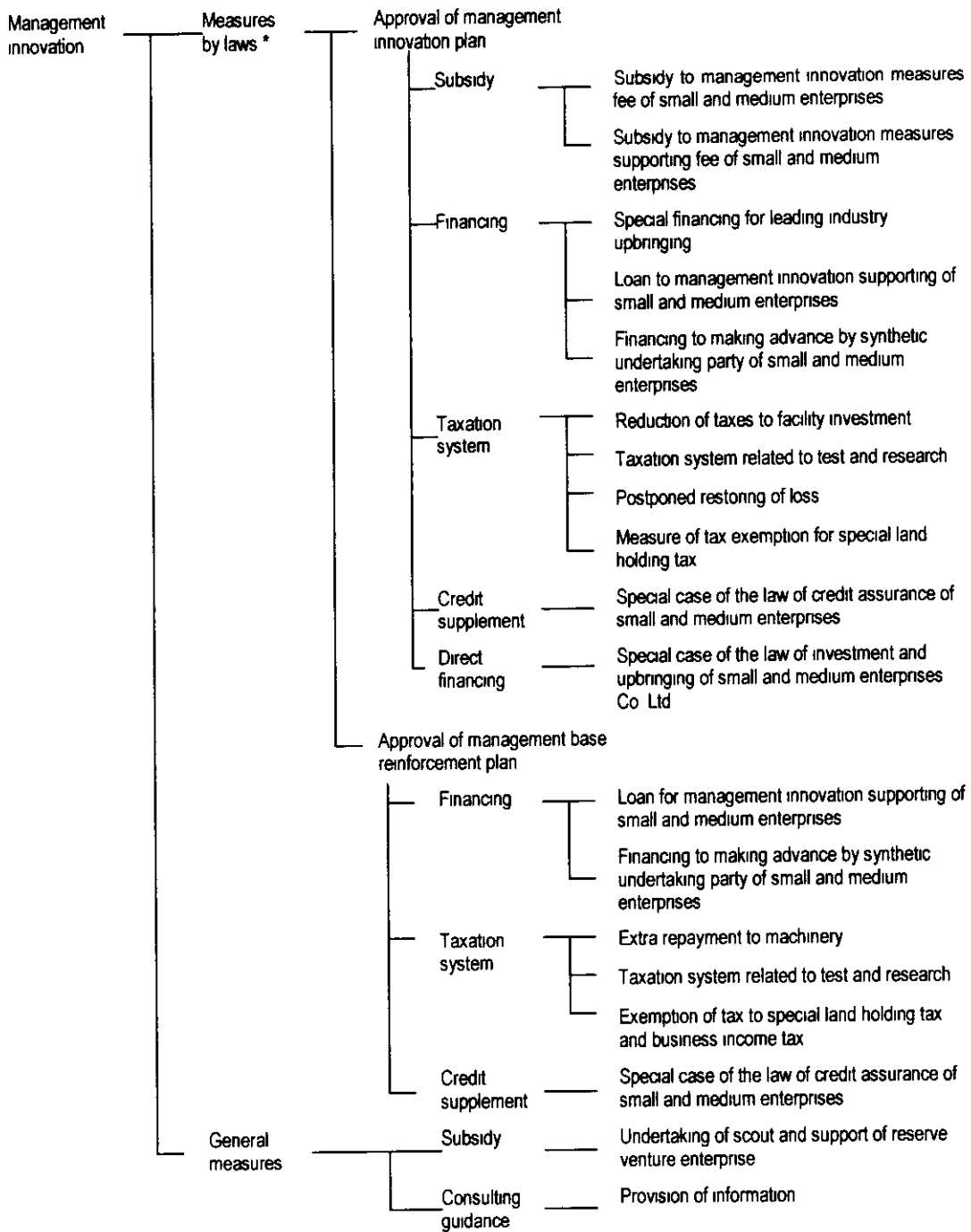


5.2 Preparation of promotion plan for small and medium enterprises



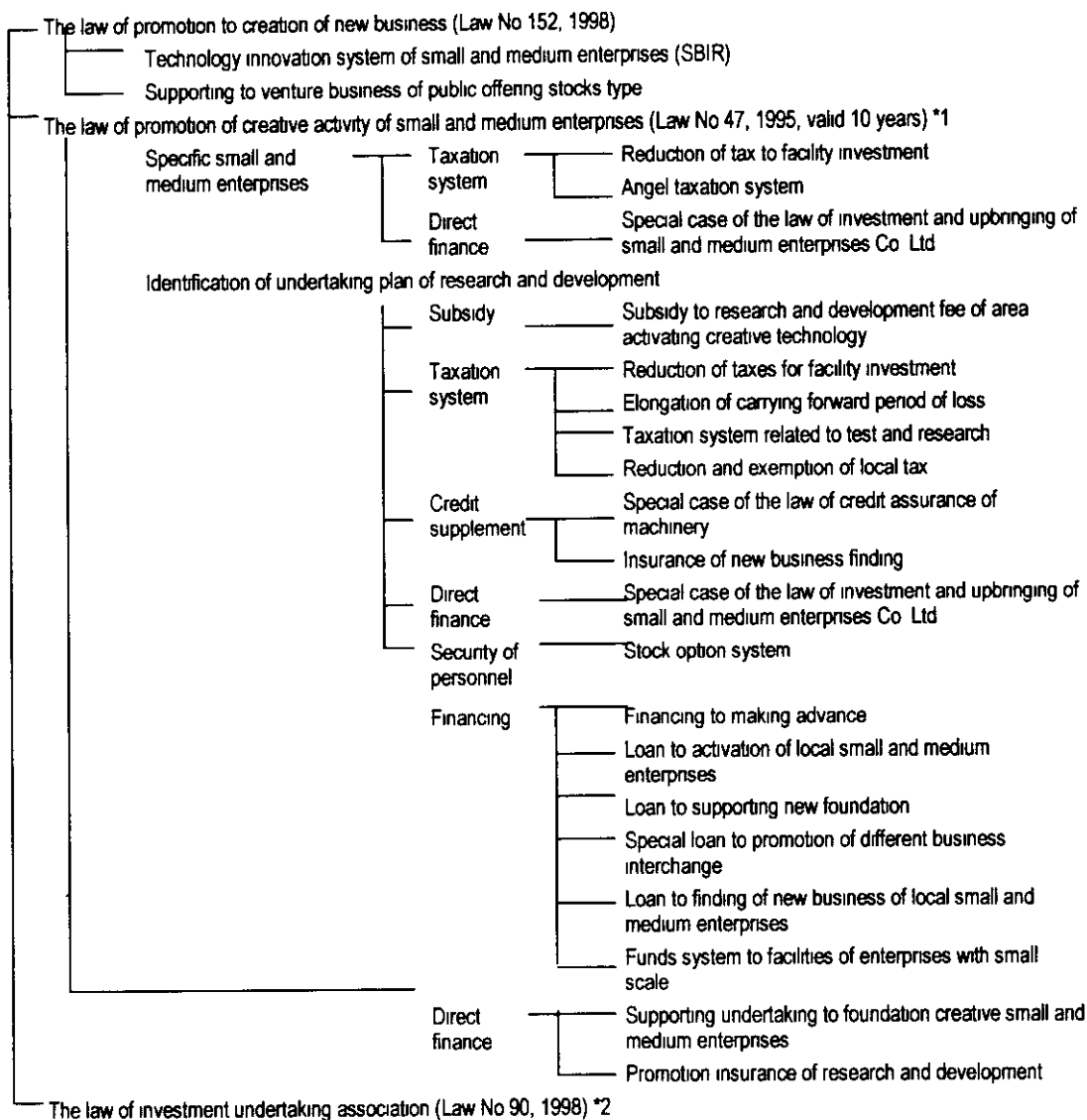
*The law of supporting to management innovation of small and medium enterprises (Law No 18, 1999)

Figure 5.2.3 System diagram of supporting measures on management innovation of SMEs



*The law of supporting to management innovation of small and medium enterprises (Law No 18, 1999)

Figure 5.2.4.1 Synthetic supporting by laws



*1 The temporary law of measures on promotion of creative business activity of small and medium enterprises (The law of promotion of creative activity of small and medium enterprises)

*2 The law on contract of limited responsibility association of investment undertaking to small and medium enterprises (The law of investment undertaking association)

Figure 5.2.4.2 Supporting of technology

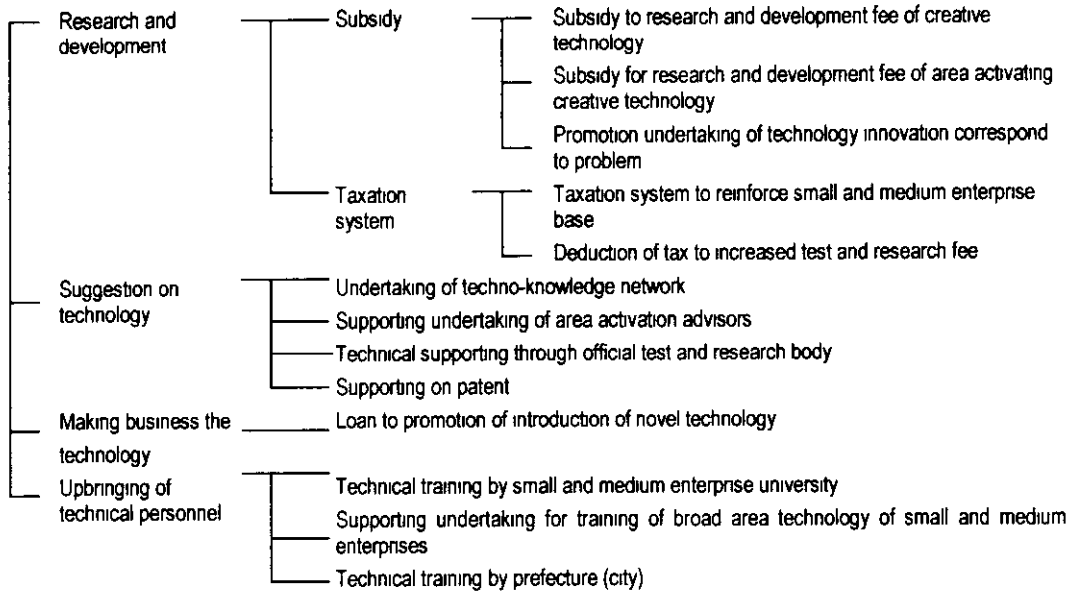


Figure 5.2.4.3 Supporting of management

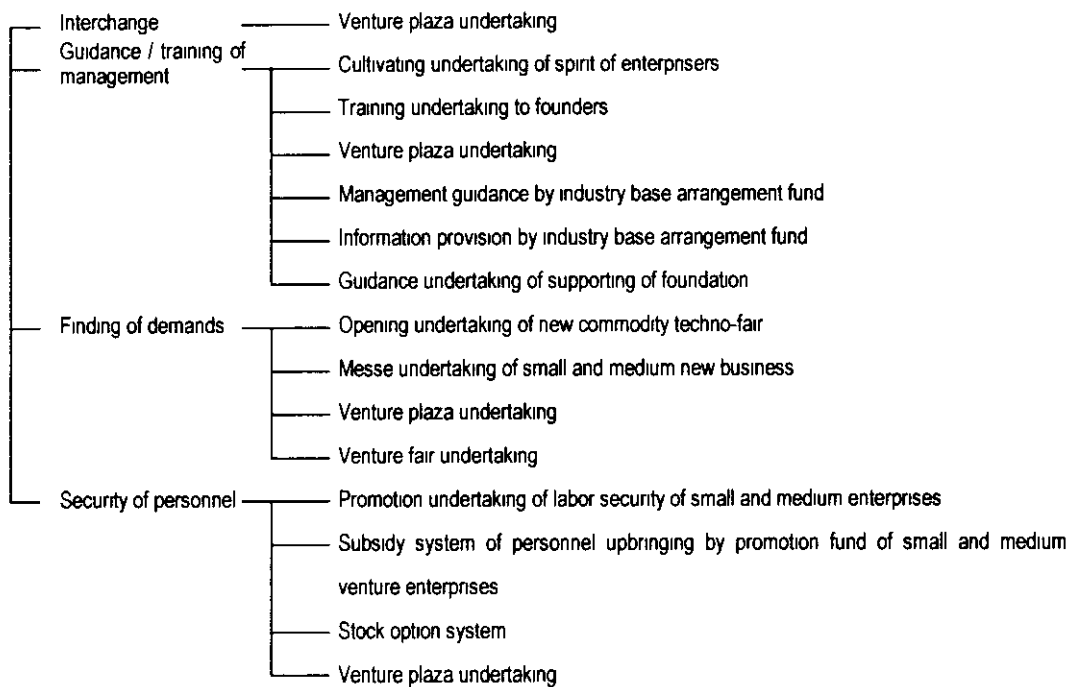


Figure 5.2.4.4 Supporting of finance

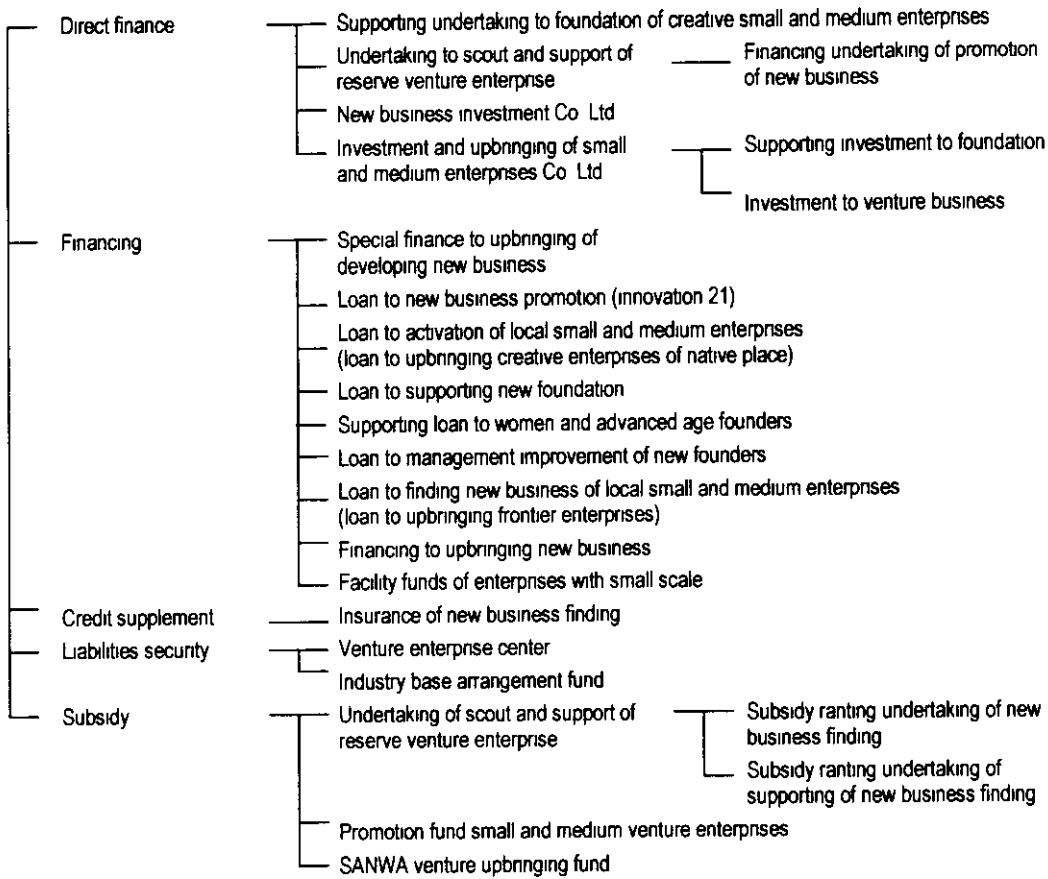


Figure 5.2.4.5 Other various measures

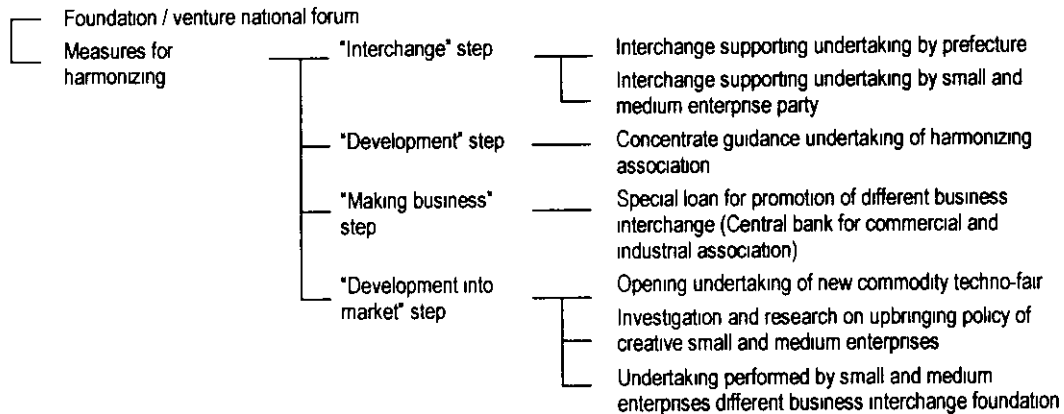


Figure 5.2.5 System diagram of measures on security of management resource of small and medium enterprises

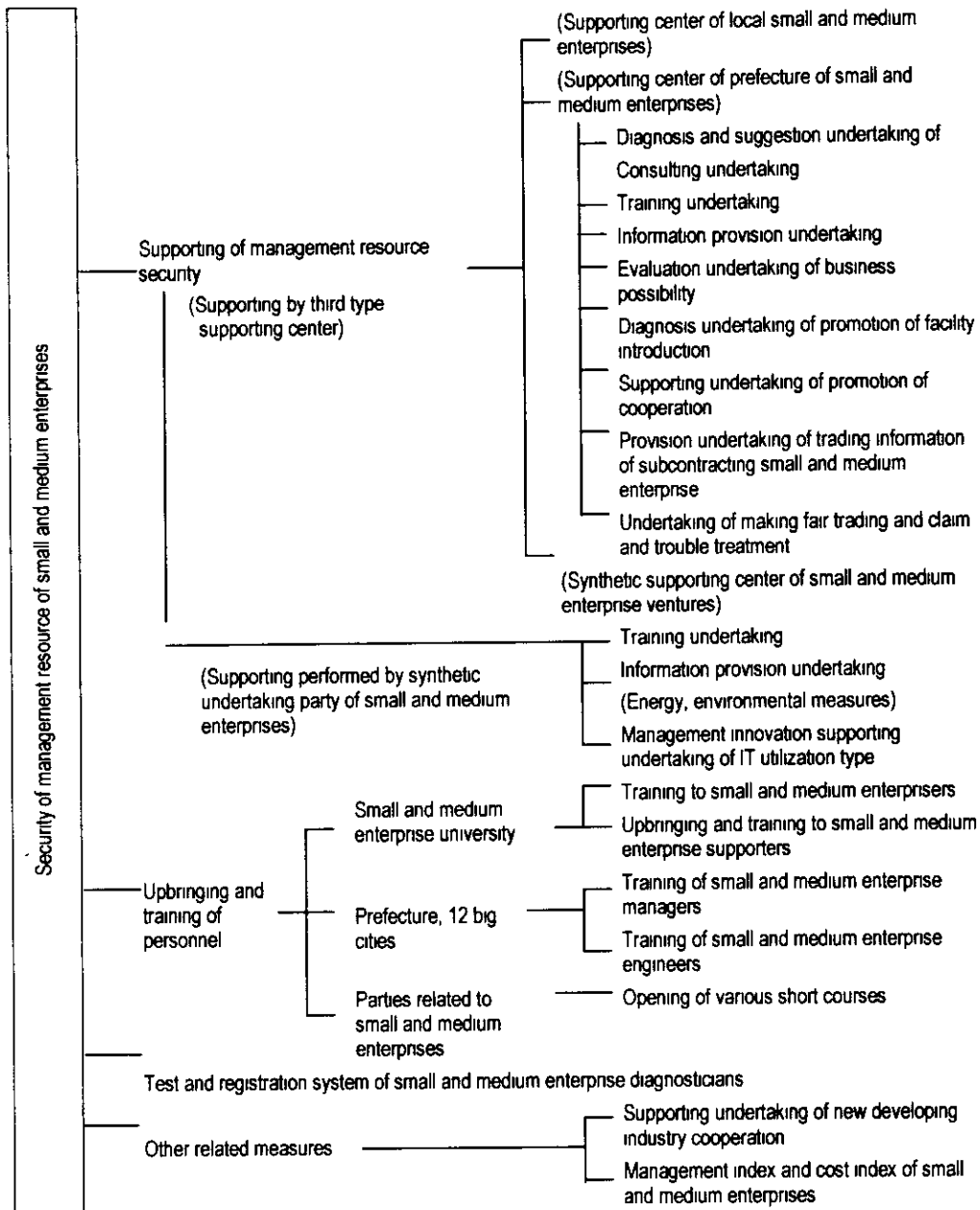


Figure 5.2.6 System diagram of measures on information revolution

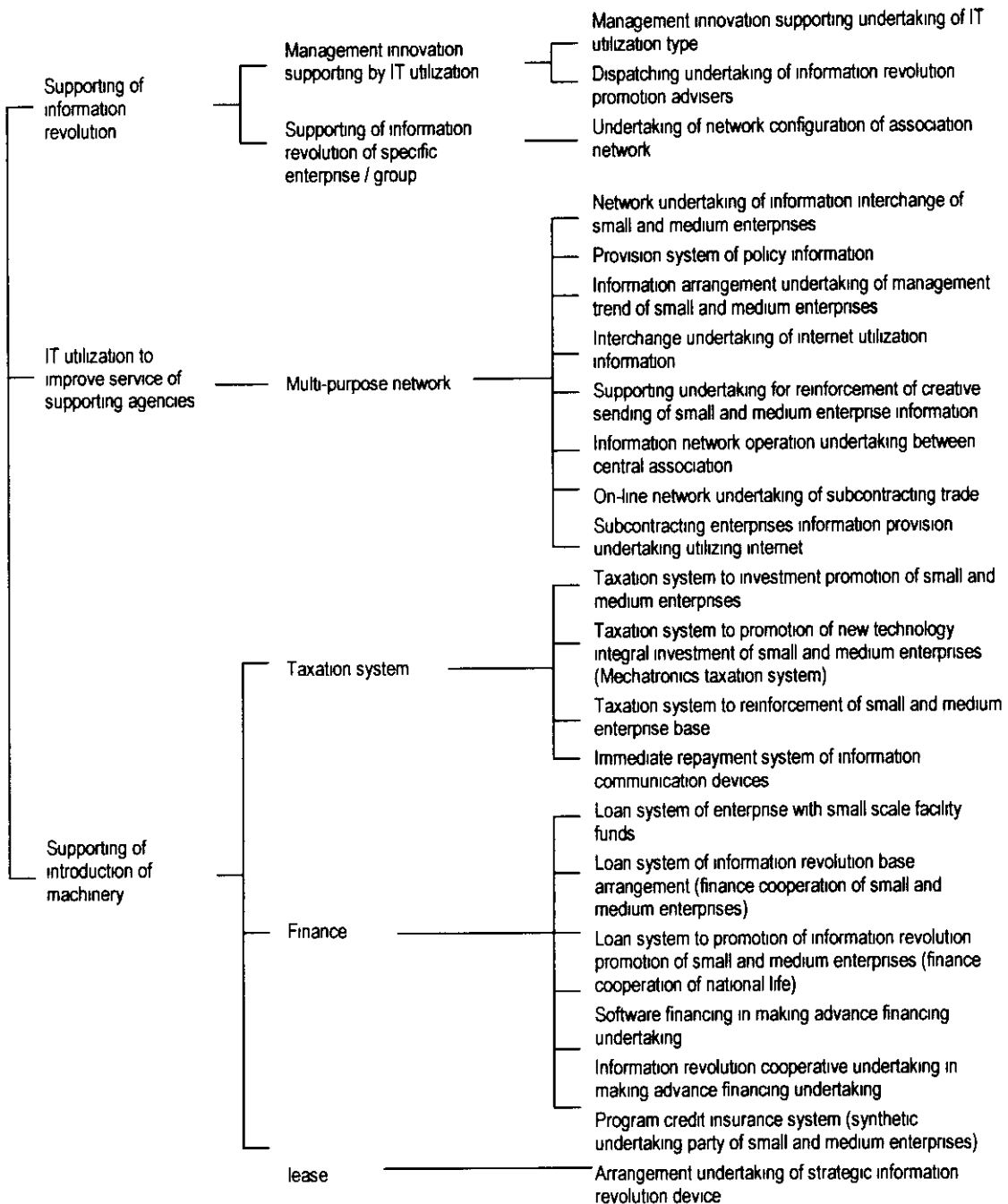


Figure 5.2.7 System diagram of measures on internationalization

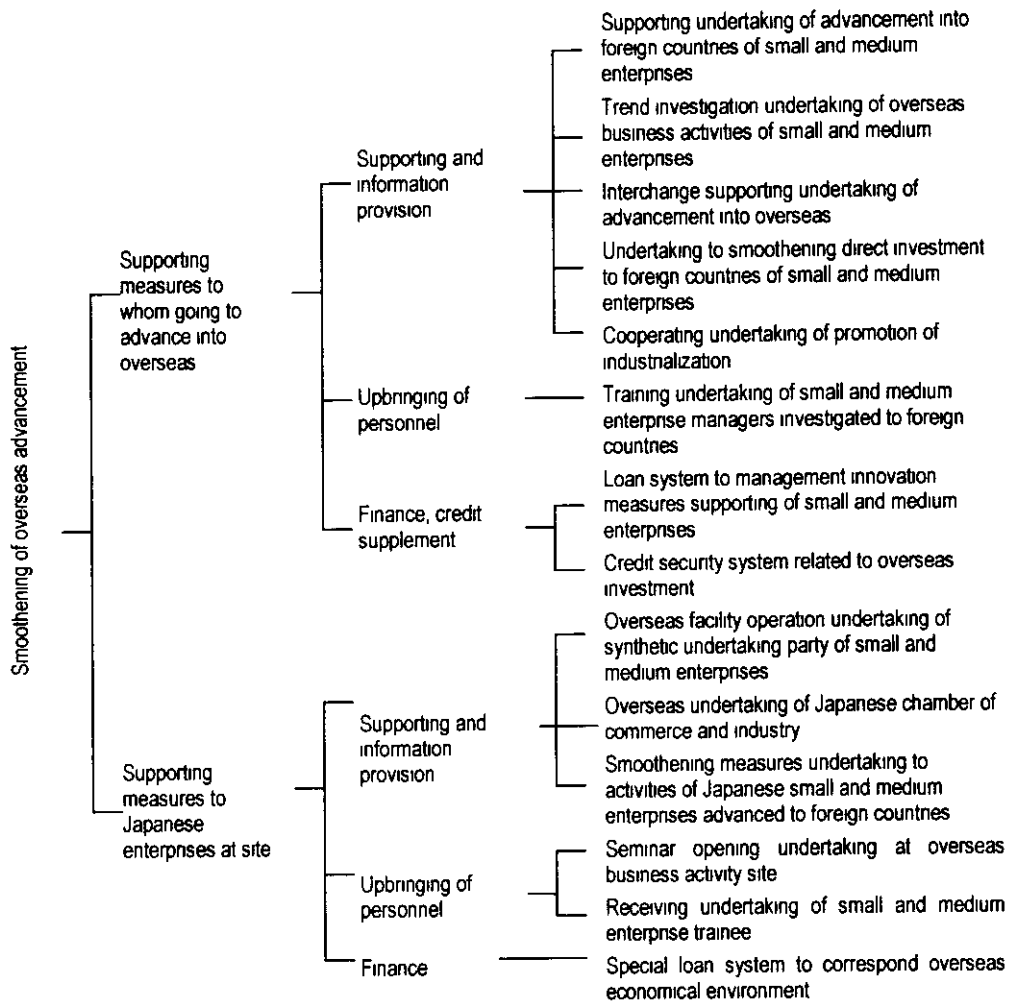


Figure 5.2.7 System diagram of measure on internationalization (continued)

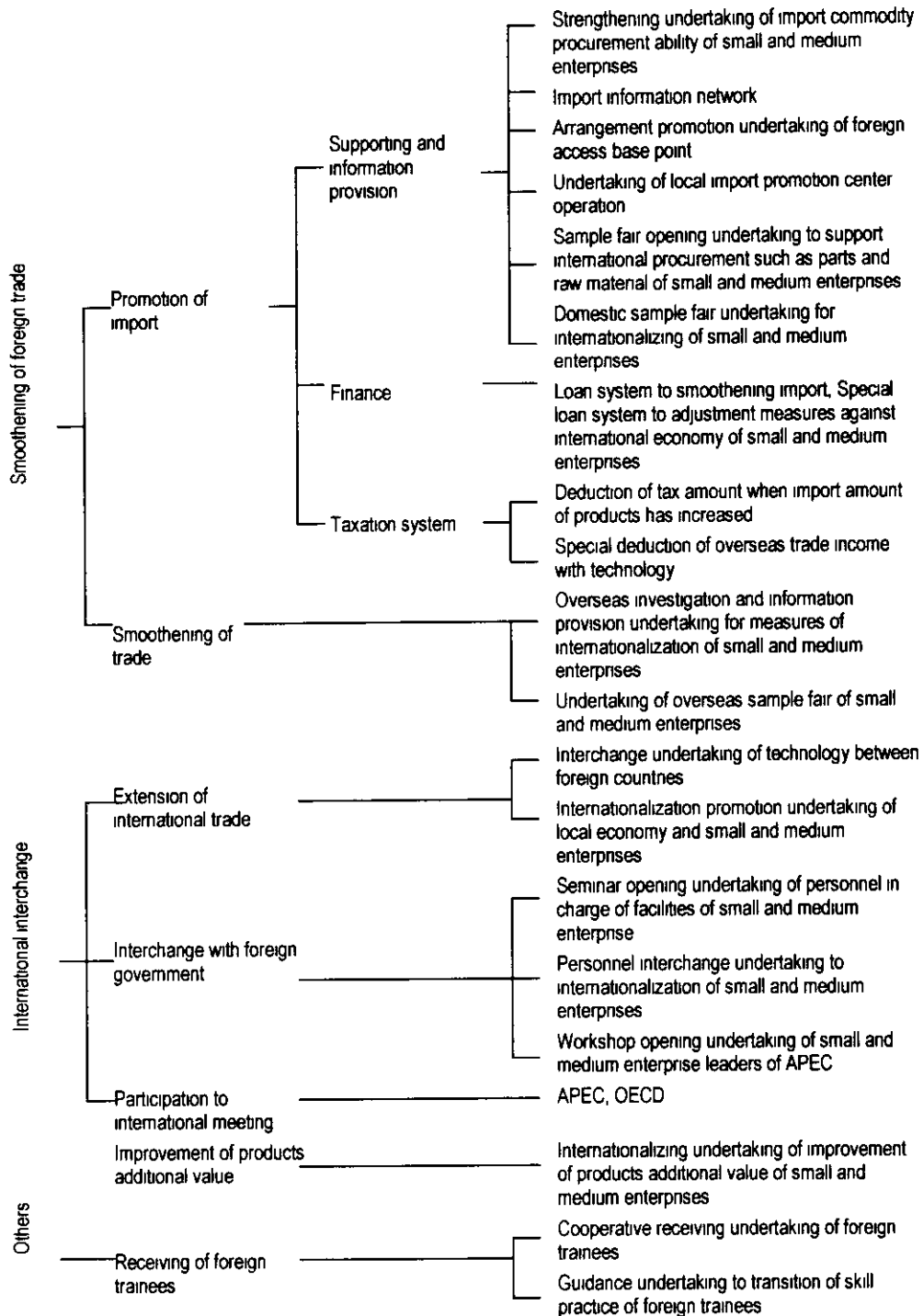
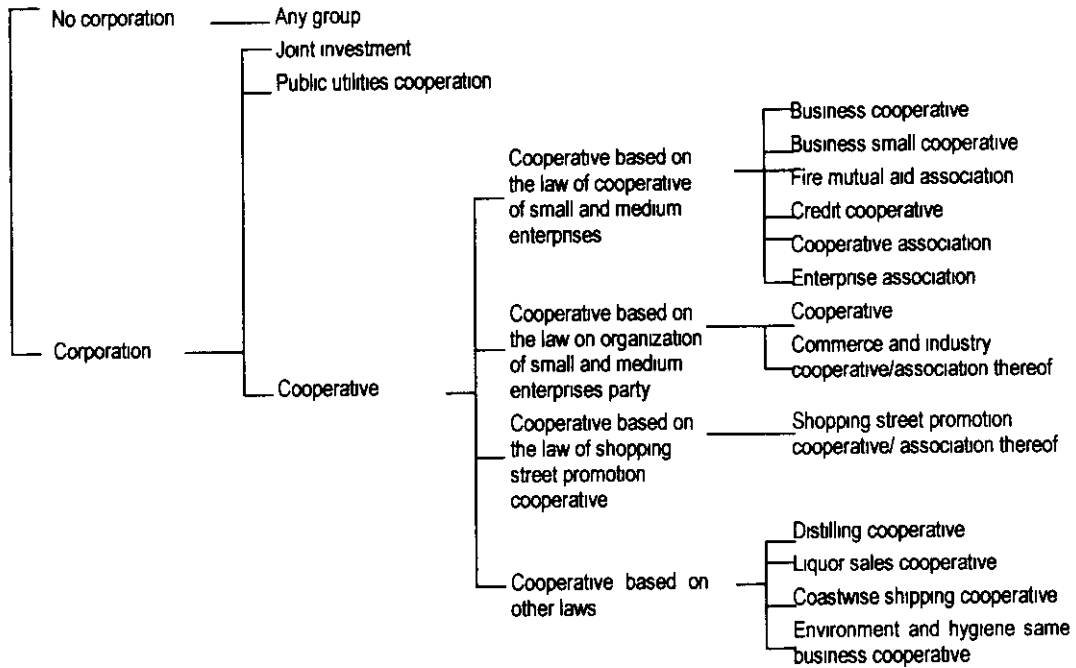


Figure 5.2.8 System diagram of measures on cooperative organization of small and medium enterprises

(1) Organization form of small and medium enterprise party



(2) Supporting system on cooperative

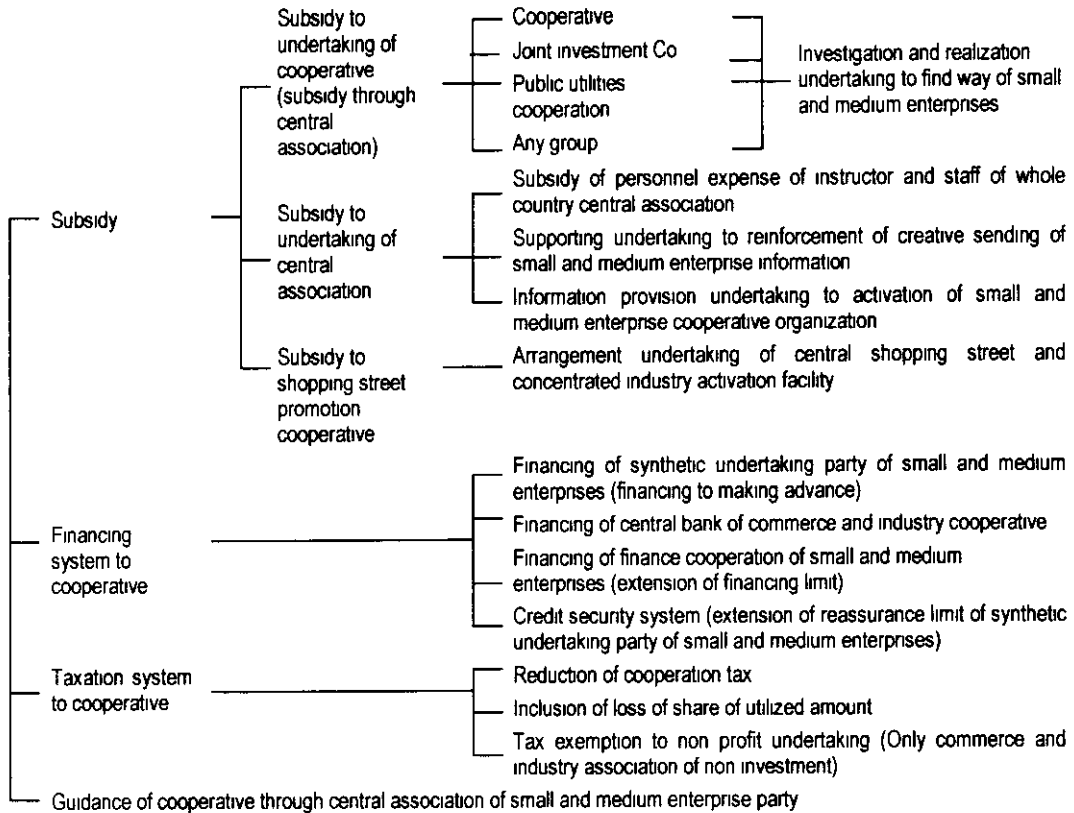


Figure 5.2.9 System diagram of measures on making advance

<* Synthetic undertaking party of small and medium enterprises>

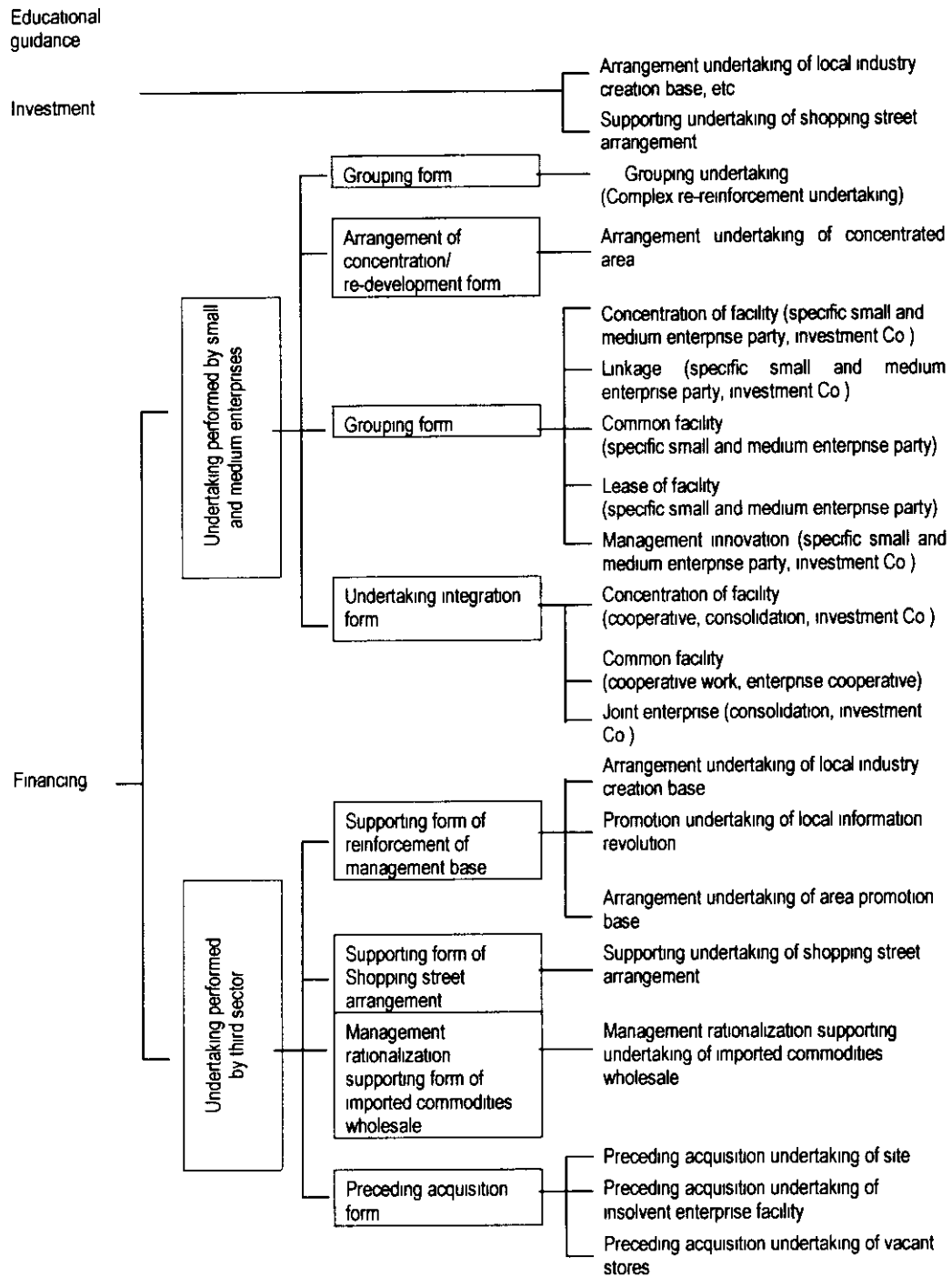
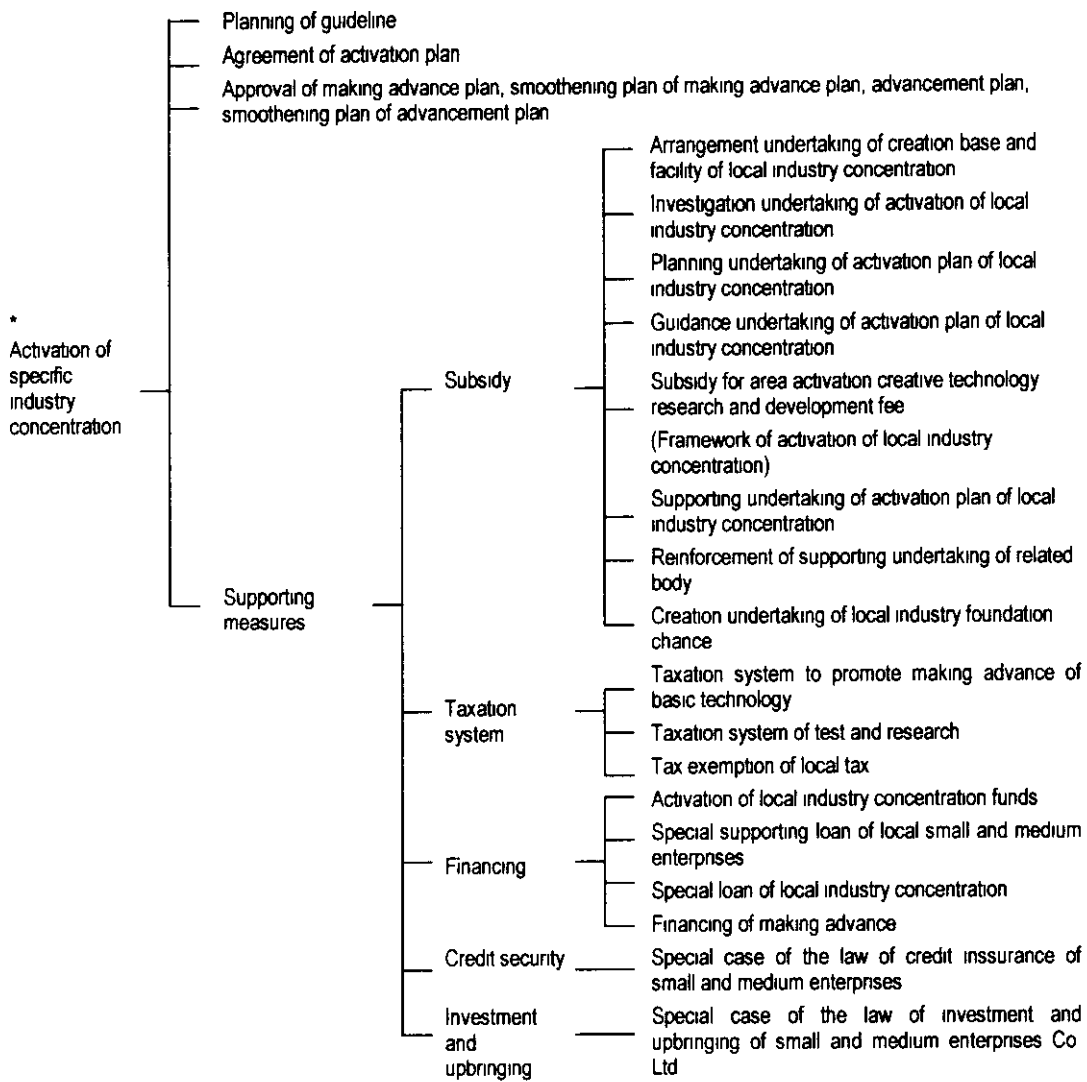


Figure 5.2.10 System diagram of measures on activation of industry concentration



* Temporary law of measures on activation of specific industry concentration (law No 28, 1997, valid 10 years)

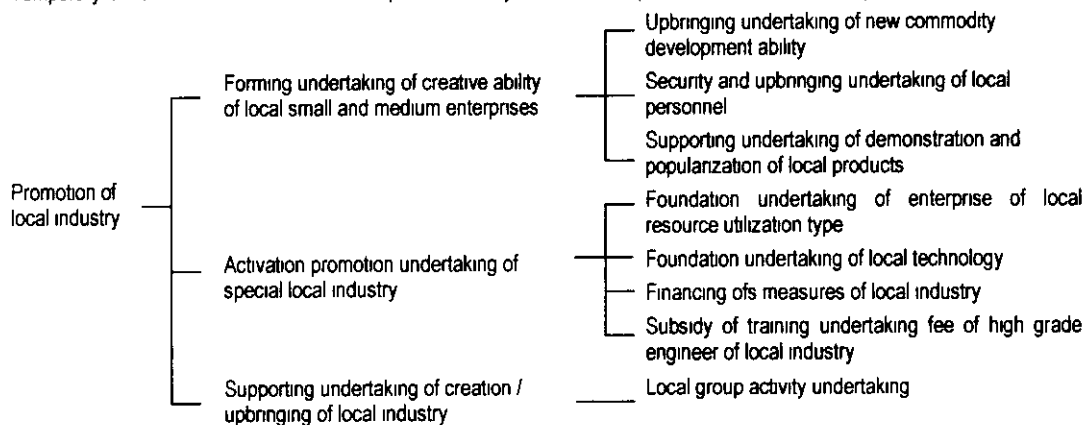
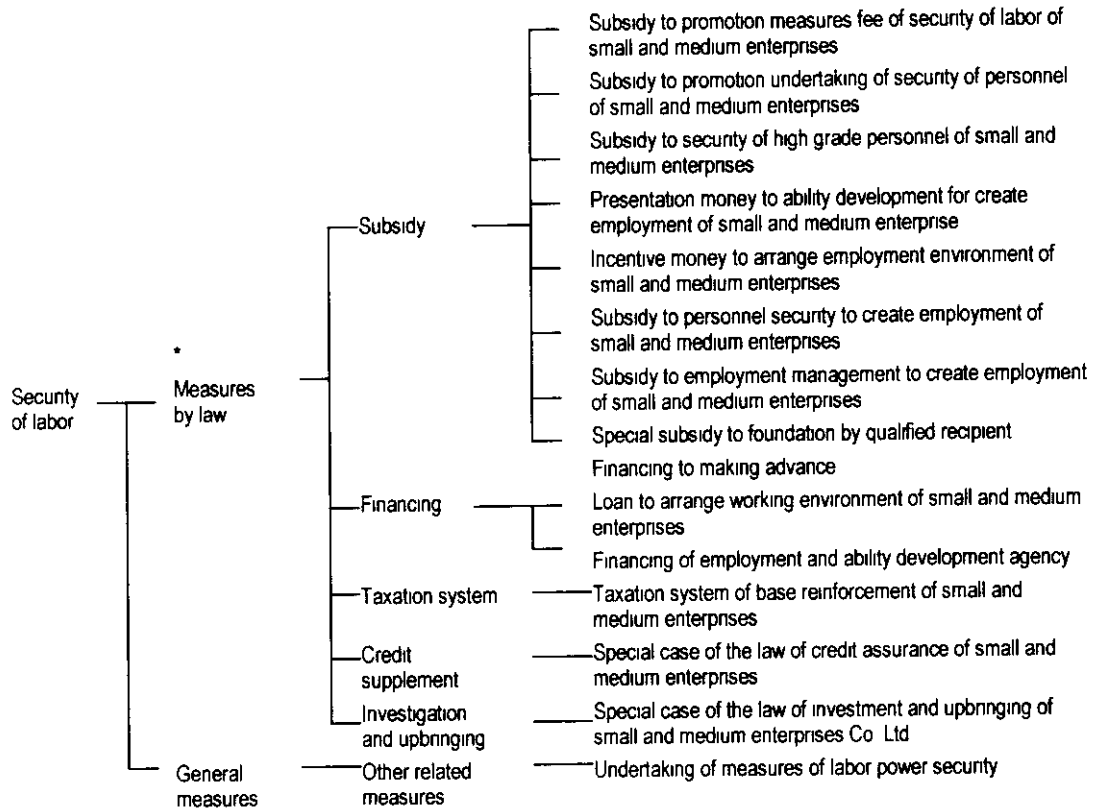


Figure 5.2.11 System diagram of measures on labor



* The law on promotion of improvement of employment management to secure labor power and to create favorable employment chance of small and medium enterprises (law No 57, 1991)

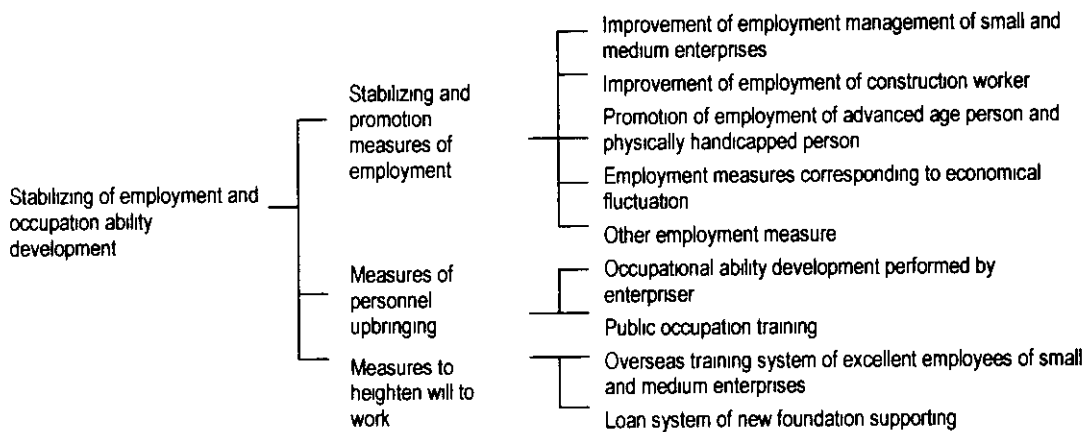


Figure 5.2.11 System diagram of measures on labor (continued)

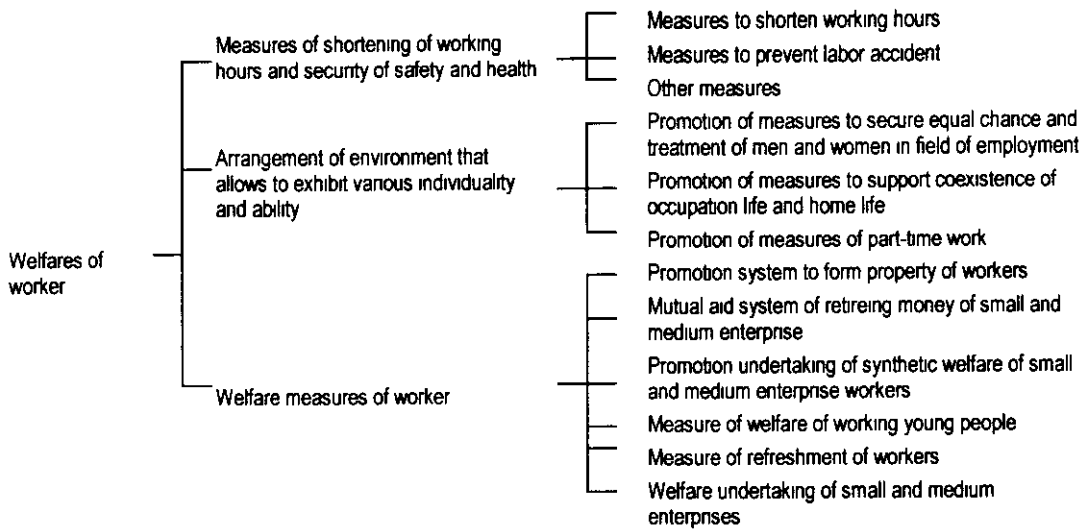


Figure 5.2.12 System diagram of promotion measures of subcontracting small and medium enterprises

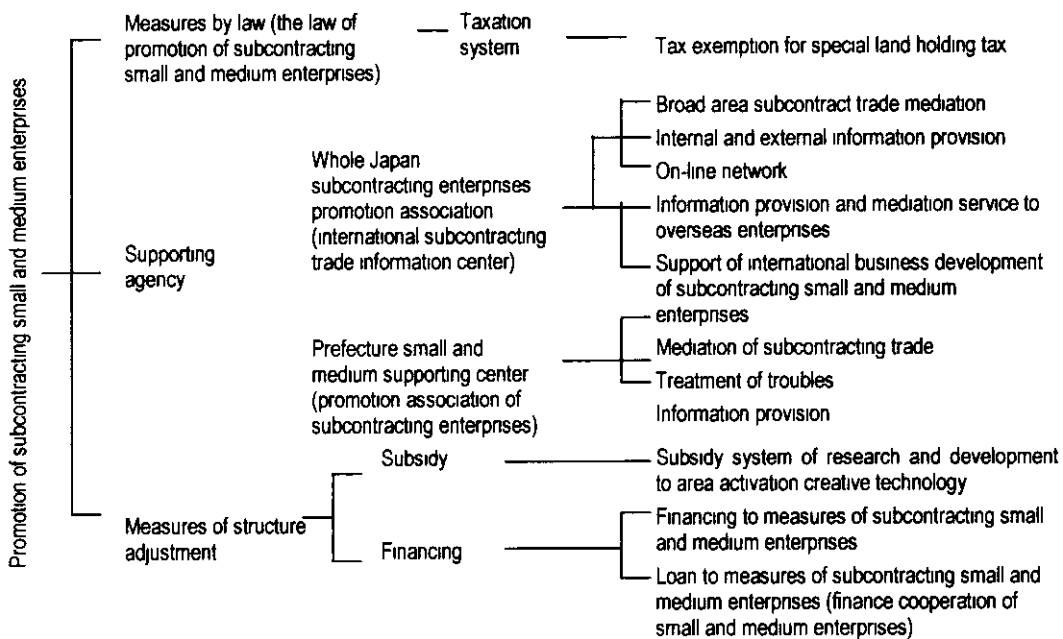


Figure 5.2.13 System diagram of measures on making fair of subcontract trading

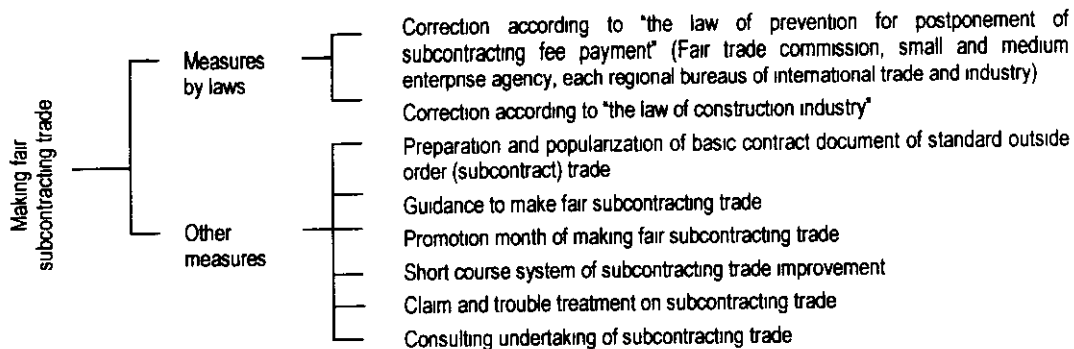


Figure 5.2.14 System diagram of the law on security of governmental receiving orders of small and medium enterprises (the law of security of governmental order) (law No.97, 1966)

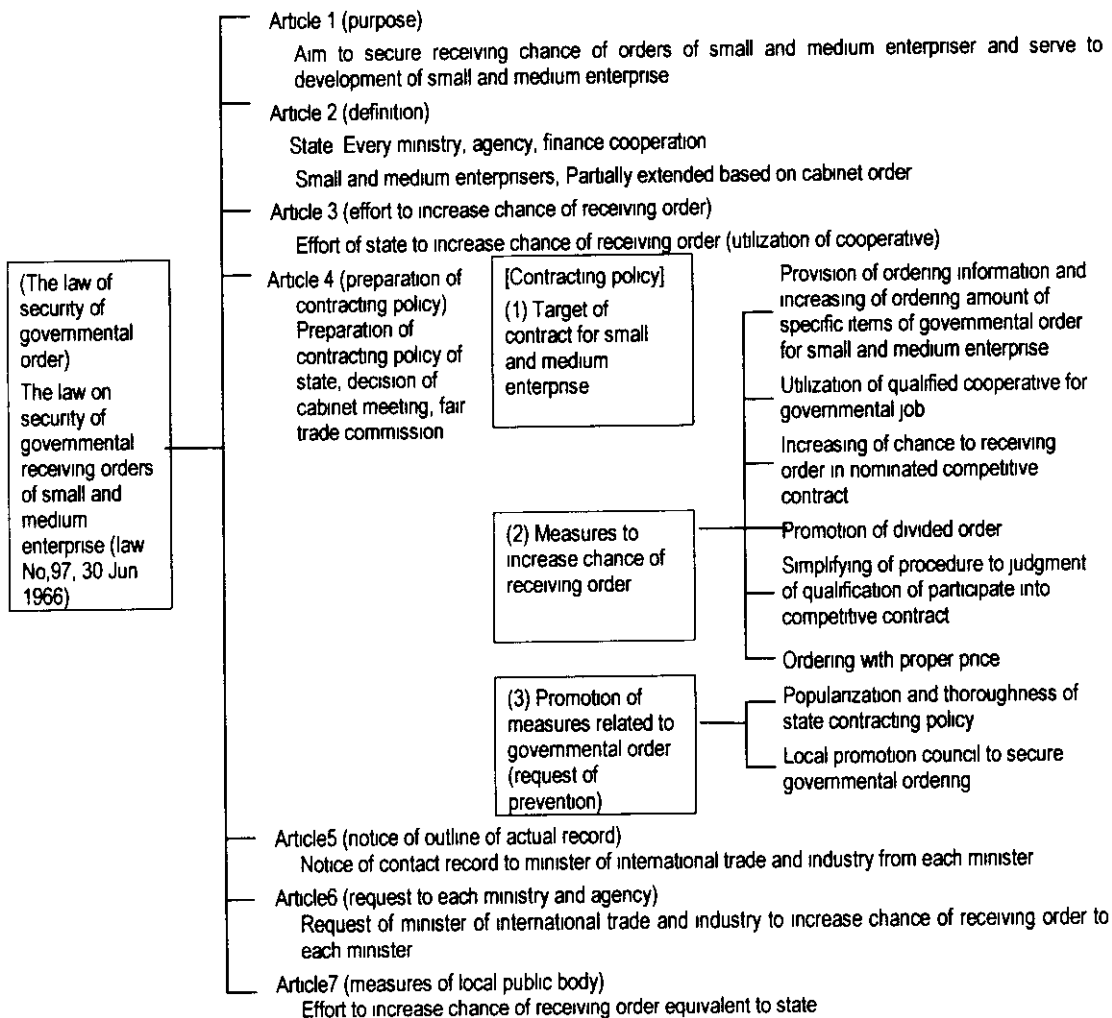


Figure 5.2.15 System diagram of measures on prevention of insolvency

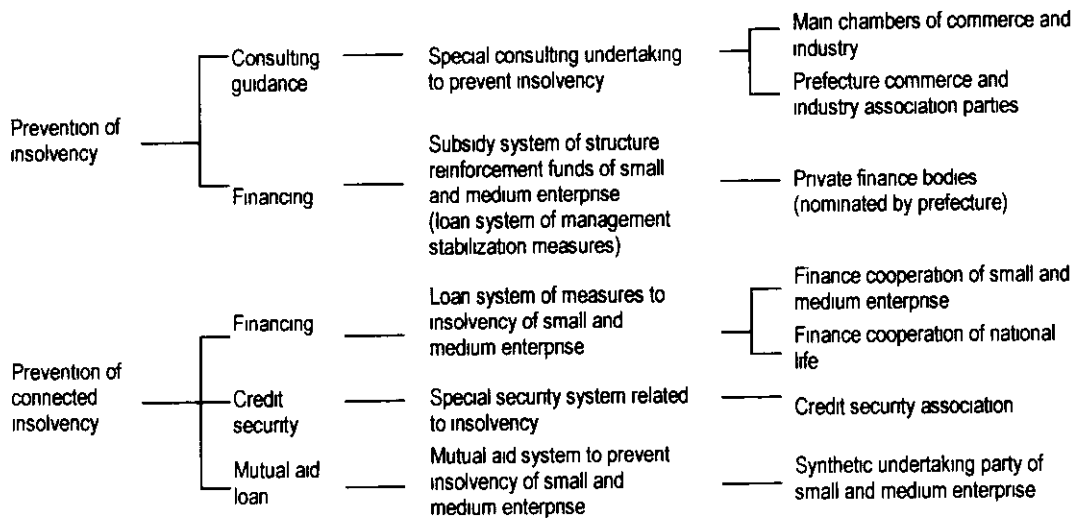
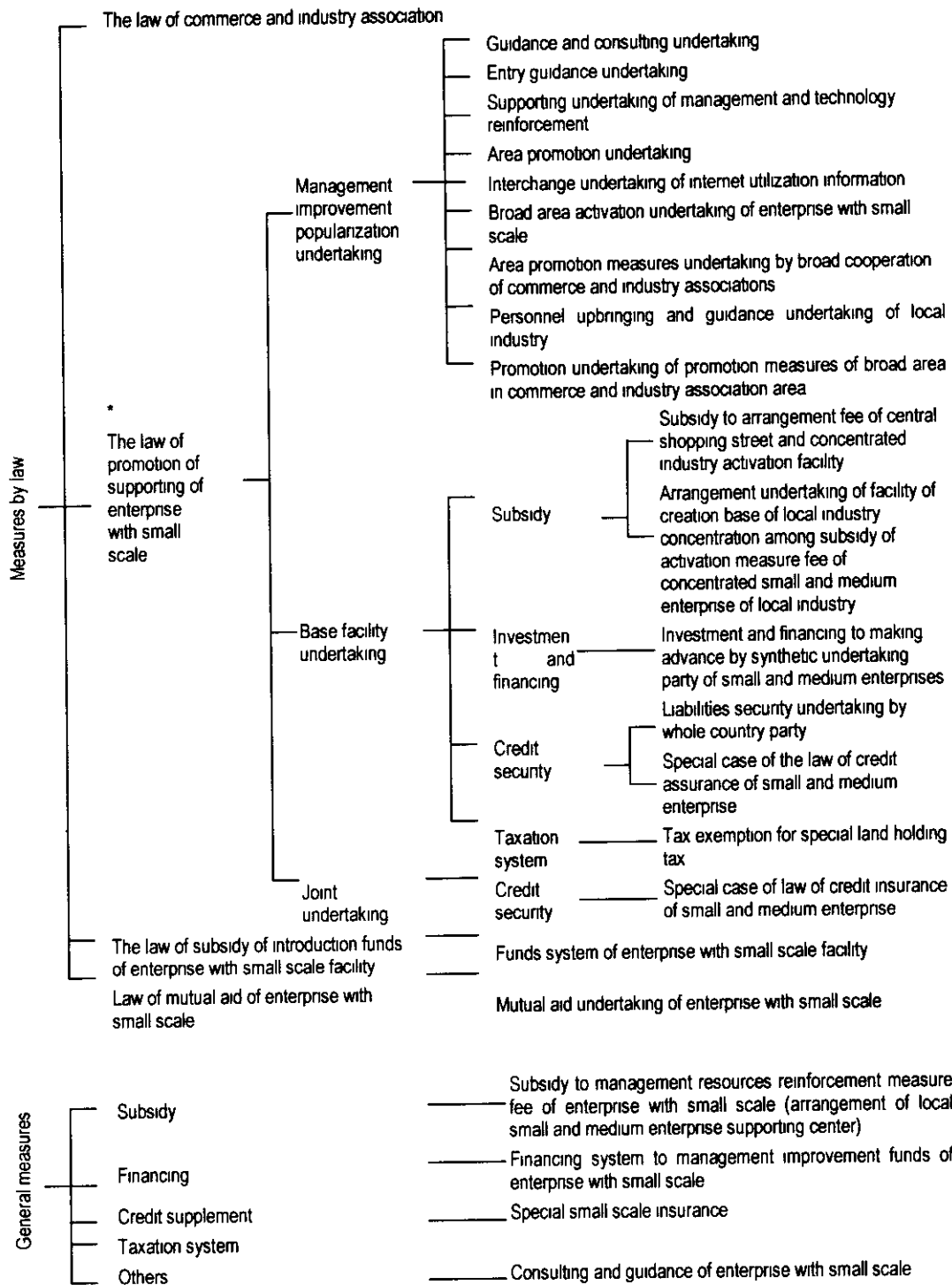


Figure 5.2.16 System diagram of measures on enterprises with small scale



* (The Law on supporting to enterprise with small scale through commerce and industry associations and chambers of commerce and industry

5.2.2 Small and medium enterprises required to heighten international competitive position

(1) Background and purpose of policy

The heightening of international competitive position of small and medium enterprises is urgent corresponding to the worldwide globalization and participation to WTO of China.

There are many enterprises (including foreign capital) engaging export in Hangzhou, Zhejiang province. However, they are managed mostly according to the conventional trade tradition, the estimation of market demand and analysis of competitive enterprise are not performed and information gathering are mainly practiced based on relationship between people. Together with progress of globalization in future, each enterprise – not limited to the exporting enterprises – required to heighten the worldwide competitive position through efforts of new products development, improvement of performance and making reasonable price, getting the information on international trend of products, the procurement information concerned with raw materials and parts, and the information on market. In addition, conforming to the international standard such as transparency of enterprise, account system, quality control and environment control are going to be required

(2) Suggestion of policy and its content

The basic policy of small and medium enterprises should be executed, together with the following measures to heighten the international competitive position.

- 1) To heighten the competitive position of enterprise under globalization trend, not only quality control and low cost but also conforming to the market trend is necessary. On the other hand, if international procurement will progress, the following items (the international standard must be applied to management state, quality control and environment control) should be popularized into small and medium enterprise through seminar
- 2) Perform the guidance concentrating upon the enterprise management under globalization trend such as transparency of enterprise, international business and risk management through personnel upbringing, diagnosis / guidance of enterprises. Seminar and training can be considered to this purpose.
- 3) In city of Hangzhou there is several excellent software companies, and it is said that there is software to transfer Chinese bookkeeping to international one. It can be considered to reinforce the software company by recommending utilization of them (utilizing small and medium enterprise network)
- 4) Strive to improve utilization of IT to obtain the worldwide market information and technology information As a part of this policy, to make approach to the

international market actually promoting the utilization of small and medium enterprise network

- 5) Configure the system in which provide the worldwide market information to small and medium enterprisers.

In Japan, "The law of promotion of small and medium enterprise modernization", "Diagnosis / guidance system of small and medium enterprises" and "Financing system to make advance small and medium enterprises" have been enriched and operated corresponding to the change of management environment in order to modernize and to heighten international competitive position of small and medium enterprises as described below. The industries required to heighten international competitive position were nominated to "the specific industries" in 1969, the upbringing of industries of knowledge concentrated type was strived in 1973 and the structural improvement of traditional local industry groups was strived in 1975.

(3) Experiences in Japan

It can be said that the modernization and the heightening of international competitive position of Japanese small and medium enterprises have been resulted from the effort of small and medium enterprises themselves together with the enrichment and operation of three policies of "The law of promotion of small and medium enterprise modernization", "Diagnosis / guidance system of small and medium enterprises" and "Financing system to make advance small and medium enterprises" corresponding to the transition of management environment.

1) The law of promotion of small and medium enterprise modernization

This law was enacted in 1963. The purpose of this law was promotion of small and medium enterprise modernization by investigation of the actual state of small and medium enterprises for every industry, preparation of the modernization plan of small and medium enterprise conform to the actual state and taking measures to enable smooth execution of the plan.

Concretely, the modernization plan was prepared for the nominating industries that improvement of productivity is especially required to strive making advance the industrial structure as "the nominated industry". The necessary measures such as financing to modernization funds and necessary guidance were taken to the small and medium enterprises executed the modernization undertaking according to this plan

In 1969, the industries required to heighten international competitive position were nominated as "the specific industry", and the small and medium enterprises coping with structural improvement undertaking independently together with entire industry were supported in aspect of financing, taxation system and guidance.

In 1973, "the undertaking of structural improvement to make concentration" was established, since the focusing point shifted to the upbringing of industry of knowledge

concentrating type utilizing own technology and idea, the measures to enrich management resource of software. In addition, the industries that serve to improve national life were added to the specific industries with the amendment of law in 1975, so that smooth improving of the structure of traditional local industry group (producing place) in our country become possible to proceed.

2) Diagnosis system

In 1948, "the basic procedure of diagnosis execution" was enacted and the diagnosis system by prefecture has started. In this procedure the diagnosis is defined as "the demerits and defects of small and medium enterprises are seized at site, suggest the improvement showing concrete improvement method, and perform execution guidance on improvement if necessary and strive qualitative improvement of small and medium enterprise", and intended to the basic solution of problems existing in small and medium enterprises.

Later on, the diagnosis object are extended from individual enterprise diagnosis to group diagnosis such as producing place diagnosis, system diagnosis of subcontracting enterprises, and at the same time "the law of promotion of enterprise rationalization" was enacted in 1952, consequently a part of expense born in the prefecture as diagnosis body has been subsidized by the state.

In 1956, "the management control basic procedure" was enacted to establish the new diagnosis method to show the way of enterprise that should be in future and improvement target in future, since the economy of our country was growing, the technical innovation was progressing and therefore the necessity of diagnosis and guidance against not only urgent problem but also based on long term view point was heightened. In addition, financing and diagnosis have been operated correlatively by performing the modernization diagnosis newly, when the facility modernization funds was loaned to small and medium enterprise, based on the law of subsidy of promotion funds of small and medium enterprise enacted in 1960.

In 1963, the law of guidance of small and medium enterprise was enacted, the modernization and rationalization of management control was regarded as important to improve the productivity. Consequently, further extension of the diagnosis was carried out and the training system to improve the ability of trainer and diagnostician to small and medium enterprises was arranged.

After 1977, the various laws to support small and medium enterprises were enacted, and in case of the financing of various funds to make advance based on these laws, the diagnosis have been performed without fail.

The law of guidance of small and medium enterprises was revised in 2000 to the law of supporting of small and medium enterprises in 2000, and further repletion of the diagnosis system was strived.

3) Financing of making advance funds

In 1947, subsidy to the installing funds of common facility against small and medium enterprise was approved. In 1954, this subsidy system revised to loan system and loaned by prefecture by adding revenue source of prefecture and state. The object of loan was extended to facility modernization funds of cooperative members beside the common facility.

In 1956, the law of subsidy to promotion funds to small and medium enterprises was enacted so that recovered loan from small and medium enterprises can loans again by the prefecture without returning to the state by establishing the special account in prefecture.

In 1963, the law of subsidy of promotion funds to small and medium enterprises was revised to the law of subsidy to modernization funds and the objective undertaking was revised to funds required to make advance the structure of small and medium enterprises. The special account was provided in the state and the conventional subsidy was revised to loaning to the prefecture. Thereafter, this policy was promoted positively based on the recognition that the communization of undertakings and the promotion of grouping of factories and stores are most effective in order to strive making advance the structure of small and medium enterprises. Consequently, the law of undertaking party of small and medium enterprise was enacted, and the financing of making advance and diagnosis / guidance were operated integrally so that making advance of structure of small and medium enterprises, in its turn heightening of international competitive position have been strived.

4) Promotion of management innovation

The economy environment are changing remarkably, for example, globalization of economy, diversification of consuming structure and progressing of information technology, and therefore the adequate correspondence of small and medium enterprise to the management problems such as heightening additional value of products and services, pursuit of directivity to market are important. For these purposes, the synthetic supporting measures such as subsidy, financing, taxation system and consulting / guidance have been taken to the small and medium enterprises that is coping with the management innovation and reinforcement of management base, based on the law of supporting of management innovation.

5) Measures of internationalization

As for the internationalization measures of small and medium enterprise corresponding to the progress of globalization of economy and international dividing of works, the measures such as information provision, personnel upbringing and financing required to smoothen development into foreign countries and foreign trades have been taken. Furthermore, to promote the international interchange of small and medium enterprises, various supporting measures such as extension of trade and participation to international meeting have been taken.

5.2.3 Measures to small and medium enterprises of high-technology type

(1) Background and purpose of policy

The industry of knowledge concentrating type are leading worldwide economy in contrast to the industry of labor / capital concentrating type or the industry of resource locating type. The city of Hangzhou is adequate location of the industry knowledge concentrating type through existing of excellent university and comfortable life environment. The city administration has established hi-technology development zone and provides systems such as scientific technology development funds / technology rebuilding funds / seeds funds and is taking positive upbringing measures through the technology creation promotion center of city of Hangzhou / the new technology advise station of city of Hangzhou

(2) Suggestion of policy and its content

The development step of ventures can be divided generally into the following steps: (1) Seeds step. (2) Start-up step. (3) Early stage step. (4) Upbringing step. Hangzhou is taking upbringing measures for each step as described above, but university / research agency are taking leading position and the arrangement of system evaluated by market is not sufficient. The system of Hangzhou focuses upbringing of the high-technology enterprises but upbringing of the traditional industry by introduction of modern method is also necessary. The arrangement of investment funds as one of the funds flow to high-technology industry and traditional industry is described in chapter of investment funds

In Japan, the new technology development of small and medium enterprises has been supported through supporting on technology development (subsidy / consignment fee, taxation system, financing), supporting on technology training / technology consulting, supporting by the law of creation of new undertaking, supporting by the law of promotion of creative activities of small and medium enterprises as described below.

(3) Experiences in Japan

1) Supporting on technology development

a) Subsidy, consignment fee

- (i) Subsidy to research and development performed by small and medium enterprises
Assist a part of expense required to develop new products and new technologies performed by small and medium enterprise themselves (the subsidy of research and development expense of creative technology, the subsidy of research and development expense of creative technology to activate area)
- (ii) Entrust the investigation of research / research and development corresponded to economical and societal needs to small and medium enterprises (the trust of

research and development of new technology corresponding to problems, the trust of undertaking of research and development of new technology corresponding to problems).

- (iii) Assist a part of expense required to develop new products and new technologies of small and medium enterprises contribute to the promotion of local industry (subsidy of research and development expense of creative technology to activate area).
- b) Taxation system
 - (i) Tax deduction of increased test and research expense
 - (ii) Taxation system to reinforce technical base of small and medium enterprises
- c) Financing
 - (i) Loan to promote novel technologies
 - (ii) Loan of required funds to acquire the copyright on patent / utility model program
- 2) Supporting on technical training / technical consulting
 - a) Training to small and medium enterprise performed by the prefectures
 - b) Training to small and medium enterprises performed by the small and medium enterprise undertaking party
 - c) Technical training performed by industry parties
 - d) Technical consulting by public test and research bodies
 - (i) Supporting of technical consulting / test
 - (ii) Opening of open test room and equipment to small and medium enterprises
 - (iii) Other undertaking such as technology transfer, ntrust of test, provision of technology information.
- 3) Supporting by the law of new business creation
 - a) Measures to increase expenditure chance to small and medium enterprises of national research and development budget.
 - b) Supporting to make undertaking the results of research and development carried out by the specific subsidy.
 - (i) Special case of the law of credit assurance of small and medium enterprise
 - (ii) Special case of the law of investment and upbringing of small and medium enterprises company.
 - (iii) Special case of the law of subsidy to facility introduction funds of enterprisers with small scale.

- 4) Supporting by the law of promotion of creative activities of small and medium enterprises
 - a) Subsidy of research and development expense of creative technology to activate area
 - b) Credit security system of credit security association (special case of assurance system of new business finding).
 - c) Reduction of tax to facility investment

5.2.4 Policy for small and medium enterprises of area concentrating type

(1) Background and purpose of policy

In the city of Hangzhou, the local economy is formed concentrating the characterized industries in a specific area. For example, in city of Xiaoshan there are industries of automobile parts, chemical fibers, fine chemicals and metal tools, in city of Yuhang there are foods and clothes industry, in city of Fuyang there are communication cables and paper industry and in city of Jiande there is chemical industry. In Fenshuizhen investigated in this time there are about 360 enterprises related to ball pen manufacturing. This ball pen manufacturing is one of local industry development that can be said the Wenzhou model as one of feature of Zhejiang province. Furthermore, there are other industries such as cloth buttons, chemical fibers, tools, leather products, wool sweaters, low voltage electric parts and shiitake mushroom. These started from street sales initially, and forms wholesale market with big group (4347 markets). These group extended by themselves without the government support. Some industries of them is at the crossroads now. Many of them were cause by delay of correspondence to the market and required new correspondence (products development, improvement of manufacturing technology). The activation of local industry by taking effective measures against the specific industry group concentrating these area is considered to be attributable greatly to development of economy of city of Hangzhou.

(2) Suggestion of policy and its content

Studying the following items are proposed in addition to the basic policy for small and medium enterprises

- 1) Seize the features and problems of actual state of economy activity at producing place by synthetic investigation using the attached producing place diagnosis method. Then make clear the way of producing place have to go forward in future corresponding to the structural change of economical environment, as well as make clear the necessary items to management rationalization of enterprise groups in producing place and improvement of

technology. To execute the pointed out items through the diagnosis of producing place, it is necessary to take financial supporting measures as much as possible

- 2) Promotion to heighten the business activity efficiency by between process / horizontal dividing of work between the enterprises in producing place.
- 3) Promotion of making advance of technology by interchange between the enterprises
- 4) Among the various cooperative undertakings for new products development such as cooperative research, arrangement of common inspection room / inspection equipment, collection and provision of information, cooperative purchasing of raw material, cooperative storage of products, cooperative propaganda / sales, cooperative financing, welfare facilities of employees, proceed the study of effective cooperative undertakings as producing place and guide the modernization of management by suppressing useless investment and communization of undertakings.
- 5) In this investigation an action plan was proposed as “the diagnosis of producing place” on ball pen factory groups in Fenshuizhen.

In Japan, heightening of efficiency / making advance / installing of cooperative facilities of undertaking activity of enterprise group in producing place have been promoted by making clear the features and problems of economy in producing place and the way have to go forward utilizing the producing place diagnosis method. In addition, organizing of cooperative was promoted to progress above purpose.

(3) Experiences in Japan

- 1) The measures of subsidy, financing, taxation system (refer to 5.2.7) have been taken based on the law of activation of specific industry concentration.
- 2) Promotion measures of local industry
Subsidy is presented to the following enterprises conducted in order to activate the local industries
 - a) Creative ability forming undertaking of local small and medium enterprises
 - (i) Training undertaking of new products development ability
 - (ii) Security / training undertaking of local personnel
 - (iii) Supporting undertaking of exhibition / popularization of local products
 - b) Promotion undertaking of activation of special local industry
 - (i) Starting undertaking of enterprise of local resource utilization type
 - (ii) Making business undertaking of local technology
 - (iii) Financing to local industry measures

- (iv) Subsidy for training undertaking expense of high grade engineer for local industry promotion
- c) Creation / upbringing supporting undertaking of local industry
 - (i) Area group activity undertaking
- d) Synthetic guidance through execution of the producing place diagnosis and various assistances by subsidy and financing.

5.2.5 Small and medium enterprises of parts industry type

(1) Background and purpose of policy

In city of Hangzhou, the manufacturing of computers / communication devices / home electric apparatus is advancing and many related enterprises processing of parts related to industry are existing surrounding the big enterprise and the sign of forming industrial structure of affiliated enterprises is recognized. The advancement of these parts processing enterprises and related enterprises themselves attributes greatly to economy of the city, and further indispensable to the quality improvement of finished products and the heightening of market competitive position.

(2) Suggestion of policy and its content

A certain products manufacturer was expecting the technical improvement of parts processing and related enterprises, since there are still problems of quality of parts manufacturers and if this problem will be solved, it serves to heighten competitive position of products itself as well as whole producing place.

Because many of parts processing and related enterprises are manufacturing / processing a part of parts as subcontractor of parent enterprise, it is indispensable to bring up these subcontracting enterprises not only to improve technology but also to configure the proper trade relations and to secure the stable receiving orders by intensifying the cooperation with parent enterprise. However, City of Hangzhou is taking no administrative protection policy for the subcontracting enterprises and there is no body to promote the subcontractors. In addition, the information interchange system between assembling enterprises and subcontracting enterprises is not arranged. Therefore, the following measures are proposed.

- 1) If considerable subcontractors are existing when putting a specific parent enterprise in center, guide to rationalize the subcontracting relation between both enterprise giving the synthetic guideline on management of parent and subcontracting enterprise by making clear the features and demerits of relationship between enterprise chain in question utilizing diagnosis method.

- 2) Guide to strive to extend the trade utilizing the small and medium enterprise net.
- 3) Establish the promotion body for subcontractors, control the information on receiving orders / ordering in producing place, and mediate the receiving orders / ordering guide on making fair the trade.

In Japan, various policies such as making fair the trade, mediation of trade, financing, subsidy and favorable taxation system have been taken as described below. In particular, there are promotion association of subcontracting enterprises with whole country scale and in each prefecture and have being conducted supporting undertaking.

(3) Experiences in Japan

Measures to bring up small and medium enterprises of parts industry type.

1) Measures to make fair the trade

- a) The law on prohibition of private monopoly and security of fair trade
The law to strive arrangement of environment that enables to perform free undertaking activity based on own originality and responsibility of each enterpriser by prohibiting private monopoly / unreasonable trade limitation / unfair trade.
- b) The law of prevention of postponement of subcontracting fee payment
The law with purpose to strive to make fair trade by specifying items that have to be observed by parent enterprises, when parent enterprise entrust the manufacturing (including processing) of articles (semi-products / parts / auxiliaries / raw materials) to subcontracting enterprises.
- c) Preparation and popularization of the standard basic contracting document of (subcontracting) trade. Guidance of making fair the trade.
- d) Lecture to improve subcontracting trade, treatment of troubles / claims related to the subcontracting trade

2) Mediation of trade

The promotion association for whole country subcontracting enterprises performs the supporting of mediation of broad area subcontracting trade, provision of information / mediation service for overseas enterprises, international business development of subcontracting enterprises. The promotion associations of subcontracting enterprises in prefecture are providing mediation of subcontracting trades and provision of information.

3) Others

- a) There is the financing system of subsidy for research and development expense of creative technology for area activation and financing to measures of subcontractors.

- b) Measures of subsidy, financing, and favorable taxation system have been taken to local industry concentration (about 20 areas in whole country) forming the base of manufacturing of parts / metal molds trial products, based on the law of activation of specific industry concentration (refer to 5.2.7).
- c) Guidance to make fair the trading relation by the conducting chain enterprise diagnosis and to improve the total management activity for subcontracting enterprise

5.2.6 Measures for small and medium enterprises of primary products type

(1) Background and purpose of policy

The city of Hangzhou is a leading producing place of farm products such as tea and cocoons. Foods industry is also one of main industries in city of Hangzhou. The upbringing of processing of farm products is attributable not only to the employment and production in manufacturing industry but also to extend of the employment in farm village, as well as to solve the area gap.

(2) Suggestion of policy and its content

In city of Hangzhou, the promoting measures to heighten the additional value of locally produced primary farm products including the market research of interior / exterior and the analysis of predominance of Hangzhou is not sufficient.

First of all, it is desired to research actual state on utilization of farm products, aptitude of location as enterprise of farm products processing type, market needs and possibility of enterprise development.

Especially in the case of foods industry, the working environment in factory as well as the environmental measures including utilization of waste is important. Among visited enterprises in this time, there was a case where some working environment is problematic and therefore improvement was proposed and the enterprise executed proposed items based on the proposal.

From above reasons, it is desired to plan the promotion measures including market research / research of predominance / transporting condition.

In Japan, various subsidies and financings have been carried out as measures for the enterprises related to agriculture, forestry and fisheries.

(3) Experiences in Japan

In Japan, the processing of farm products is controlled by the ministry of agriculture, forestry and fisheries and the following measures for small and medium enterprises related to agriculture, forestry and fisheries have been performed.

Measures for small and medium enterprises related to agriculture, forestry and fisheries

Modernization of enterprises related to agriculture, forestry and fisheries

a) Subsidy to enterprises related to agriculture, forestry and fisheries

- (i) The subsidy is presented to the new products development corresponding to needs to promote extension of utilization of domestic farm products and recycling of resources by intensifying the cooperation between foods system that is a series of flow of foods supply from production of farm products to processing / distribution / consuming and agriculture
- (ii) Subsidy to undertaking of the foods industry center
Subsidy to investigation and research, measures to secure safety, measures on consuming / environment and guidance of technology and management.
- (iii) Technical development to strive the introduction of leading technology to foods industry.
- (iv) Supporting to promote the synthetic effort for volume reduction of waste / recycling through production, distribution and consuming on environmental measures in foods industry
- (v) Preparation of the guideline to secure safety / quality of foods.
- (vi) Subsidy for the sound development of dining-out industry
- (vii) Subsidy to the technology development utilizing remarkably developed technology such as biotechnology and mechatronics in order to bring up the creating base of new industries in agriculture, forestry and fisheries field
- (viii) Subsidy to the technology development that serves to improve productivity and quality
- (ix) Subsidy to strive the promotion of fisheries processing area.
- (x) Subsidy to strive the arrangement of production / processing / distribution system of woods
- (xi) Subsidy to strive the promotion of utilization of woods
- (xii) Subsidy to strive the promotion of lowering cost / high-grade processing and extension of new utilizing field of woods.

b) Financing measures

- (i) Assist in aspect of financing and taxation system for business conversion, new commodity, development / utilization of new technology and undertaking cooperation based on the temporary law of measures for management improvement of specific farm products processing business
- (ii) Supply financing from the finance cooperation of agriculture, forestry and fisheries to required funds for the performing of research and development of new commodities utilizing agriculture, forestry and fisheries in middle mountainous area, and required funds to install the facility that offer the resource of agriculture, forestry and

fisheries such as farm land, forest to the public health in middle mountainous area, in order to promote agriculture, forestry and fisheries in middle mountainous area.

- (iii) Funds to promote development / starting business of new use of specific agriculture, forestry and fisheries products and upbringing new sort of raw materials for processing are financed from the finance cooperation of agriculture, forestry and fisheries
- (iv) The required funds to research and development by the research promotion agency of specific industry of life type are financed.
- (v) The required funds to strive the effective utilization of near sea resource and the strengthening of structure of fisheries processing industry using near sea resources as raw material are financed, based on the temporary law of measures to finance improvement funds of fisheries processing facility
- (vi) The promotion funds to make advance woods industry in order to promote rationalization of production and distribution and in order to smoothen woods supply are financed
- (vii) Secure liabilities by the agriculture, forestry and fisheries industry credit fund in order to smoothen the financing of finance body required by lumbering industry

5.2.7 Measures for small and medium enterprises of specific industry field

(1) Background and purpose of policy

It is said that the main industries in city of Hangzhou are mechanical, electrical / electronics, chemical, medical, textile, sawing, light industry, food processing and information industry. City of Hangzhou provides promotion policy for every industry. The study for measures of small and medium enterprises is necessary on the specific industry of every field.

(2) Suggestion of policy and its content

City of Hangzhou provides the industry plan for every field, but no plan has been performed on small and medium enterprises.

Therefore it is suggested to clarify the role of small and medium enterprises in every industry and prepare the promotion measures.

In Japan the temporary law of measures for promotion of small and medium enterprises in every industry, the law of modernization of small and medium enterprises and the temporary law of measures on activation of specific industry concentration have been applied to promote the specific industrial field as described below

(3) Experiences in Japan

1) In Japan, the measures of financing / taxation system / guidance have been taken by enacting the following laws as promotion measures of specific industry field.

(1) The temporary law of measures for promotion of small and medium enterprise of every industry

(2) The law of modernization of small and medium enterprises

a. Modernization of individual enterprise

b. Undertaking of structure improvement

(3) The temporary law of measures on activation of specific industry concentration (enacted in 1999).

2) Though the measures through the law of promotion for modernization of small and medium enterprises was very effective to strive making advance the small and medium enterprise structures, it was disused in 1999 since initial purpose was achieved. Instead of the law of promotion for modernization of small and medium enterprise, the measures based on the temporary law of on activation of specific industry concentration are taken at the present. The outline of this law is as follows.

(i) Industry concentration measured

The local industry concentration (about 20 areas in whole country) forming the base of manufacturing parts / metal molds / trial products and the industry concentration of small and medium enterprises forming core of local economy such as traditional producing place (about 100 areas in whole country).

(ii) Scheme

- The guideline for activation of industry concentrations is prepared by the state.
- The activation plan is prepared by the prefecture for controlling industry concentrations based on the national guide line and get approval of the state
- When the concrete business plan is submitted by small and medium enterprises or their party based on the activation plan, it is approved and supported by the prefecture.

(iii) Content of supporting measures

- Various subsidies such as subsidy to new products development of small and medium enterprises / small and medium enterprise party
- Financing with low interest by the governmental finance body
- Special case of the credit assurance system
- Favorable measures on taxation system such as special repayment

5.3 Countermeasures for the promotion

The countermeasures for the promotion of small and medium enterprises (SMEs) have been worked out from the ① Management environment, ② Management resources, ③ Issues of SMEs in Hangzhou in the future, and ④ Status-quo and issues in the support for SMEs, as indicated in the "Summary of the policies for the promotion of SMEs"

Table 5.3.1 Countermeasures for promotion

	Item	Reason for choice	Status-quo & issue	Proposal, purpose and effect
Establishment of the SME's promotion system	Organization	In order to promote SMEs, organizations corresponding to the promotional measures are necessary	Thus far, the countermeasures for SMEs have been managed for each form of ownership of enterprises and category of industry, and many municipal government organizations have been related to them As an organization to support SMEs, the Department of Small and Medium Enterprises was established, and under its control, the Small and Medium Enterprises Service Center, Small and Medium Enterprise Creation Service Center, etc were established. At present, however, the centers are far from full-scale operation The circumstances under which the city's SMEs are placed is, generally speaking, that although there are differences among the enterprises, there are shortage in funds, insufficient information, high percent defective, insufficient technical research and development ability, low working morale, etc	A SME development leading group should be placed under the Vice Mayor of the Hangzhou to improve the consistency of the city's policies for the promotion of SME as the municipality The role of the Department of Small and Medium Enterprises should be clarified and necessary budget and human resources should be furnished The budget and human resources should be successively furnished to the roles of the organizations under the control of the Department of Small and Medium Enterprises Cooperation should be made with the existing organization such as the Federation of the Industry and Commerce By the above measures, it will be made possible to comprehensively and effectively implement the policies for the promotion of SMEs in Hangzhou as well as the concrete promotional policies
	Rearing of the persons in charge of SMEs	If an appropriate organization is established, the promotional policies will not prove to be a success unless it has no appropriate human resources	The municipal government and related organizations engaged in the promotion of SMEs have only a short history since the SMEs promotional policies was started, and they do not have sufficient human resources	Rearing and training of the Municipal Government's personnel in charge (Training by lectures and on-site training should be given to the managers of SMEs) It will become possible for the Municipal Government's personnel in charge of the measures to devise and implement the precise measures
	Founding of credit of SMEs and individuals	SMEs themselves need to have a will to improve	Currently, there is no commendation system for excellent enterprises in Hangzhou	Commending excellent enterprises will raise the will of SMEs to improve and be helpful for the promotion of SMEs
Improvement of the management environment	Finance	SMEs are in a difficult situations to receive loans from the banks	① Non-existence of a government-related exclusive bank to be the core of the lending to SMEs, ② The industrial finances for SMEs have not been well established, ③ There is no preferential lending program, ④ The government-led credit guarantee organization has not been well established, and ⑤ The definition and scope of the term "SMEs" are unclear	① Establishment of a bank specializing in SMEs ② Establishment of the industrial finances for SMEs ③ Establishment of a credit mortgage company for SMEs The lending of funds of which SMEs are in necessity will be facilitated
	Investment foundation	Venture businesses still have many problems in China	There are many investing opportunities in Hangzhou because there are ample private-sector funds and the city has a high growing potential (1) At present, there are investments to the high-tech corporation group, but those to the improvement of technologies of the corporations are weak (2) The legislative system related to the investment foundation is now being established	(1) ① Reinforcement the function of Economical Commission to support venture businesses ② Restructuring of the cooperative system involving industry, academy and government (Note 1) ③ Strengthening of the support for the direct financing by the Small and Medium Enterprises Service Center (Note 2) (2) ① Establishment of the private equity investment market (Note 3) ② Consideration of the establishment of the limited-partnership type venture capital As a pilot project, the methods of the establishing investment foundation and examining the entities to be invested are provided Venture businesses in Hangzhou will be developed and high technologies will be introduced also to the traditional industries

Improvement of management resources	Rearing of human resources in SMEs	The most serious problem related to SMEs is the shortage in human resources	The rearing of human resources and managers of SMEs have not been implemented systematically (The Administration of Labor and Education Board are the major organizations to rear human resources, but they mismatch the requirement of SMEs and do not function sufficiently. The rearing of human resources implemented by the administrations is for the large-scale corporations and state-owned corporations. It is said to be open to SMEs, but in fact it is barely participated in by SMEs.) The rearing of employees by SMEs is mainly done through OJT, but it has not achieved sufficient effects.	<p>Training for enterprise managers (Acquisition of managing and controlling technologies and information on new technologies and commodities)</p> <p>Training for general employees (Learning of necessary matters suitable to different divisions such as general affairs and production site)</p> <p>Training for technicians (Learning of production control technologies and production technologies)</p> <p>SMEs will be able to improve their management and control level, morale of employees and technological level.</p> <p>By rearing SME leaders, it is possible to improve the management and technologies of SMEs.</p>
	Rearing of leaders	It is difficult for SMEs to obtain necessary human resources. Therefore, utilization of external leaders is effective.	At present, the introduction of the Small and Medium Enterprise Diagnostician System is being carried out at the National Science and Technology Commission. It is extremely effective by itself, but the training of a diagnostician takes several years.	For rearing the SME leaders, it is proposed to experience manufacturing together with the corporate management. It is desired that the building up of above items will be implemented as early as possible because the diagnosis and guidance have already achieved certain results, and persons in charge in the Department of Small and Medium Enterprises and companies in each industrial area and teachers and students of universities in Hangzhou have participated in and experienced the diagnosis and guidance.
	Working out of management and cost indexes	Effective to the management strategy of enterprises and measures for SMEs.	Many SMEs are devising management strategies without management index and cost index. Under the circumstances, it is feared that the managerial problems are mistaken and the mistake could be the bottleneck of the corporate growth. On the other hand, the administration side is in the position that it cannot grasp the actual conditions of the management of SMEs. In other words, it is in the situations that the administrations cannot properly implement the planning and drafting of the SME measures for SMEs and guidance and control of SMEs.	<p>The Department of Small and Medium Enterprises should implement the recapitulation and editing.</p> <p>The corporations will be able to grasp the situations in which is placed and Hangzhou City will be able to grasp the actual situations of SMEs.</p>
	Establishment of facilities for the technology development	It is difficult for SMEs to have their own testing equipment or equipment for the development.	It is difficult for SMEs to retain all the equipment such as measurement devices and physical properties testers, and therefore, it is necessary for them to have facilities of joint ownership outside of them. However, such facilities have not been well established, and the collection of data for the resolution is limited. Therefore, they are not yet in the situations where they can implement the improvement of technologies.	SMEs should invest to establish the metal-related testing equipment and processing equipment and assign operational personnel for the measurement devices and equipment. (In case of necessity, a subsidy of Hangzhou City should be granted for the establishment of the facilities.)
	Implementation of diagnosis at the place of production	There are many region-intensive industries in Hangzhou.	The region-intensive SMEs group is a remarkable characteristic of Hangzhou, but there has been no governmental supports in the past. The city is now at the turning point to respond to the changes in the market.	Implement the diagnosis at the place of production in order to clarify the problems of and measures for the SMEs group in the region-intensive industry. By doing so, the revitalization of the SMEs group will be able to be realized.
	Support for the expansion of uses of information	Access to the market and technologies is insufficient.	The obtainment of information on the market and technologies largely relies upon human networks, but the use of the Internet, etc. is insufficient. There is a certain established environment for the Internet in the central and some other areas in Hangzhou.	<p>① Establishment of a network of SMEs, and</p> <p>② Promotion of the use of IT by SMEs (As a pilot project, a SMEs network has been established and is operated.)</p> <p>It will become easier for SMEs to access information and respond to the globalization of the international market.</p>

- (Note 1) Restructuring of industry-academia-government collaborative system (Main text 4.2.6(3))
The industry-academia-government coordinators at present are diversified. It is necessary to rearrange these and strengthen the function of Hangzhou Municipal Economical Commission and Hangzhou Product Education Research Institute, and organize the "industry-academia-government promotion community" by the developing organization.
- (Note 2) Strengthening of support by direct finance by the Small and Medium Enterprises Service Center (Main text 4.2.6(4))
It is desirable to establish an investment foundation mainly by the Small and Medium Enterprises Service Center.
- (Note 3) Establishment of the private equity investment market (Main text 5.3.4.2)
Since a China version of NASDAQ has not been materialized yet, and if it is materialized, the criteria for listing is severe, it is considered to be a "prize beyond their reach" to venture businesses in Hangzhou. Accordingly, it is necessary to establish an exchange market for unlisted stocks making the "Hangzhou Municipal Property Right Transaction Center" its parent.

It is necessary for the Municipal Government to secure a necessary budget to implement the above-mentioned countermeasures. The proposed budget necessary is as follows.

Table 5.3.2 Proposed budget of the Municipal Government necessary for the promotional countermeasures

Strategy	Item	Contents of suggestions	Proposed budget of the Municipal Government
Establishment of the system for promotion of SMEs	Expansion of organization	<p>1 Contents of suggestions</p> <p>① Establishment of the Small and Medium Enterprises Development Leading Group, ② Strengthening of the function of the Department of Small and Medium Enterprises, and ③ Strengthening of the function of organizations under the control of the Department of Small and Medium Enterprises</p> <p>(1) Establishment of the Small and Medium Enterprises Development Leading Group The necessary function is the devising of the comprehensive policy for SMEs in Hangzhou and maintenance of cooperative system of the related organizations</p> <p>(2) Strengthening of the function of the Department of Small and Medium Enterprises The necessary functions are ① Planning and drafting of undertakings to support SMEs, ② Leading of the implementation of the undertakings by the substructures, ③ Management of the implementation of the undertakings, and ④ Establishment of the system for cooperation with the Federation of Industry and Commerce The necessary organizations are ① Measures for SMEs, ② Development of technologies and investment in the equipment, ③ Training on management, ④ Consultation on management, ⑤ Collection of information, and ⑥ Promotion of production technologies</p> <p>(3) Strengthening of the functions of the organizations under the control of the Department of Small and Medium Enterprises</p> <p>1) Small and Medium Enterprises Service Center The direct supports are ① Capital participation in the corporate incubators in the High Technology Development Area, ② Founding of venture investment companies, and ③ Recommendation of enterprises to the security exchange for venture The intermediary supports are ① SMEs Credit Mortgage Center, ② Property Right Center, ③ Consultation for enterprises at the Small and Medium Enterprises Association, ④ Structuring of a technology data-bank, ⑤ Structuring of a SMEs information network, and ⑥ Structuring of a base for raising enterprise managers</p> <p>2) Small and Medium Enterprises Creation Service Center ① The Office performs the dispositions of clerical works and management of the SMEs network, ② The Finance Department performs the dispositions of finance and accounting, operation of the investment foundation and preparation for the foundation, ③ The Consulting Department performs the control of information and provision of consultation services, ④ The Liaison Department performs the operation of cooperation system with the external entities and control of dispatching of human resources, and ⑤ Research and Development Department performs the collection of issues of enterprises engaged in the assignment and investment of scientific technologies, introduction of the enterprises to research institutes</p> <p>2 Disbursement The minimum necessary staff-members of the Department of Small and Medium Enterprises are 9 persons (currently 4 to 5 persons) and the minimum necessary staff-members of the organizations under the control of Department of Small and Medium Enterprises are 30 persons (currently 11 persons) totaling to 39 persons 100 thousand yuan per person per year 3.9 million yuan</p>	Total amount 3.9 million yuan (the increased portion is for 23 persons) (If seconded persons can be obtained from the private sector, the corresponding amount will be reduced.)
	Rearing of persons in charge of the measures	<p>1 Contents of suggestions A training program to rear the persons in charge in the Municipal Government will be conducted</p> <p>(1) Trainees For the time being, 35 staff-members of the Department of Small and Medium Enterprises, Small and Medium Enterprises Service Center and Small and Medium Enterprises Creation Center, and several persons related to the Economical Commission, totaling to about 40 persons will be trained</p> <p>(2) Themes of training For unexperienced persons, training ① On policy and system for SMEs (2 days), ② Related to management basics (one day), ③ Related to control (3 days), ④ Related to information (one day), ⑤ Related to technology (one day), and ⑥ Related to funds (one day), all by lectures, and in addition, on-site practical exercise will be conducted</p> <p>(3) If 12 days are spent for one course and 4 classes are formed by 10 persons each, the total will be 48 days</p> <p>(4) Instructors will be the teachers of universities and managers of enterprises (including foreign corporations extending business to Hangzhou)</p> <p>2 Disbursement Instructor fee of 1,000 yuan per day, totaling to 48,000 yuan</p> <p>3 The experienced persons will be given training by lecture 2 times a year (one day for each time)</p>	48,000 yuan (This will decrease from the second year because the number of trainees will decrease.)

Strategy	Item	Contents of suggestions	Proposed budget of the Municipal Government
Establishment of the system for promotion of SMEs	Founding of credit of SMEs and individuals	<p>The commendation by the Director of the Department of Small and Medium Enterprises, Chief Officer of the Economical Commission, Mayor, etc. will be endowed in accordance with the extent of achievements by those to be commended of the enterprises, etc. listed below</p> <ul style="list-style-type: none"> • An enterprise which achieved excellent performance results consecutively for a certain period • An enterprise which positively utilized the measures of rearing talented persons, computerization, etc. and achieved remarkable improvement of the management • An enterprise which achieved an improvement with regard to its production, sales, etc. that can be an exemplar to the other enterprises (model enterprise) • A leading person, etc. who remarkably contributed to the dissemination and implementation of the measures 	Slight
	Finance	<p>1 Items of suggestions ① Founding of a bank specialized in SMEs, ② Establishment of industrial finance for SMEs, ③ Establishment of a credit mortgage company for SMEs, and ④ Rearing of talented persons related to finance</p> <p>2 Disbursement The capital of the credit mortgage company shall be 500 million yuan, a majority of which shall be funded by the government</p>	A contribution of minimum 250 million yuan
Improvement of management environment	Investment foundation	<p>1 Items of suggestions ① Establishment of the private equity investment market, ② Founding of a limited partner-type venture capital (LPS), and ③ Rearing of talented persons for the investment foundation</p> <p>2 Disbursement In the stage of the preparation for the LPS, the Municipal Government shall contribute 2 million yuan representing 20% of the capital of the management company (10 million yuan) through the Small and Medium Enterprises Service Center. In case of the establishment of a full-scale company, the investment by the Municipal Government will be necessary in accordance with the scale and contribution ratio of the company</p>	For the time being, a contribution of 2 million yuan to the management company
	Rearing of talented persons of SMEs	<p>1 Contents of suggestions Training of managers, general employees and technicians of SMEs</p> <p>(1) In the training of the managers, training on matters related to the management control and new knowledge to meet the globalizing market is necessary. One day each for the management basics, finance, labor management, sales, and materials and purchasing</p> <p>(2) For the training of the general employees, separate training for each category of duties. 2 days each for the general affairs (accounting and labor management), sales (market forecasting and preparation of sales plans), and production site (production control)</p> <p>(3) Training of technicians (10 days for the training mainly on the production control, and 5 days for the training on specialized technologies)</p> <p>2 Disbursement If 30 days are spent for each time and two times of training are conducted in a year, it will require 60 day/persons. If the instructor fee be 1,500 yuan, the total disbursement will be 90,000 yuan. Assuming that the trainees bear the training fee in principle but a half of the fee for the trainees who received 80% or more of the training and passed the examination (assumed to be 30% of all trainees) be subsidized, the disbursement by the Municipal Government will be about 14,000 yuan</p>	Subsidizing of half of the training fee 14,000 yuan
Improvement of management resources	Rearing of management-advisors	<p>1 Contents of suggestion Rearing of unexperienced management-advisors</p> <p>(1) The first stage of the enterprise management training (finance control, inventory control, progress control, and quality control) shall be the training by lecture of 3 months, and practical exercise of 3 months, one time each in a year</p> <p>(2) The second stage of the enterprise management training (labor management, material purchasing control, sales control, production control, and information control) in and after the second year</p> <p>(3) The "manufacturing of things" training will require 1,700 to 5,600 yuan as the equipment expenses depending on the levels of the courses. In and after the third year</p> <p>2 Disbursement The instructors' expenses will be 72,000 yuan (8 x 1,500 x 6) provided that 5 lectures and 3 practical exercise-instructors are assigned and the average remuneration for them is 1,500 yuan. In addition, the miscellaneous such as training materials will be required. The fee of the training courses on high-grade industrial and commercial management (60 days in a year) conducted by the Department of Management of Zhejiang University, etc. is 200 yuan per day, and if the same fee is applied to this case, the training fee will be 2,160,000 yuan (200 x 180 x 60). Since the benefits of the management-advisors are not clear, it is very likely that all trainees will be the persons related to the government (including the Federation of Industry and Commerce). In Japan, 90% of the trainees in the early years were persons related to the government</p> <p>3 Two times of training in a year (one day for each time) for the purpose of maintenance and advancement of the abilities of experienced management-advisors</p>	2,160,000 yuan, if all the trainees be the persons related to the government during the early time

Strategy	Item	Contents of suggestions	Proposed budget of the Municipal Government
Improvement of management resources	Working out of Management and Costs Indexes	<p>1 Contents of suggestion To provide the managers of SMEs with the management guidelines, and the Municipal Government with the data for devising and drafting the measures for SMEs by working out the Management and Costs Indexes of SMEs</p> <p>(1) The actual condition of the management of the major industries in Hangzhou shall be examined</p> <p>(2) Of the major industries in the city, for at least those to be preponderantly raised, the Management Indexes compiling the various ratios such as B/Ss and Costs Indexes compiling the distribution ratios of each item of manufacturing costs, both classified per category of industry and scale of enterprise, shall be worked out and regularly issued</p> <p>2 Disbursement It shall be contemplated that 3 person/months will be used for the works of preparation of questionnaire, sending, collection (including that by telephone calls and visit), counting and working out of the indexes to cover 300 enterprises as a pretest for the first year, and 18 person/months in case the 2,500 over-scale enterprises in Hangzhou be covered from the second year</p>	20,000 yuan, assuming that an external entity is entrusted for the pretest at 300 yuan per day
	Establishment of equipment for development of technologies	<p>1 Contents of suggestion Establishment of the equipment to develop technologies of SMEs</p> <p>(1) The equipment for the test, research and development for the machinery (including molds) enterprises, electronics and electric enterprises, and light industries shall be installed, and ① measuring and testing devices, ② designing equipment, and ③ process experiment equipment shall be expanded</p> <p>2 Disbursement The expenses for facilities of machinery and buildings are estimated to be 20 million yuan The operational personnel including the president will be 11 persons (personnel expenses will be 132,000 yuan assuming the average cost per month per person at 1,000 yuan)</p> <p>3 Management It is contemplated to be operated as a joint-stock company The government shall contribute one third of the investment in the company (about 600,000 yuan), and furnish 100% of facilities</p> <p>4 This plan requires coordination with the related organizations, and needs to be deliberated for the time being</p>	20 million yuan of facilities expenses, and 200,000 yuan of contribution to the company
	Diagnosis at the place of production	<p>1 Contents of suggestion The diagnoses at the place of production of the region-intensive industry group (the group of ball-point pen factories as the first case) shall be conducted</p> <p>2 Disbursement It requires the persons in charge of the management finance, production technology and management and one year (12 months) Assuming that an external personnel is entrusted at 20,000 yuan per month, it will cost 720,000 yuan Assuming that the Municipal Government is to bear one third of the expenses, it will bear 240,000 yuan</p>	240,000 yuan
	Utilization of information	<p>1 Contents of suggestion A pilot project has been established for the maintenance and development of the SMEs network It is necessary to reinforce the hardware for the purpose of supplementing shortage of the capacity of servers, measures to prevent the invasion by hackers, and equipment for PR (notebook-type PCs and projectors)</p> <p>2 Disbursement It is considered that the reinforcement will require an expense of about 170,000 yuan In addition, the daily operation requires 37,500 yuan, and if new content will be started, it will require an additional expenses</p>	170,000 yuan for the reinforcement, and 37,500 yuan per year for the operation will be required

5.3.1 Establishment of an organization to support SMEs

(1) Background of the proposal of the policy

In carrying on a manufacturing industry, a company implements such works as sales, accounting, labor control and production in some way or another, regardless of the scale of the company. However, in case of a corporate scale of the a small-scale and sub-scale companies, it is difficult to assign a full-time person in charge of the work and carry out the precise management and improvement of the work. Accordingly, the improvement of management sometimes cannot progress easily

It is considered that the establishment and progress of the management base of these SMEs will be, without fail, the driving force of the development of the economy of Hangzhou. Therefore, the support for the establishment of the management base for SMEs is indispensable, and the supporting organization to that end must be established urgently.

When the Municipal Government supports SMEs with the management resources which they are lacking and revitalizes them, it is necessary to consider the following:

- ① Hangzhou Municipal Government should clearly distinguish the works of controlling and supervising SMEs from the works of supporting the management of SMEs, and reconstruct a supporting organization that will enable SMEs to voluntarily demonstrate their vitality. The duties of the division in charge of the supports to SMEs should not include the permitting and licensing or controlling and supervising of SMEs, and a system which allows the executions of equitable, quick and accurate supporting administrations should be built up
- ② In order to render the management supports, the supporting person must first have a comprehensive knowledge concerning the supporting of the management of SMEs. However, it cannot be considered that there are many persons who have a comprehensive knowledge concerning the supporting of the management of SMEs in China where the measures to promote SMEs were worked out just recently. Accordingly, the rearing of supporting persons must be implemented urgently.
- ③ The organization must be functional. At present, the organizations related to the supports for SMEs in the Hangzhou Municipal Government are dispersed, and not necessarily in a condition that the supports for SMEs are uniformly exercised. Therefore, in order to strengthen the collaboration among the related organizations, it can be considered to establish a permanent commission under the Vice Mayor who supervises the Economical Commission and Science and Technology Commission in order to strengthen the cooperation among these related organizations, and make the Department of Small and Medium Enterprises function as the secretariat.

(2) Status-quo and problems concerning the supports

1) Status-quo of the organization

As the status-quo, the divisions considered to be related to the works of supporting SMEs in Hangzhou are, as those related to the Economical Commission, the Department of Small and Medium Enterprises, Department of Science and Technology, Department of Technical Transformation, Machinery and Electronic Business Control Office, Light Industry and Spinning Industry Office, Building and Alloy Industry Office, Department of Market Sales Office, Small and Medium Enterprises Service Center, New Technology Transfer Office, and Small and Medium Enterprises Technology Creation Promotion Center; and as those related to the Department of Science and Technology, the Department of Industrial Science Research, Department of Result Technology Market, and Department of Patent. In

addition, there are the Township Enterprises Administration, Labor Administration, and as the organization having the public nature, the Hangzhou Municipal Commerce and Industry Associations Federation.

The organizations can be roughly classified into the following:

Note: (E) stands for Economical Commission, and (S), for Science and Technology Commission.

① Support with funds for technology development

Department of Science and Technology (E), Department of Industrial and Scientific Technology (S), Department of Result Technology Market (S), Township Enterprises Administration

② Support with funds for the equipment (Support for the industrialization and practical use)

Department of Technology Transformation (E)

③ Support for the management and technological seminars

Small and Medium Enterprises Service Center, Small and Medium Enterprises Technology Creation Promotion Center, New Technology Transfer Office, Industrial and Commercial Associations Federation

④ Support for information (Provision and exchange gatherings)

Small and Medium Enterprises Service Center, New Technology Transfer Office, Industrial and Commercial Associations Federation

⑤ Support for sales promotion

Department of Market Sales Office, Industrial and Commercial Associations Federation

⑥ Support for rearing technicians

Administration of Labor

2) Problems in organizations

It is considered that great efforts have been used to establish the supporting organizations, but they do not seem to be substantially functioning. The most significant causes of that seem to be that there are only several staff members in the Department of Small and Medium Enterprises if counted including those concurrently taking another post, and that there is no pivot which comprehensively directs and orders such themes as how to treat the supports for SMEs and in what way to implement the supports for SMEs. In other words, it is because there exist no well-established measures and organizations to support SMEs.

(3) Contents of proposals

To roughly classify the problems in management of SMEs in general consideration, there are the basic problem of management, problem of finance, problem of funds, problem of production, problem of sales, problem of labor affairs, and problem of procurement of materials. In order to dissolve these problems, the administrative organization which renders intellectual supports and funding supports should be reconstructed.

In order to implement supports necessary to resolve managerial problems of SMEs, it is

necessary to systematically and comprehensively support them. To that end, reviewing of the existing supporting organizations and establishment of collaboration among the related supporting organizations must be implemented. In addition, it is considered to be necessary to establish the organizations in which the supervision of enterprises and support of enterprises are clearly divided. Further, considerations should be given so that the powers of the person responsible for the funding supports and person responsible for the management-technical support (in the aspect of software) shall be clearly separated, and accurate, comprehensive, and at the same time equitable management supports shall be executed.

From the results of researches by questionnaire and by visits to enterprises, the problems related to SMEs can be itemized as shown below. In reconstructing the organizations, it is desirable to structure the organizations taking the results of these researches into consideration.

Table 5.3.3 Problems related to SMEs and grouping of the contents

	Fund-related	Information-related	Technology-related	Control-related
Concrete contents of problems	Funds are lacking	Information on the industrial world is lacking	Percents defective are high	Working morale is low
	Lending terms are short	Information on the up-to-date equipment is not obtained	Process improvements do not progress	Inventories are large
	Fund-raising is difficult	Information on the new products is not sufficient	Technological studies and improvements do no progress	Delivery terms are not complied with
		Information on the exploitation of customers is lacking	Planning and designing abilities are lacking	Manufacturing cost control is insufficient
Itemized particulars	Funds for updating facilities	Industrial trends	Percents defective of products and processes	Labor control
	Operating fund	Information on new products	Improvement of processes	Inventory control
	Fund for expanding the operational scale	Information on new technology	Introduction of new technologies	Progress control
		Information on the sales promotion	Power to develop	Financial control
Measures presently possible to be taken by enterprises	Clarification of the accounting	Participation in the Internet	Rearing and adoption of technicians	Reviewing of salaries for the managing officers
			Establishment of equipment for the development of technologies and products	Participation in training
			Implementation of quality control	

(4) Concrete countermeasures

1) Structuring of organizations (Refer to the Proposed Organization Chart)

The Small and Medium Enterprises Service Center, Small and Medium Enterprises Technology Creation Promotion Center and New Technology Transfer Office, etc. should be positioned as substructures of the Department of Small and Medium Enterprises. In order to make it clear that they are substructures, they should be let deliberate the budget compilation and secure the right of personnel management. In addition, the official position of the persons seconded as an executive of the substructure should belong to this division (Economical Commission), and the subsidizing of the operational expenses should be made through this division.

Further, the Industrial and Commercial Associations Federation should be an cooperating organization. A division to which the management support works implemented by the Municipal Government can be entrusted should be established in the Industrial and Commercial Associations Federation. It should bear a part of the supporting works.

The framework of the proposed SMEs supporting organizations is shown in the Proposed Organization Chart

a) SME Development Guidance Group

The works which the Department of Small and Medium Enterprises is going to promote hereafter are the works which each Commission and Department in the Hangzhou Municipal Government were already concerned in the aspects of the management and guidance of the enterprises. Of them, those works concerning SMEs will be taken over by the Department of Small and Medium Enterprises, and it is necessary to carry out the works in cooperation after they have been taken over. To that end, the existence of the SME Development Guidance Group is necessary. We consider that for the chairperson of this Group, the Vice Mayor who supervise both the Economical Commission and Science and Technology Commission is suitable. The members of the Group should be the responsible persons of each Commission and Department. The SME Development Guidance Group should be an organization which will discuss and deliberate the measures which will achieve the supporting effects with efforts by all the divisions of the Hangzhou Municipal Government, take effective supporting measures by cooperation among all divisions, and instruct the Department of Small and Medium Enterprises about the direction of the supports.

b) Role of the Department of Small and Medium Enterprises

The Department of Small and Medium Enterprise should implement the planning and drafting of the works of the supports for SMEs, guidance for the substructures to carry out the works, and control of the situations of performance of the works. There will be six separate divisions and they will be in charge of: Measures for SMEs, Technology Development and Facilities Investment; Management Training, Management Consultation; Collection and Provision of Information, and Production Technology Development. The volume of works that the Department of Small and Medium Enterprises directly implement should be minimized as far as possible, and the Department should let the substructures implement the works. In other words, the Department should grasp the situations of the carrying out of the works by the substructures and implement comprehensive coordination of the works and guidance for the implementation of the works, and play a supervisory role.

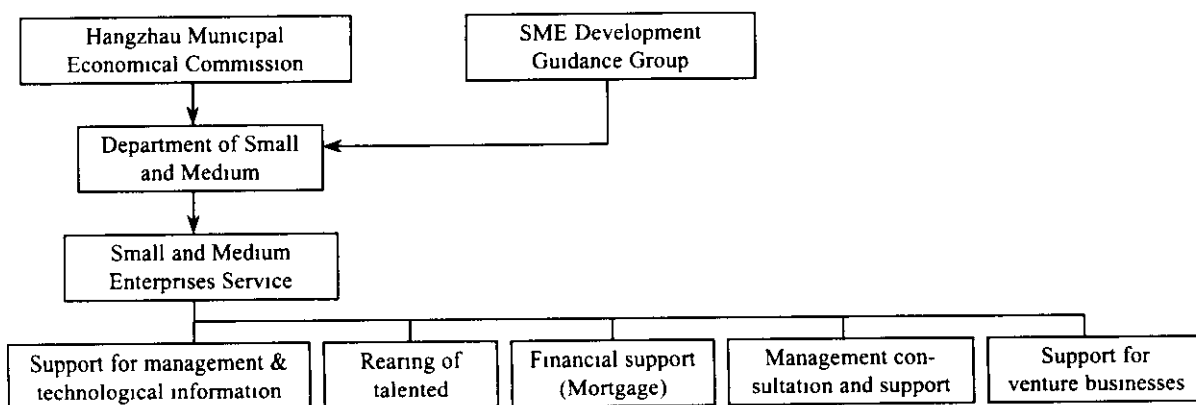


Figure 5.3.1 Proposed Organization Chart

c) Organization for implementation of works and cooperating organization

As the organizations for the implementation of the supporting works for SMEs, there can be the Small and Medium Enterprises Service Center, Small and Medium Enterprises Technology Creation Promotion Center, and New Technology Advice Station. It is considered to place the Small and Medium Enterprises Service Center which is a business corporation as the core of the implementing organization, and the Small and Medium Enterprises Technology Creation Promotion Center and New Technology Advice Station will cooperate with it. Further, the Industrial and Commercial Associations Federation should be a cooperative and collaborative organization for the supports.

d) Small and Medium Enterprises Service Center

Contents of the works of the support-implementing organization and its share of works (Refer to the Proposed Organization Chart)

① Division of management and technology information support

This division will perform the works of providing management information focusing on the Hangzhou Network, and build up a system in which the new technology information can be provided as early as possible.

② Division of the rearing of talented persons

This will implement the Managers Training programs of medium- and long-term utilizing Saturdays and Sundays, in addition to one- or two-day training programs.

The Zhejiang University holds eight divisions of 36-hour courses of Industrial and Commercial Management Training for enterprise managers annually and has achieved good results. A similar training program should be implemented for the managers of SMEs.

③ Division of financial support

This will make the mortgage companies now existing in the city participate in the reinsurance organization supervised by the Municipal Government, and carry out the work of controlling them.

Also, this division shall be the window to confer with the Municipal Government the technology development and facilities investment by SMEs.

④ Division of management consultation and support

The Small and Medium Enterprises Technology Creation Promotion Center which implements business activities uniformly with the Small and Medium Enterprises Service Center dispatches specialists and renders guidance to the corporations which invest in the Small and Medium Enterprises Technology Creation Promotion Center and their affiliated companies, but does not render support or guidance to SMEs. The Small and Medium Enterprises Technology Creation Promotion Center will have to be positioned differently in the new organization, and its organizational constitution will have to be changed so that SMEs will be able to receive the supports and guidance from it.

In implementing the management consultation and support for SMEs, it is necessary to rear the talented persons suitable to the duty of support and guidance. For the time

being, the support and guidance shall be implemented focusing on the issues related to the financial control (analysis) and production control. (Refer to the paragraph titled "Rearing of talented persons for the revitalization of the management" in the Action Plan.)

⑤ Division of supports for venture businesses

As for the division of the supports for venture businesses among SMEs, the establishment of the Investment Foundation will be promoted and its operations will be maintained.

e) Points to be noted of the organization

There are some issues to be noted with regard to the organization.

As it is the time of reformation of the industrial structure and turning point of the economy, talented persons suitable to the works should be assigned without making a simple personnel assignment.

In charge of the measures for SMEs.

Persons who have abilities to plan the measures.

In charge of the management consultation:

Persons who fully know the contents of each administrative organization and have patience and the power of execution

In charge of the management training.

Persons who have grasped or are willing to grasp the actual conditions of the management of SMEs.

In charge of the promotion of production technologies:

Persons who have learned statistical quality control and have concerns in group researches.

In charge of the collection and provision of information:

Persons who at least can handle packaged software for computers.

In charge of the investment in the equipment for development:

Persons who have great technical curiosity and not those who simply have unique technologies.

2) Major implementing organization Economical Commission

3) Implementation schedule

Deliberation of the construction of the organization One year

Rearing of talented persons for the management support. Six months to one year

4) Economic benefits

- The base of the management development for SMEs will be established.
- Enterprises which can be the local companies that are indispensable for the overseas corporations to expand into Hangzhou will be grown, and the invitation of overseas corporations will be made smooth

5) Particulars to be noted and problems in the implementation

- A tail-end supporting organization which will facilitate visits to the enterprises shall be established in order to achieve the supporting effects. Also, the share of roles of the Small and Medium Enterprises Service Center, Small and Medium Enterprises Technology Creation Promotion Center and New Technology Advice Station shall be made clear.
- The rearing of personnel who can support visits to enterprises and achieve the effects of supports must be implemented.
- Public relations to enterprises about the contents of the management supports shall be positively implemented and supports shall be rendered giving priority to the SMEs which desires to receive the supports.
- It is necessary to wipe out the image of the supervision of enterprises and devotedly render supports for enterprises.
- Liaison conferences of the persons in charge of the management support should be held for the exchange of information and opinions of the supporting organizations, and efforts to achieve the effects of the support should be made.

5.3.2 Rearing of persons in charge of measures for the promotion of SMEs

(1) Necessity of the rearing of persons in charge of the measures to promote SMEs

Since China is in the period of transferring into the market economy and has just started to attach importance to the policy to promote SMEs, the rearing of human resources for SMEs has not been implemented by the Municipal Government. When the organization for the promotion of SMEs has been established in the future, if the people who will work in the organization do not know the actual situations of SMEs, the organization will merely control the clerical works, and not be able to implement any concrete policies for the promotion.

(2) Contents of training for the persons in charge of the government-related measures (persons in charge in the Department of Small and Medium Enterprises, etc.)

It is necessary for the persons in charge of the government-related measures (those who work in the Economical Commission, Department of Small and Medium Enterprises, and their related organizations) to receive training by lectures on the status-quo and issues of SMEs, the countermeasures to be taken and method of taking such countermeasures. In addition to the training by lectures, they need to learn to grasp the status-quo and pick out the problems through the on-site training. The training programs will be implemented by entrusting them to some external institutions such as universities by the Department of Propaganda and Training of the Economical Commission.

If we seize the financing and investing institutions as quasi-public organizations, the persons in charge in these institutions (those who work for the financing and investing institutions) need to be treated differently from the previous way, and to learn about the method of implementing the countermeasures in order to acquire the concrete practical works. The organization to implement such training can be the People's Bank.

For the contents of training for the persons in charge of the government-related measures, we would suggest the following.

① The training by lecture for the persons who are to newly take charge of the measures for SMEs shall be implemented as shown below. The specialists who have already received these training programs shall be obliged to receive two courses of training (one day at each time) in a year.

a. SME policy and regulations (two-day training)

(Items of training): Trainees shall deepen their understanding of the outline of the “Promotion Law of Small and Medium Enterprises”. They should renew through this training the recognition that the Law is absolutely to rear SMEs, and its primary purpose is not “to control SMEs” but “to render administrative services”.

b. Training related to the management basics (one-day training)

(Items of training): Basic management policy, entire management plan, management organization, internal control and budget control

On the way of the research, we often heard the term “Management Philosophy” from the persons related to the institutions supporting SMEs. However, their concepts of the term were diversified. It is desired for the persons related to the supporting institutions to uniformly construe the term.

c. Training related to control (three-day training)

(Items of training): Financial control, production control, purchasing control, sales control, labor affairs control

The management controls of a corporation can be roughly classified into the above five divisions. Trainees will know the outline of the contents of controls which must be implemented in the management of SMEs and learn the necessity, methods and effects of the controls.

d. Training related to information (one-day training)

(Items of training): Classification of the natures of information, provision of information to SMEs and utilization of information by SMEs

Generally speaking, there are many cases where the providers of information provide information without sufficiently understanding the difference among documents, information and intelligence.

e. Training related to technology (one-day training)

(Items of training): Meaning of the leading-edge technology, international leading-edge technology and technology, to MSEs in the region

Trainees will grasp the technologies that SMEs in the region is requiring. They will also understand the positioning of the skill, technology and study.

f. Training related to funds (one-day training)

(Items of training): Fund raising capacity of SMEs, fund management of SMEs

Trainees will learn also about the issues of funds judged from the management index

② In the on-site training, the trainees will be accompanied by a specialist, and practice the grasping of the status-quo and problems of the management through the dialogue with the corporate manager within a given time-frame and by the on-site inspection. After the

on-site training, they will learn the issues of SMEs while exchanging with the specialist the opinions about the problems and countermeasures to be taken against them. The trainees will receive this on-site training two times within one year after their taking new posts and establish their consciousness about SMEs.

5.3.3 Foundation of credit of SMEs and individuals

During the Third On-site Research, we were requested by the Hangzhou side to add the “Proposal for the foundation of credit of SMEs and individuals in SMEs”, and we herein introduce the “Establishment of the commendation system for the excellent enterprises, etc.” in Japan. In China, there are systems to announce bad enterprises, not to mention to the commendation of excellent enterprises, but in Japan there is no such system.

- 1) Establishment of the commendation system for the excellent enterprises, etc.
 - a) Background and reasons

The measures to promote SMEs have just been started, and there is no commendation system for excellent enterprises. However, in order to disseminate the various measures to be deployed from now on and advance their effects, it is necessary to establish the commendation system for the enterprises which achieve a remarkable result in the improvement of the management through the utilization of the measures for SMEs and management-advisors who remarkably contribute to the dissemination and implementations of the measures.
 - b) Purpose

By commending the excellent enterprises, the will of SMEs to improve the management shall be awakened.

By commending the persons who remarkably contributed to the dissemination and implementation of the measures for SMEs, the positive activities of the related persons shall be encouraged.
 - c) Expected effects

Effective dissemination and promotion of the measures for SMEs.

Further development of the commended enterprises by the improvement of their images by the commendation.

Promotion of SMEs by the dissemination of the example cases of the management improvement.
 - d) Contents

Of the enterprises listed below, commendations will be endowed, in accordance with the extent of their achievements, by the Director of Department of Small and Medium Enterprises, Chief Officer of the Economical Commission, Mayor, etc. Also, the example cases suitable to model management improvement among those of the commended enterprises shall be compiled together and disseminated.

 - An enterprise which achieved excellent performance results consecutively for a certain period.
 - An enterprise which positively utilized the measures of rearing talented persons, computerization, etc. and achieved remarkable improvement of the management
 - An enterprise which achieved an improvement with regard to its production, sales,

etc. that can be an exemplar to the other enterprises (model enterprise).

- A management-advisor, etc. who remarkably contributed to the dissemination and implementation of the measures.

e) Major implementing organizations and other related organizations involved in the selection of the enterprises and persons to be commended

The Hangzhou Municipal Economical Commission and Department of Small and Medium Enterprises shall carry out the activities obtaining the cooperation of the Small and Medium Enterprises Service Center, Federation of Industry and Commerce, industrial associations, etc.

f) Implementation schedule

First year. The members of the selection committee shall be elected, and the committee shall deliberate the matters to be commended, criteria of selection, etc.

In and after the second year: Implementation of commendations

In and after the third year: Dissemination of the model example cases

g) Economic benefits

In addition to the expenses for the meeting of the selection committee, printing expenses for the certificate of commendation, etc., the expenses of the supplementary prize (memento) will be necessary if it is to be awarded. For the compilation of the model example case, the expenses of research, gratuity for the researchers, etc. will be necessary.

h) Points to be noted

In selecting the model example case, the enterprises which can accept the inspection by the other enterprises are desirable. Also, the cooperation of the specialists who can judge the suitability as models will be indispensable.

2) Experiences of Japan

In Japan, many commendations at various levels in accordance with the extent of contribution of the commended entities for each of various measures have been implemented.

(Regarding the undertakings related to the Japan Small and Medium Enterprise Corporation)

a) In order to advance the structure of the SMEs, the industrial associations, the officers and employees of the associations, which implemented an undertaking for the collectivization of plants, etc. and achieved excellent results are commended in accordance with the extent of their achievements by the Director of the Federation of Industrial Parks Associations, Chief Director of Japan Small and Medium Enterprise Corporation, Minister of Small and Medium Enterprises Agency or Minister of Economy and Industries.

b) The organizations and the employees of the organizations who cooperated for the dissemination of the mutual-aid programs of small enterprises and for the promotion of the participation are commended in accordance with the extent of their cooperation by the Chief Director of Japan Small and Medium Enterprise Corporation, or the Minister of Small and Medium Enterprises Agency

c) The enterprises which positively utilized the training programs of the Institute for Small Business Management and Technology, and endeavored for the rearing of the talented persons in the enterprise are commended by the President of the Institute for Small Business Management and Technology. In addition, the instructors who positively cooperated for the training programs are presented certificates of appreciation.

5.3.4 SMEs financing

A Establishment of the government-related bank specializing in the financing for SMEs

1) Background and reasons

It is necessary to establish a government-related bank specializing in the financing for SMEs mainly because commercial banks have not at present completely implemented the industrial financing which supplies the funds for equipment that is indispensable for the promotion of SMEs, and the business of lending to SMEs is a work requiring much labor, time and cost.

2) Expansive reorganization of the Hangzhou Commercial Bank

The Hangzhou Commercial Bank should be expansively reorganized into a bank specializing in the financing for SMEs in Hangzhou for the following reasons:

- a) Of the commercial banks operating in Hangzhou, the Hangzhou Commercial Bank is the only bank financed by the Municipal Government (the financing rate being 50%).
- b) A bank specializing in the financing for the SMEs scattered in various locations needs to have a network of many branches. The Hangzhou Commercial Bank has the largest network of branches in Hangzhou.
- c) The Bank is currently practicing the lending business for SMEs and fully knows the problems in the lending to SMEs although it is limited to the commercial financing.
- d) In the lending to SMEs, the management of loan credits is extremely important, and it is desirable to let a bank specializing in the lending for SMEs carry on the deposit business so that the bank may grasp the daily disbursement and receipt of payments of the borrowing enterprise as a link in the management. The Bank currently carries on the deposit business.

3) Contents of the expansive reorganization of the Bank

- a) The capital should be increased.
- b) In increasing the capital, special considerations should be given so that the rate of the share of the Municipal Government (including the government-related organizations) in the whole capital shall exceed 50%.
- c) The branches of the Bank should be increased to be located throughout the city.
- d) In case the Bank suffers a deficit as a result of carrying on the business, the Municipal Government shall promptly make up for the deficit.
- e) The bank shall be allowed to continue the lending business (mainly the lending of operational funds) which it has thus far done and newly make the fund for investment in the equipment of SMEs (fund for the equipment and certain amount of operating fund, for instance, within 20% of the fund for the equipment, which is necessary in connection with the introduction of equipment) the object of lending.
- f) The staff-members who can examine plans of investment in equipment should be trained.

One of the persons related to the financing in China stated, "The persons in charge in commercial banks do not know the method of examining the proposed matter." Since,

under the planned economy system, the four State Exclusive Banks (currently the State-Owned Commercial Banks) practiced the lending to state-owned enterprises (this can instead be called the “ordered financing”) under the instructions by the state, there was no necessity to implement the examination of the enterprise or proposed matter concerned. Therefore, it can be affirmed that they do not know the content and method of the “examination of the proposed matter which must be done by nature” As the most staff-members in the commercial banks under the stock company system established thereafter were employed from the State-Owned Commercial Banks, it cannot be said that they have a thorough knowledge of the examination of the proposed matter that the banks should perform. It is necessary to train the persons in charge of examinations of the government-related bank specializing in the financing for SMEs with regard to the content and method of the examinations of the general proposed matters, not to mention to the examinations of the plans of investment in the equipment which is indispensable to the industrial finance. As a method of this training, it can be considered to invite a lecturer from a foreign country and let him train the persons related to the commercial bank, but the “explanation about the content and method of the examinations” is apt to be abstract (Note: The content and method of the examinations are a strictly confidential matter to all banks.). Therefore, it is desirable to dispatch from the China side some talented persons considered to be competent to a foreign financial institution to assist SMEs for a long period and let them learn the content and method of examinations of the proposed matters as well as the plans of investment in the equipment by the OJT method.

4) Fund for lending, etc.

b) a) Borrowing from the People’s Bank

The bank should borrow the fund which the People’s Bank lends to financing institutions as fund for sublease “for a medium or long term and at a low interest rate”, and lend it as the fund for the equipment.

c) Own fund raising

The bank should not rely upon the Municipal finance for all of its lending fund, but raise its own fund for lending As the method of own fund raising, the introduction of “time deposits with a lottery” and issuance of the “bonds (with guarantee by the Municipal Government)” for the amount of the bank’s planned lending. In case the so-called negative spread or the event that the amount of cost of fund raising added with the expenses exceeds the interest revenue arises, the deficit shall be made up by the Municipal finance. Then the burden on the Municipal finance will be lightened.

d) c) Depositing of fund by the Municipal Government

The “SME Promotion Foundation” should be established with the investment by the Municipal Government and be deposited with the bank. The bank will lend this foundation to SMEs as funds for the equipment on its own responsibility

Note: It can be considered to deposit the said foundation with a government-related limited-liability leasing company and let it be used as the subsidy for the rent of the equipment for SMEs

5) Method of lending

In addition to the form of direct lending to the borrowing enterprises, the proxy lending should be done by entrusting the other reliable banks to the SMEs in the remote regions and areas in which the bank has no branches.

Also, in lieu of giving the fund, it should be made possible for the bank to purchase the equipment or machinery that the borrowing enterprise is to introduce and lease it to the enterprise. The terms of the leasing shall be the same as that of the direct lending by the bank.

6) Mortgage

The mortgage related to the lending shall be the arranging of the mortgage on the equipment or machinery to be introduced by the said fund and the joint and several liability on guarantee of the virtual manager of the enterprise.

7) Decision of qualification for borrowing

It is necessary to strictly screen the borrowing enterprises who can borrow the fund for the equipment on the extremely favorable conditions from the Hangzhou Municipal Government-related bank specializing in the finance for SMEs. It can be considered to attach the following conditions to the qualification for the borrowing.

- * A SME which cannot obtain a loan from other commercial banks.
- * A SME which has its plant or other establishment in Hangzhou and has been carrying on a business belonging to one and the same category of industry continuously for a certain period (e.g. two years) or more.
- * A SME which pays taxes as prescribed.
- * A SME the property right of which is clear
- * A SME which complies with the direction of the industries in Hangzhou.
- * A SME of a certain amount of capital (e.g. 5 million yuan) or less and a certain number of employees (e.g. 500 persons) or less
- * A SME the debt ratio of which is a certain rate (e.g. 60%) or less.
- * A SME the credit transactions of which with its main bank has been lasting for a certain period (e.g. two years) or more.

8) Others

- a) Method of paying interest Interests shall be payable every three months as currently practiced.
- b) Method of repaying the principal: The principal shall be repaid every six months in half-year equal installments.

B. Approval of favorable conditions of lending (low interest and long-term repayment)

1) Background and reasons

In order to promote SMEs, it is indispensable to establish the financial conditions that will make them have the will to invest in the equipment or encourage their investment in the equipment, i.e. the lending conditions in which the fund is "easy to borrow and easy to repay".

In China, the financial institutions must comply with the lending conditions (lending period and applicable interest) that the People's Bank of China indicates. Although the

same index shows the conditions of the lending period of more than five years (the applicable interest being 6.21% per year), any bank will not allow a lending of more than 5 years but only very exceptionally, in order to avoid the credit risk and because of the insufficient strength as a bank.

Although the interest rate is comparatively low at present, it can be expected to hike to over 10% as in the past, and the investment in the equipment by the borrowing at such a high interest rate is not realistic. It is necessary to give special considerations to limit the fixed interest to be borne by the borrowing enterprise at the 5% level per year even if the time enters into the age of high interest.

2) Approval of favorable conditions of lending (low interest and long-term repayment), or decision of the standard lending conditions

In order to implement the national policy of the promotion of SMEs the Headquarters of People's Bank of China needs to approve, as an exceptional case, the conditions of "lending ratio of 70% or less (enterprise's own fund of 30% or more), lending interest at the 5% level per year (fixed), lending (repayment) period of five years or more (including the term of deferment)" as the standard lending conditions for the lending of fund for the equipment to SMEs. At the same time, it also needs to approve to establish the further more favorable conditions regarding each of the above-mentioned items such as the lowering of the ratio of own fund or interest rate, or the extension of the repayment period in case it is politically necessary to grant further more favorable conditions.

3) Decision of object and conditions of lending

Although it will be necessary to confer with the related department and divisions in the Municipal Government, it is necessary for the City of Hangzhou to decide to what sort of requirements for the fund for the equipment by SMEs (There can be various requirements such as the modernization of equipment, reinforcement of production capacity, matters related to the protection of environment, encouragement of labor-intensive enterprise, etc.) it will respond, and also decide whether it will apply to the fund raising for the equipment necessary to the above requirements the lending conditions further more favorable than the standard lending conditions, and in that case, for what and how favorable conditions the city will grant to the SMEs.

Note. In Japan, the funds for the "modernization of the equipment" have been lent on the favorable conditions since 1950's when the promotion of SMEs started to be appealed. Even today, the funds for this "modernization of the equipment" can be applied with the favorable lending conditions.

C. Establishment of the credit mortgage organization

1) Background and reasons

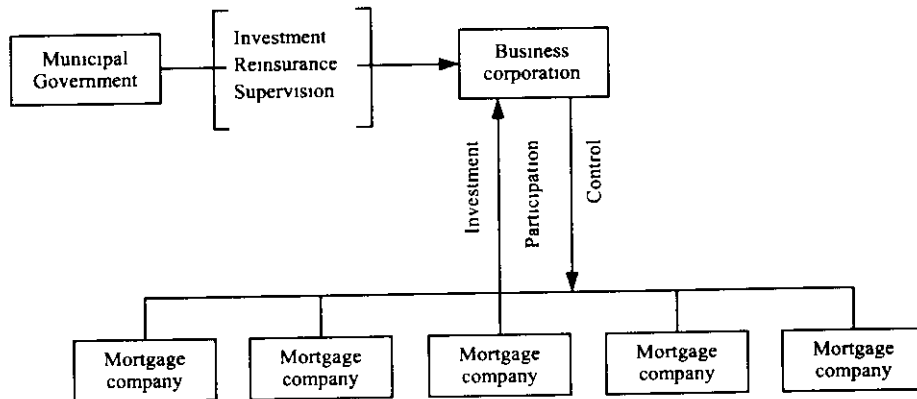
The reason why the commercial banks who are the users of the current credit mortgage companies do not use them is that the users are uncertain of the subrogation capacity of the credit mortgage companies. In order to wipe out the uncertainty, it is necessary to clearly show the backup measures such as the reinsurance by the Municipal Government.

2) Establishment and improvement of a business corporation

It can be considered to integrate the existing credit mortgage companies to make them a more substantial organization, but it seems to be considerably difficult to integrate those companies which are diversified in their investment relations and businesses carried on and, moreover, have accumulated their results of guarantees in various fields. The method of a business corporation, from which virtually the same results as the integration can be

obtained and further benefits may derive, is considered to be suitable to the current situations of Hangzhou.

In other words, a “business corporation” should be established as the “saucer” for the reinsurance under the leadership of the Municipal Government, let each mortgage company invest or participate in the corporation, and compose the guaranteed liabilities of each participating company with the limited joint and several liabilities of each company (Refer to the figure below.)



Note: The above-mentioned business corporation will be feasible by the utilization of the existing “Small and Medium Enterprises Service Center”

Figure 5.3.2 Business corporation as a “saucer” of reinsurance

By implementing the above system, it is considered that the effect brought about by it will be tremendous as mentioned below and, without fail, it will obtain of the reliance of the users and contribute to the promotion of SMEs in Hangzhou. ① The total amount of the capital of each company will be virtually the basic asset of the said corporation and it will be possible to raise the limit of the amount of acceptable guaranteed liabilities. ② In case a certain company is unable to subrogate, it will be met by the basic asset of the corporation unit as the joint and several liability of each participating company and the subrogation capacity will be increased. ③ It will be possible to realize the exchanges of information among the participating companies, standardization of the credit judgment criteria and raising of the credit examination capability ④ In case the subrogation cannot be made with the basic assets of the corporation units, the reinsurance system of the Municipal Government will work, and consequently it will be possible to give a sense of security to the users.

In the event that it is found that the composition of limited joint and several liabilities might not be legal in the light of laws of China, or the agreement among the companies can not be obtained because the amounts of their capitals widely differ from each other, this method will work sufficiently even if the composition is eliminated from it.

In other words, in this case the above-mentioned effect ② will not directly function, but it will be possible to utilize the surplus power of subrogation of the investing (contributing) or participating companies

Reference

Measures to utilize the Small and Medium Enterprises Service Center

Currently, as an organization to provide various services to SMEs in the Hangzhou, a business corporation named the "Small and Medium Enterprises Service Center" is carrying on business. For reference, a method to build up a reinsurance organization under the leadership of the Municipal Government by utilizing this business corporation without establishing a new business corporation is described below.

a) Establishment of reinsurance foundation

We hear that the "Small and Medium Enterprises Service Center" is carrying on business with a support of 800 thousand yuan obtained from the Municipal Government. In starting the reinsurance business, it is necessary for the Service Center to establish a separate account named "Small and Medium Enterprises Reinsurance Foundation (tentative name)" and divide it from the accounting related to the other business carried on by the Service Center (because, in case of an increase in capital, the nature of the fund for the reinsurance will possibly become unclear). The Service Center will be positioned as the secretariat which performs the work of controlling this Foundation

b) Participation by the mortgage companies in the Foundation

The mortgage companies which desire to have the reinsurance of the Municipal Government needs to contribute to and participate in this Foundation. (Principle shall be established providing that the Municipal Government will not reinsure any mortgage company which rejects the contribution or investment and participation.) In participating, the participation fee shall be collected and all the participation fees of the companies will be separately reserved as the reserve of the Foundation. (In case a mortgage company is to contribute money, its amount shall be the same as the case of participation)

c) Amount of the Foundation

For the time being, the amount of the Foundation shall be 500 million yuan (if all the existing credit mortgage companies contribute and participate, nearly the same amount as that of the limit of amount of acceptable guarantee of eight companies (5 times as much as the capital)), which will be contributed by the Municipal Government, credit mortgage companies and excellent corporations which approve the establishment of the Foundation.

The minimum amount of contribution or participation money shall be an amount varied in accordance with the scale and capacity of each company, that may be, for instance, 10% of the amount of capital of the company.

d) Personnel for controlling work of the Foundation

Although it depends upon what extent of work (what extent of examination of the applications for the reinsurance, etc) the Service Center will perform as the secretariat of the Foundation, the controlling work itself would require only two or three full-time staff-members to be assigned. Their personnel expenses shall be met by the revenue from the premiums on reinsurance.

e) Settlement of account of the Foundation

The accounting related to the reinsurance works shall be made a separate and independent affair, the profit obtained from the reinsurance works (premiums minus personnel expenses) shall be reserved as the reserve of the Foundation, and when the reserve accumulates to a handsome amount, it shall be turned into the Foundation to strengthen it

f) Coordination of works with the state-based reinsurance organization

A state-based reinsurance organization is being considered to be established and will have been established in due course, but the details of it are currently unknown. If Hangzhou will have established and be operating a reinsurance organization as mentioned above, whatever measures will be able to be taken at the time when the state-based reinsurance organization has been established and is operated, and its details have become known. In other words, amending the Hangzhou's reinsurance acceptance works taking into account the reinsurance acceptance conditions of the state-based reinsurance organization will be sufficient.

3) Conditions of guarantee and reinsurance, etc.

- a) Rate for guarantee and premium on reinsurance Together with the clarification of the participation by the Municipal Government as mentioned above, the lightening of the reinsurance acceptance conditions of the credit mortgage companies and establishment of low premium on the reinsurance by the Municipal Government are indispensable to increase the convenience to the users.

Of the current conditions of guarantee acceptance, the rates for guarantee are widely different among the companies, and some companies collect high rates. It is considered to be necessary to unify the rates at about 1% per year, and to reduce the premiums on reinsurance to a half of the rates for guarantee.

- b) Coverage rates of guarantee and reinsurance

The coverage rate of many credit mortgage companies is currently 100%, but when the credit mortgage organization is completely established and 100% of guarantee becomes to be covered, the commercial banks will be apt to easily perform the credit examinations of enterprises and to allow lending based on the so-called mortgage principle relying upon guarantees like in Japan. Therefore, it is desired to have the commercial banks bear a part of the credit risks, or lower the coverage rates, for example, to 75%.

Also, it is necessary to make the coverage rates of reinsurance a certain fixed rate (for example, 70 to 80%) in order to brake the easy acceptances of guarantee by the credit mortgage companies.

- c) Establishment of the system for examination of proposed matters

As previously pointed out, the existing credit mortgage companies have very small numbers of staff-members, and it is extremely doubtful whether they are performing strict examinations of the proposed matters. In order not only for themselves to avoid the credit risks but also for the commercial banks, which are the users, to be able to utilize the system with a sense of security, it is necessary to establish the examination system, by taking such measures as increasing the number of examining staff-members and reinforcing the contents and method of examination of the proposed matters.

As for the contents and method of examination of proposed matters, it is desired to dispatch the examining staff-members together with the staff-members of the government-related banks specializing in financing for SMEs to a foreign country and let them receive training on the contents and method of the examination of the proposed matters by the OJT method at a foreign credit guarantee association or a financial institution for SMEs.

- d) Others

It is necessary to concurrently consider the introduction of the system that the subrogation

and payment of reinsurance money require the lapse of a certain amount of time after the occurrence of an accident requiring guarantee or insurance for the purpose of having the commercial banks and credit mortgage companies, which are the users of the guarantees, bear a reasonable extent of responsibility.

Reference:

In case of Japan, the subrogation by the Guarantee Association is to be made based on the request of the bank “in the event that the situation of an unpaid debt or delay in repayment lasts for a period exceeding 90 days” (stipulated in the insurance contract), and the reinsurance money is to be paid “in one month after the subrogation” (stipulated in the reinsurance contract). During the periods, the bank and credit guarantee association is obliged to use their efforts to collect the debt of the debtor and report the results of the collection to the parties concerned.

5.3.5 Investment foundation

We made an analysis of the status-quo and proposal in “4.2 Status-quo and development of the risk investment foundation” (4.2.6). The proposal is as follows:

- (1) The necessity of the well-balanced measures including a. Structuring of a support policy system, b. Formation of venture business groups, c. Development of the venture capital and related market, d. Structuring of a consulting support system, and e. Structuring of a collaboration system among industry, academy and government, all of which are components of the growing of venture businesses.
- (2) Strengthening of the role of the Economical Commission for the purpose of the advancement of not only the high-tech industries but also the corporations connecting to the traditional industries
- (3) Restructuring of the collaboration system among industry, academy and government.
- (4) Establishment of the limited partner system to strengthen the measures of direct finance support by the Small and Medium Enterprises Service Center.
- (5) Utilization of the private equity investment.

Of the above measures, a proposal regarding (4) and (5) is made as follows:

1. Deliberation of the establishment of the limited-partner-type venture capital

The limited partnership (LPS) is composed of the limited partner (investor) who takes the limited responsibility up to the limit of the contribution and profit gained from it and general partner (investment executor and operator) who takes the unlimited responsibility, and founded and operated by one or more general partner(s) and one or more limited partner(s). The general partner has the right to participate in the management, but the limited partner does not have the right. By introducing this method, the fund raising will become easier.

- (1) Background and past circumstances

It is desirable to utilize the affluent private-sector funds in Zhejiang Province, concentrate the sectorial risk investment foundations previously scattered to one location in terms of information, and promote the joint ownership of information, risk sharing and improvement of the investment efficiency. To that end, the Hangzhou Municipal Small and Medium Enterprises Service Center

planned the establishment of a venture capital as a model undertaking, and the Japan International Cooperation Agency (JICA) adopted it as a pilot project. In addition, in the “Some comments for the promotion of the venture investment business in Zhejiang Province” which was announced by the Zhejiang Provincial Government in November, 2000, it is recommended to establish a limited-partner-type venture capital as a new trial

(2) Purpose

To aim to found a limited-partner-type venture capital for the first time in China and to be a model inside and outside of the Province.

(3) Results

- ① Structuring of a mechanism to shift from the governmental fund-led financing to the private sector-led financing, and its ripple effects to inside and outside of the Province
- ② Strengthening of the function to support venture businesses by the Small and Medium Enterprises Service Center

(4) Contents (Refer to the figure below)

① Operational policy

a. Investing area Investment will be made under the leadership of the private sector funds in the enterprises in the Greater Hangzhou area

b. Investing policy: The investments will be focused on the expansion stage at the beginning, and then the investments to the early stage will be gradually exploited.

c. Capital: Within a scope of 10 million to 20 million yuan. Each fund scale will be around 30 million yuan.

d. Composition of stockholders. Those with ① public funds, ② business corporations, ③ Angel, and ④ Others.

e. Portfolio: The diversified investments will be made to different categories of industries and stages of growth. The amount of the investment per enterprise will be limited to 10% or less of the fund size.

f. Recovery of capital: Importance will be attached not only to IPO but also to the sale of stocks remaining unlisted

② Organization and practical works

a. The general partner side will start under the organization of “XX Limited Liability Corporation” based on the Company Law of China. It will adopt the project responsibility system and the project teams will consistently follow the targeted matters.

b. The examinations of enterprises will be performed from the viewpoint of both quantitative and qualitative aspects. The quantitative analysis will focus on the financial stability, and the qualitative analysis will attach importance to the market analysis and business strategy analysis through the check sheet method.

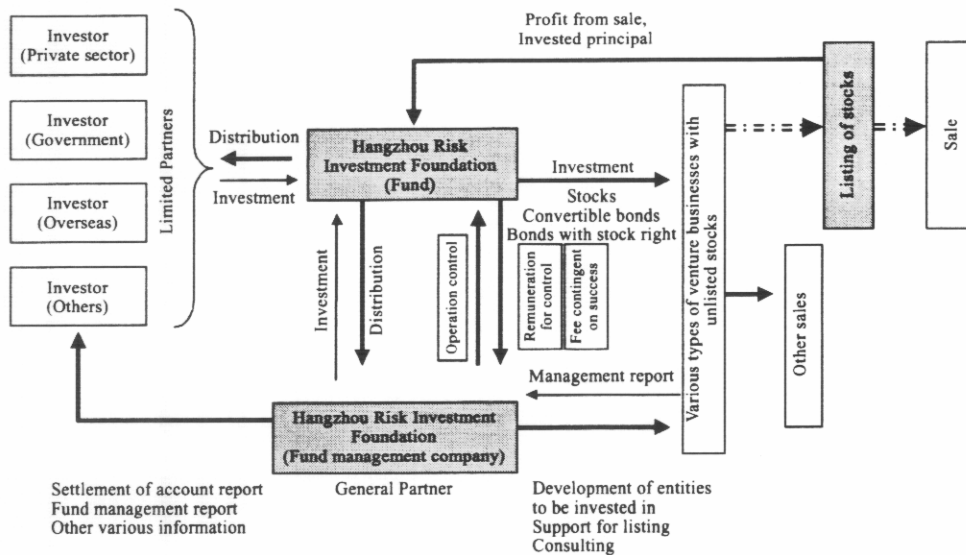


Figure 5.3.3 Image Chart of the Business Operation

(5) Major implementing organizations

Related organizations including the Hangzhou Municipal Economical Commission and Small and Medium Enterprises Service Center

(6) Implementation schedule

It is desirable to implement by December, 2001.

(7) Economic benefits

- ① Contribution to the capital of the Government: 10 million yuan (10%)
- ② Contribution to the investment fund of the Government: 10 million yuan (10%)

(8) Points to be noted and problems

- ① Securing of three to five venture capitalists
- ② Although the Investment Foundation Act is expected to be approved within 2001, it is desirable to start the business by the methods of general partner system (company type) based on the "Some comments related to the promotion of the risk investment in Zhejiang Province" until the said Act takes effect, and at the time of the business becomes on the right track to some extent, to shift it to the limited partner system.
- ③ The collaborative relation with the existing venture investment related organizations should be established as early as possible.

2. Establishment of the private equity investment market

(1) Background and past circumstances

In the stock exchanges inaugurated in Shanghai and Shenzhen during the early 1990's, the number of listed-stock corporations has reached 1,000-plus, and most of those are state-owned, large-scale corporations, and the exchanges have been kept at a distance by small and medium

venture businesses. As an exclusive market for venture businesses, the “Business Creation Stock Market”, the China version of NASDAQ, is expected to be established at latest within 2001, but it will be “a prize beyond their reach” to the venture businesses in Hangzhou for a certain period to come, because the conditions of listing stocks in it are severe

Under the circumstances, it is considered to be an urgent necessity to establish an exchange market for unlisted stocks making the “Hangzhou Municipal Property Right Trade Center” a parent.

(2) Purpose

To promote the private equity investment in the exchange market for unlisted stocks

(3) Results

- ①Improvement of the capital transaction environment for venture businesses
- ②Promotion of the disclosure related to the management situations of venture businesses

(4) Contents

- ①Strengthening of function of the Hangzhou Municipal Property Right Trade Center
 - a. Additional establishment of the function of transaction of unlisted stocks
 - b. Strengthening of the business cooperation with the Shanghai and Shenzhen Property Right Transaction Centers
 - c. Rearing of specialists and advancement of the ability to assess unlisted stocks
 - d. Assignment, transfer to other name, pawnage, mortgage function of equities, assets, etc. of SMEs
- ②Acquisition of membership right in the Shanghai and Shenzhen Property Right Transaction Centers under the leadership of Hangzhou Municipal Small and Medium Enterprise Service Center
- ③To place information on the unlisted stocks transactions on a Web site in the “Small and Medium Enterprises Information Network”

(5) Major implementing organizations

The related organizations including the Small and Medium Enterprises Service Center and Hangzhou Municipal Property Right Trade Center

(6) Implementation schedule

Should be implemented as early as possible within 2001

(7) Economic benefits

(8) Points to be noted and problems

- ①Recognition of the unlisted stocks exchange markets is lacking
- ②The rearing of talented persons in the unlisted stocks assessment field is an urgent necessity.
- ③Shortening of the investment negotiation period
- ④Verification of the intellectual properties owned by the enterprise to be invested in

5.3.6 Rearing of talented persons in SMEs

(1) Background of the target

In China, it is now the period of transferring into the market economy, and the attaching importance to the SMEs promotion policy has just started, and almost no countermeasures has been taken by the Municipal Government in the area of rearing talented persons for the managers and employees of SMEs. The talented persons in enterprises comprise so important an element that it is said, "An enterprise is nothing but the persons working in it", and affect the prosperity and decline of the enterprise.

It is necessary to implement the systematic program for rearing talented persons, which is now carried out only in a limited number of enterprises such as those of a scale of over 1,000 employees, in SMEs as well under the supports of the Municipal Government, and build up a wide-based pyramid of human resources to establish the economic infrastructure of Hangzhou

(2) Problems in the status-quo

The training programs for the employees of SMEs are mainly conducted through the OJT within the enterprises and most of them are not systematically or orderly performed. Accordingly, it seems that the programs are poorly-designed makeshifts to both trainers and trainees and do not include any substantial, practical contents of education aiming to raise talented persons. Checking the result of the questionnaire, we find many replies saying that the training is given by means of OJT, but it is considered that, in fact, the OJT is nothing but nominal, and only the minimum necessity about how to do the jobs is being taught symptomatically

(3) Points to be noted for working out the implementation plan

In order to effectively implement the rearing program for talented persons, it is necessary to work out an implementation plan for each concrete theme of countermeasures. In working out such plans, it is necessary to keep in mind the "Reality", "Immediate effect", "Beneficial effect" and "Non-profit and non-loss". The reality will be raised by effectively using the existing facilities as far as possible and minimizing the amount to be invested in the implementation. In order to make the SMEs which lacks in surplus manpower and negative to the training of employees outside the enterprise positively participate in, it is the key that "the immediate effect can be expected from the participation". In addition, if a good program is to be implemented, it cannot expect the participation by many trainees unless the extent of the public recognition to the program is raised. Further, if a training program is made a profit-making business, it could cause the decrease in participation.

(4) Concrete countermeasures

1) Purpose

To improve the personal disposition of the managers, employees and technicians of SMEs.

2) Effects of implementation of concrete countermeasures

The advancement of the management control level of the managers, morale of the employees and technical level can be sought.

3) Contents of concrete countermeasures

As the concrete countermeasures, the training programs fitting each group of trainees should be proposed separately for enterprise managers, general employees and technicians

a) Training of enterprise managers

- ① The themes of training of enterprise managers in the aspect of control shall be the management techniques including the management basics, accounting, labor management, sales, purchasing of materials, etc. (1 course, 6 hours). The number of courses varies according to the themes
- ② In addition, training program on new technologies shall be planned and implemented. To the managing officers of SMEs, the leading-edge technologies available in the region, for example, the automatic controlling (sensor and programmable controller), CAD, CAM, laser beam machining, thermoplastic materials (high polymer materials), NC equipment, etc. shall be introduced. As themes related to the international-level technologies, the lecture meetings (lecture of one to two hours) will be held with regard to biotechnology, micromachine, ceramics, superconductor, fuel cell, artificial intelligence, etc. In addition, the reporting of the model example of SME shall be planned and implemented.

The Industrial and Commercial Managers Training program (number of seats: 60) currently conducted by Zhejiang University has 8 divisions of 36-hour courses per year utilizing Saturdays and Sundays and participated in by enterprise managers and management officers of large-scale corporations has achieved good results. This program should be opened to the managers of SMEs. If this program is to be an undertaking to support SMEs, it is desirable to subsidize an amount equal to a half or so of the training fee at the time when they have finished the training.

b) Training of general employees

- ① The employees related to general affairs divisions shall learn the accounting and labor management
- ② The workers at the production sites shall learn the production control of basic contents and at the same time, receive the training focusing on quality control as the most important theme of the production control
- ③ The small-group activities training for the leaders in the production site shall be conducted to improve the production. The small-group activities can let the trainees have a sense of achievement in their jobs and improve their will to work.
- ④ The persons in charge of sales shall be trained to acquire the method of marketing.

c) Training of technicians

The training shall let the technicians improve their current technologies and acquire the related new technologies. In addition, the training shall be conducted with regard to not only the specialized technologies peculiar to the production but also the production control technologies (process control, material control, outsourcing control, quality control, safety and hygiene control, etc.)

The training should be conducted discerning the concepts of general workmen, skilled workmen, technicians and researchers. The training on the technology specialized in the production shall be a course of five days at one time including practical exercise, and the training on the production control technology shall be a course of two days for one theme. The quality control training, however, shall be a course of five days including practical

exercise.

The skilled workmen shall be let learn the theory of the works in which they are engaged, and shall be reared as skilled workmen. The technicians shall learn the theory of an upper grade and receive the practical training (exercise) and acquire the ability to step into the researches in the specialized fields

4) Major implementing organizations and other related organizations

a) Training of enterprise managers

The training shall be conducted mainly by the Small and Medium Enterprises Technology Creation Promotion Center placed at the core by utilizing the network of the Technology Creation Promotion Center (Collaborative and Cooperative Corporation, Wanxiang Control Information, Duanqi Control Information, etc.) and obtaining the cooperation of the Federation of Industry and Commerce Education Board and Township Enterprises Administration and Education Board, and widely calling for the participation.

b) Training of general employees

Same as the training of enterprise managers.

c) Training of technicians

Shall be conducted mainly by the Administration of Labor obtaining the cooperation of the Federation of Industry and Commerce and Township Enterprises Administration.

The conceptional chart of the related organization concerning this rearing of the talented persons is considered to be as follows

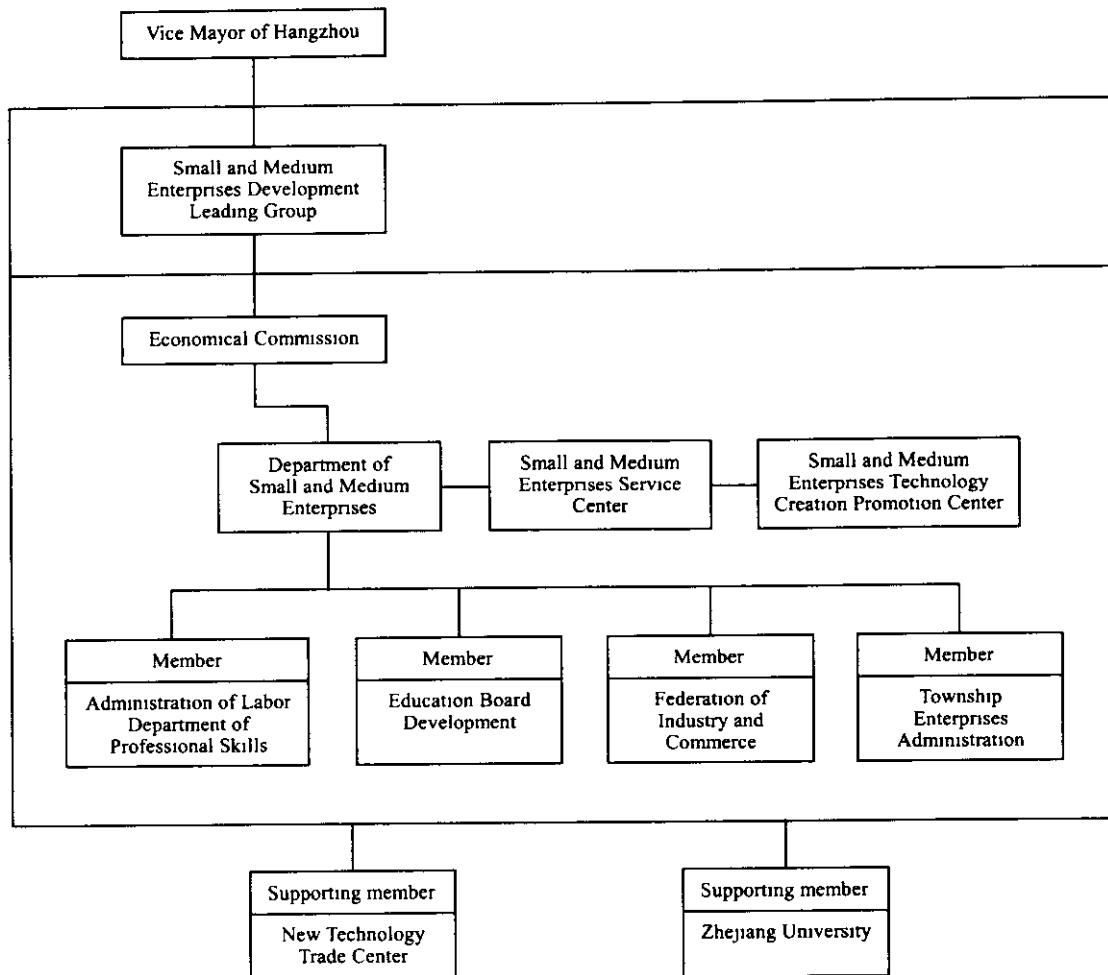


Figure 5.3.4 Relations chart of the rearing of talented persons

5) Implementation schedule

The training programs shall be planned, drafted and implemented as soon as possible, after coordinating with the related organizations.

<u>Trainees</u>	<u>In one year</u>	<u>In two years</u>	<u>In three years</u>	<u>Fourth year</u>
Managers	Planning	Implementation	Continuation	
General employees	Planning	Implementation	Continuation	
Technicians	Planning		Implementation	Implementation

6) Economic benefits

Most themes of training cannot help relying upon external instructors (teachers of universities, specialists in the domestic private sector and/or foreign specialists). Generally speaking, a domestic instructor shall be paid with about 1,000 yuan per day, but for the training at higher levels more expenses must be considered. Collective training (lectures on general themes, etc.) can be implemented by renting a hall in a hotel, but the technological training cannot be conducted in the same manner.

The most significant problem of SMEs is the human resources, and if the problem is dissolved, the management of SMEs will be improved consequently contributing to the expansion of employment, growth of GDP and increase in tax revenues.

7) Particulars to be noted and problems in implementation

- Since the training programs for SMEs are considered to be the programs to revitalize the economy of entire Hangzhou, it is desirable that the city shall bear a half of the training fees.
- In implementing the training programs, the trainees shall be called for while making it possible for the candidate trainees to fully understand the level of training contents in advance.

The training programs for the mainstay technicians of the enterprises are given at technical schools, but those programs seem to be the retraining of the skilled workmen rather than training of technicians. The cause of this might be found in the training facilities (equipment) and lecturers group.

5.3.7 Education of small and medium enterprise advisors and establishment of an advisor system

(1) Background of the proposal:

As a result of the questionnaires to 52 enterprises in the survey this time, there are many enterprises pointing out lack of human resources first. While it is important to solve the problem by training their managers, employees and engineers, it is impossible for the small and medium enterprises to retain all the necessary human resources in-house due to the size-related constraints, and so it is necessary for them to have human resources capable of cooperation outside. Among the managers of the enterprises that we visited this time, there are those who understand that modernization of management technique is necessary to cope with the shift toward the market economy and those who have knowledge of the management technique academically. Nevertheless, they cannot apply it to their own enterprises.

In the investigation this time, there are some enterprises in light industries and so on that only received guidance on management, not necessarily having received guidance on production technology since the enterprises produce different products. However, all the enterprises that we visited seriously addressed the problems pointed out by the survey group members, and so we could yield reasonable results.

In addition, the persons in charge thereof from the Department of Small and Medium Enterprises and the companies in the related industries, teachers and graduate students of the Management Department of the Zhejiang University participated in the diagnosis of the enterprises. And they expressed a wish that the diagnosis like this time will be continued at a meeting on diagnosis and guidance held at the end of the second fieldwork.

From these matters, it was confirmed that diagnosis and guidance are meaningful to provide solutions to the internal factors that the small and medium enterprises of Hangzhou has.

The importance thereof is also recognized in China, and the National Technology Committee is maintaining the small and medium enterprise diagnoser (diagnosis master in China) system. It goes without saying that this is meaningful. However, it takes some years to educate the small and medium enterprise diagnosis masters. It is desirable that the city of Hangzhou having shown the actual results of the diagnosis and guidance should establish an (half year) advisor system that requires a short period of education.

We proposed the education of small and medium enterprise advisors as an urgent issue based on the above situation.

(2) Contents of the proposal:

In order to conduct diagnosis and guidance of the small and medium enterprises, traveling services and a consultation office for enterprises by the small and medium enterprise advisors should be provided. For that purpose, it is necessary that urgent measures for education of the advisors be taken.

The small and medium enterprise advisors must have enough knowledge to be expert advisors for those who visit them for consultation and to visit the enterprises for guidance. If the consultation is too technical, they can inform the visitors of the results of investigation later, and they can find experts and have field guidance performed according to the circumstances.

As for the traveling services, they should periodically visit the registered small and medium enterprises to perform guidance for improvement while checking the actual fields in terms of technology, production, management and so on.

Training given by the advisors consists of ① enterprise management training and ② manufacturing training.

① Enterprise management advisor:

What an enterprise management advisor must learn at the minimum is financial management (bookkeeping, financial analysis and funds statement), inventory control, progress management and quality control.

A period of training for the small and medium enterprise advisors is six months. A half of the training is a practice period. Experts having experienced practical guidance should be hired for the practical guidance. In addition, the trainees should not be allowed to become the advisors just by attending the training, but they should be evaluated by conducting a practical test.

It is expected that those who are recognized by the city of Hangzhou as the small and medium enterprise advisors be given a qualification of the Hangzhou city small and medium enterprise advisor and socially recognized. In addition, it will be necessary to obligate them to attend a course by an expert twice a year (one day each time). The advisors are registered and not government officials in principle.

While the small and medium enterprise advisors are only trained on four subjects such as financial management for the time being, the future training will expand to the fields of acquiring knowledge of personnel management, material purchase management, sales management, production control and information processing.

The small and medium enterprise advisors should be economically well treated in order to arouse their enthusiasm, and the small and medium enterprises conducting accounting transactions based on guidance of the small and medium enterprise advisors should receive an economical favor in one form or another.

② Training on manufacturing for the advisors

It should be considered that capable advisors be educated to achieve results of fostering the small and medium enterprises in the city of Hangzhou by preparing a practical curriculum. Here, we propose to conduct a practical training of manufacturing.

In general, it is considered that the supporters and advisors of business administration are centering on desk work and are hardly practical. To support and guide enterprises engaged in manufacturing of products, convincing support and guidance can only be given by those who experienced the manufacturing of products. The main types of industry in the city of Hangzhou are machinery, electronics, textiles and general merchandise. And it seems that, other than general production control technology, design, cutting, press, sheet metal, welding, control and so on are considered to be common basic technologies among them in the field of working technologies (manufacturing technologies). The working technologies that the small and medium enterprise advisors should practically learn accordingly are design, cutting, control and measurement.

In order to educate the small and medium enterprise advisors who can achieve remarkable growth in the future, classroom study and practice of design, cutting, control and measurement should be incorporated in the six-month training period in addition to production control

- * It is necessary to teach CAD that will certainly become a central technique of design in the future. Today, low-priced and practicable CAD and CAM are available, and there is a design method capable of designing with a solid type, which also has good operability. Moreover, the data format must be IJES or DXF that is international.
- * Cutting is a starting point of the working technologies, and if designed data (electrically processed data) is supplied to an NC (numerical control) finishing machine, a work piece per design is cut out. What they should learn here is that, at the stage of working what has been designed on a desk, there are a number of factors to be considered in working.
- * Control is used in every part of a manufacturing machine. If a circuit training flexible board is used in order to acquire basic knowledge for learning electronic control, a simple experiment on automatic control can be conducted with a programmable controller (very commonly used for control, and often called a sequencer (a product name of Mitsubishi) in Japan). Experiment by using the programmable controller with a small number of terminals makes it easier to understand and low-cost.
- * Measurement is essential for evaluation of a work piece. Process improvement and product development are conducted by feeding back measurement results to a design department or a preceding process, which is an important technique required of the advisors.

(3) Costs of operation

Instructor costs:

In business administration, it requires total 6 persons/month for a half-year training course at the first stage, with different instructors for the respective subjects, to perform three months of classroom study and three months of practice in the four subjects of financial management (bookkeeping, financial analysis and funds statement), inventory control, progress management and quality control

At the next stage, personnel management, material purchase management, sales management, production control and information processing and so on are conducted likewise. The instructors should mainly be teachers from universities, and the practice should be instructed by those who have actual experience of working in a factory. Machinery and materials are required for training on manufacturing.

A list of equipment required for operation of the small and medium enterprise advisor training center is as follows.

The facilities can be used for training of unique technology (a specific technology called CAD, for instance) engineers and can also be exploited as a public examination place to be entrusted with requested examinations.

Table 5.3.4 Equipment for practical exercise of “manufacturing of things” for management-advisors

Design training-related	Cutting training-related	Control training-related	Measurement training-related
CAD, CAM (low level)	Simple NC machine	Circuit training flexible board	Micrometer, caliper and gage
PCs (ordinary)		Programmable controller	Universal testing machine
		Oscilloscope	Measuring microscope
Equipment to be added as a technical training center and an examination place			
CAD, CAM (intermediate level)	3 axis machining center	LCR bridge	Three coordinate measuring machine
PCs (RAM256MB or more)		Spectrum analyzer	Scanning electron microscope
			Surface roughness tester
			Universal testing machine for textiles

An estimated cost of practice equipment for advisors in the case of 10 trainees is approximately 17 million yen at the low level, and approximately 56 million yen at the intermediate level. Required building area will be 1,310m² at the minimum, and 1,700m² or so to make allowance.

The required machinery, materials and building are itemized as follows.

Effects of operation

Then enterprises will improve their profits through streamlined management, and the municipal government will have brisk economic activities of the enterprises, which will consequently increase the tax amounts. From this viewpoint, it is necessary to provide a qualification to the trainees and actively make use of the advisors by exploiting them in the cases of financing and so on.

Itemization of the required machinery, materials and building

1) Design and cutting training

We propose the low level and the intermediate level for the design and cutting.

(a) Combination of CAD, CAM and NC machines (low level)

CAD (low level)	Zuno RAPID 3D ver.5 (Fotolon Co., Ltd.)	100,000 yen
Simple NC machine with CAM	MODELA MDX-15 (Roland)	260,000 yen
PC-related	1 set	200,000 yen
For 10 trainees	Zuno RAPID 3D	10 sets
	MODELA	5 pieces
	PC	11 sets (including one for the instructor)

Subtotal calculated based on 10 trainees

$$100,000 \text{ yen} \times 10 \text{ sets} \times 260,000 \text{ yen} \times 5 \text{ sets} \times 200,000 \text{ yen} \times 11 \text{ sets} = 4,500,000 \text{ yen}$$

(a) Combination of CAD, CAM and NC machines (intermediate level)

CAD (an intermediate-level product)	Rhinoceros (Real Factory)	200,000 yen
CAM	1 set	1,000,000 yen
Cutting machine (NC finishing machine)	1 piece	4,000,000 yen
Cutting machine-related equipment		6,000,000 yen
PC	1 set	200,000 yen

Subtotal calculated based on 10 trainees

$$200,000 \text{ yen} \times 10 \text{ sets} + 1,000,000 \text{ yen} + 4,000,000 \text{ yen} + 200,000 \text{ yen} \times 11 \text{ sets} + 6,000,000 \text{ yen} = 1,520,000 \text{ yen}$$

2) Control training

Circuit training flexible board	1 set	500,000 yen
Programmable controller	1 piece, a small one (50 terminals or so)	100,000 yen
Oscilloscope	1 set	500,000 yen

Subtotal calculated based on 10 trainees

$$(500,000 \text{ yen} + 100,000 \text{ yen} + 500,000 \text{ yen}) \times 11 = 1,210,000 \text{ yen}$$

3) Measurement training

Two cases are thinkable as to the measurement training

(a)

Universal testing machine	1 piece	20,000,000 yen
Measuring microscope	1 piece	4,000,000 yen

A milling machine and a shirring are necessary to create specimens for the universal testing machine.

Milling machine	3,500,000 yen
Shirring	1,500,000 yen
Subtotal	29,000,000 yen

(b) As the universal testing machine and the measuring microscope are expensive, the following is calculated by replacing the practice equipment with a caliper, a micrometer, a dial gage and a thickness gage.

Caliper. 1 piece	5,000 yen
Micrometer: 1 piece	8,000 yen
Dial gage : 1 piece	10,000 yen
Thickness gage and so on: 1 piece	10,000 yen

Subtotal calculated based on 10 trainees (including ones for the instructor)

$$(5,000 \text{ yen} + 8,000 \text{ yen} + 10,000 \text{ yen} + 10,000 \text{ yen}) \times 11 = 363,000 \text{ yen}$$

Training center building area (estimate):

We considered the following purely as advisor training facilities without a function of a public examination place.

Classroom	100m ²	
Meeting room	200m ²	
PC room	200m ²	
Control practice room	200m ²	including a closet for storing the practice machinery and materials)
Measurement practice room	100m ²	(the universal testing machine and the measuring microscope can also be installed)
Office	100m ²	
Locker room	50m ²	
Warehouse	100m ²	
Lobby	100m ²	
Toilet, passages and so on	160m ²	
Total	1310m ²	

In the case of installing a full-scale NC finishing machine, it requires 400m² since a

general purpose lathe milling machine, a drilling machine and a sawing machine must be installed.

(Summary)

The combination highly likely to be implemented is as follows.

Practice equipment:

16,963,000 yen in the case of using MODELA (4.5 million yen), 11 sets for control training (12.1 million yen), and replacing the expensive universal testing machine for the measurement training with a caliper, a micrometer, a dial gage and a thickness gage (363,000 yen) and so on

Thinking of the future, however, it is desirable to conduct investment of total 56.1 million yen, that is, 15.2 million yen (intermediate-level CAD, CAM and NC machines training), 12.1 million yen (control training), 29 million yen (universal testing machine training).

While the total floor space of the building is 1,310m² according to the minimum plan, it should be 1,710m² thinking of the future

(4) Small and medium enterprise guidance system

The small and medium enterprise advisors will engage in advisory activities for visitors and visiting guidance. An implementation plan for effectively exploiting these is required. The following is a draft proposal

Draft proposal of the implementation plan toward promotion of the advisor system

The following should be conducted in order to implement this system. ① Setting up an implementation preparation committee and establishing guidance objects for enterprises, ② establishing an advisor qualification system, ③ reviewing the system as to use of the advisors, ④ listing supporting enterprises, ⑤ forecasting demands and planning concrete service contents, ⑥ laying down a draft implementation plan and maintaining an operational organization and system, ⑦ calculating a consideration and operation costs for the service, ⑧ securing an operation budget, ⑨ educating advisors, ⑩ starting guidance and creating an evaluation program.

Setting up an implementation preparation committee and establishing guidance objects

Implementation preparation committee

Secretariat	Department of Small and Medium Enterprises of the Hangzahu Municipal Economical Committee as the secretariat
Chairperson	Municipal government representative
Directors.	Department of Small and Medium Enterprises 1, Labor Administration 1, Education Administration 1, Federation of Industry and Commerce 1, Promotion Center of Technology Creation 1, Small and Medium Enterprise Service Center 1

5.3.8 Survey on management of small and medium enterprises and preparation of management/cost indexes

(1) Background and reason

When managing an enterprise, it is very important for the enterprise, in making a management strategy, to know what position it has compared to others in the same trade, that is, its precedence and weak points in management.

On the other hand, it is essential for the administration to grasp the actual management conditions of the small and medium enterprises in terms of planning measures therefor and also guidance and control thereof, and yet, it has not grasped the actual management conditions of the small and medium enterprises of a certain size or smaller.

(2) Objects

- 1) To grasp the actual management conditions of the small and medium enterprises by calculation, and acquire management/cost indexes by the types of industry and the sizes based thereon so as to support their securement of managerial resources.
- 2) To grasp and exploit the actual management conditions of the small and medium enterprises so as to plan appropriate measures therefor

(3) Results

- 1) It will be a guideline to their own improvement in management and management plans, which will be helpful to improvement in their enterprise structure by their own effort.
- 2) It can be exploited as a guidance guideline in guiding and diagnosing an enterprise and as criteria of enterprise evaluation in the case of conducting assistance such as financing or leasing.
- 3) It can be exploited as basic materials in planning measures for the small and medium enterprises.

(4) Contents (see Experience in Japan)

- 1) Survey the actual management conditions of major industries of the city.
- 2) Regarding at least the priority growth industries among the major industries of the city, management indexes wherein various ratios such as B/S are collected by the types of industry and the sizes and manufacturing cost indexes wherein component ratios by cost items are collected are prepared and periodically issued

(5) Main operation agencies

Department of Small and Medium Enterprises, Small and Medium Enterprises Service Center

(6) Operation schedule

It is necessary and possible to implement it at an early stage (it is necessary, however, to continue to operate it periodically every year).

Procedure. ① Preparing and mailing the questionnaires ② Collection of the questionnaires by a person in charge ③ Calculation and analysis ④ Preparing the management and cost indexes

(7) Economical benefit

It is feasible with relatively small amounts of money although preparation of the questionnaires and calculation cost are required

(8) Points of consideration and problems

- 1) Whether or not it is possible to obtain correct data. When conducting the survey, correct data should be obtained through the Industry Commercial Administration or the Chamber of Commerce.
- 2) A certain collected batch of data by the types of industry and the sizes is required.

Experience in Japan

In Japan, the Small and Medium Enterprise Agency conducts a survey for the sake of preparing the management and cost indexes as to the industries of construction, manufacturing, sales (wholesale, retail, eating and drinking), transportation, communication, real estate and service with cooperation of the administrative divisions of Japan every year.

As for manufacturing, it surveys 141 types of industry of the small and medium enterprises, and as for the management indexes, it collects various ratios by classifying the data by the types of industry and the sizes (1 to 20, 21 to 50, 51 to 100, and over 100 employees). Moreover, as regards the cost indexes, it collects the average cost amounts per enterprise, component ratios of total cost and so on regarding manufacturing costs (direct costs 5 items, indirect costs 10 items) and sales/administrative costs (sales costs 8 items, administrative costs 9 items) by the types of industry.

5.3.9 Maintenance of facilities for technical development

(1) Background of the objects and purposes

Hangzhou has the machinery electronics, textile, food and general merchandise industries as their traditional industries, and it is forming a place where the industries are accumulated. Moreover, maintenance of the High Technology Industry Development Area is underway so that the regional industries are increasingly becoming high-tech. Generally speaking, however, even the high-tech industries cannot help relying on the manufacturing technologies of the so-called traditional industries as to hardware (parts, equipment and so on), ranging from a practical working technology to one requiring theoretical clarification. In the case of the small and medium enterprises, many of them need a solution to trouble in terms of practical working, and yet they do not have the equipment maintained to grasp the problem, and so it is not easy to obtain information (data) that is a base for solution of the problem. The important information for solution of the problem is the basic data on physical properties. However, most of the small and medium enterprises engaged in manufacturing only have a caliper and a micrometer when it comes to length measuring machines. This shows that there is a limit to data collection for the sake of extracting and analyzing the problem on working, and besides, there are too many cases where it is difficult to grasp the problem, so that it seems that they are not at the stage capable of proceeding to technological improvement. In addition, there are few small and medium enterprises having the testing equipment for material physical properties that is an important issue in working. Manufacturing without grasping the physical properties of the material to be worked is manufacturing wherein making inferior articles is admitted in a sense. In such a situation, it is impossible even to grasp the cause of the problem accurately as to which of the working equipment, the working method and the material is wrong, and so measures for elimination of the problem cannot be taken.

While there are many evaluation factors for a technology such as precision, productivity, functions, design and safety, the technology that is problematic in the manufacturing enterprises in Hangzhou is the problem of product precision.

(2) Concrete countermeasures

1) Effects of the project operation

- Operation of a material test, a parts test and a product function test allows the small and medium enterprises themselves to grasp a clue to the solution of the problem, and the technical solution of the problem will improve the product quality and productivity
- Users of the facilities can be supported for technical development by the engineers stationed there and also obtain new technology information
- An operation guidance on the equipment that the enterprises are planning to install or have installed but is not sufficiently exploited can be given by the engineers of the facilities

2) Contents of the project

- Set up testing, research and development facilities targeting machinery (including molds), electronics and electricity enterprises, and light industry related to the traditional industrial technologies (however, it excludes electronic circuit technology).
- The material test, product function test and working technology test will be conducted at the testing, research and development facilities
- An incubation room is provided in the joint testing, research and development facilities. Income from the incubation room should stabilize operation of the facilities

① Maintenance of the facilities

The small and medium enterprisers make an investment to maintain metal-related testing equipment and working equipment and also station operators of measurement equipment. As for the maintenance of the facilities, Hangzhou City will totally support it with a subsidy.

② Users

The users of the facilities are the investors and also other enterprises. The incubation room will accommodate and incubate the enterprises related to the testing equipment and the contents of the research and development of the testing, research and development facilities

③ Installed equipment

As the installed equipment belongs to the joint facilities for machine part and product, electric part and product enterprises and various mold enterprises, the equipment concerned will be as follows approximately.

(Measurement and testing equipment)

A three coordinate measuring machine, a tensile testing machine, a friction testing machine, a form measuring machine, a surface roughness tester, a friction gage, a reading microscope, a scanning electron microscope, a gear measuring machine, a laser digitizer, and an environmental tester (vibration, heat resistance)

(Design facilities)

CAD, CAM, flow analysis simulation software, structural analysis simulation software

(Working experiment equipment)

Three axis NC machining center (medium and small) and test material effects, general purpose machines for preservation and maintenance of equipment (a lathe, a milling machine, a sawing machine and so on)

④ Funds for maintenance of the facilities

The joint testing, research and development facilities will be maintained by the enterprises and individuals supporting the import of the installation, and a stock company in which the Hangzhou Municipal Government invested, provided that the investment by the government is a third or less of the total investment.

⑤ Personnel plan

The organization is comprised of a president, a vice president, a general affairs department and a testing and research department. The general affairs department has a person in charge of accounting (concurrently the vice president), a person in charge of personnel management and general affairs and a person in charge of sales (concurrently the president). The testing and research department has four persons for testing and development, two persons for CAD and CAM, and two persons for working equipment, so that there are eleven persons in all including the president at the time of foundation.

⑥ Management plan

When making a business plan, a table wherein annual income and expenses, that is, a funds flow plan can be understood as a list is created and closely reviewed. In particular, a capital investment plan must be incorporated in the funds flow plan (see Business plan - funds statement (illustration)).

As the operation seems difficult without expecting a subsidy, the municipal government must stipulate the rules related to these facilities as an ordinance

3) Main operation agencies

Hangzhou City (Economic Commission), those interested of metal working-related machinery (including molds), electronics and electricity enterprises and the small and medium enterprises engaged in light industry.

4) Operation schedule

Collecting the investors, the installed equipment, the personnel plan, and review of the operation method 1 year

Maintenance of the facilities/installation of the equipment: 3 years

Table 5.3.5 Maintenance schedule of the testing and technology development support facilities

Contents	Year		
	1st year	2nd year	3rd year
Preparations for foundation/ foundation of the enterprise	→		
Review of operation and installed equipment	→	→	
Maintenance of facilities		→	→

5) Economical benefits

- Quality improvement, technical improvement and development of the small and medium enterprises will evolve so that they will receive more orders and their markets will expand, leading to improvement in their management.
- It will lead to maintenance of the condition that makes entry easier for the large enterprises and the foreign enterprises requiring cooperative enterprises.

6) Points of consideration and problems in operation

- It is necessary to sufficiently review how to raise the operation funds in order to perpetually operate it.
- Leadership is necessary to collect the investing enterprises, and the operation must be planned so that there is a merit for the investors.
- As for installation of an injection molding machine and flow analysis simulation software related to injection molding of resins, and a press machine and structural analysis software for testing and research of a low-profile press mold and so on, an installation layout will be reviewed and yet they will be installed according to the actual condition of operation.

Table 5.3.6 Business plan - funds statement (illustration)

Income and expense calculation		1st year	2nd year	3rd year
Income	Requested test			
	Testing equipment usage fee			
	Requested working test			
	Experimental finishing machine usage fee			
	Incubation room usage fee			
	Technical guidance fee			
	Other			
	(Total A)			
Expenses	Research worker personnel expenses			
	Administration department personnel expenses			
	Testing and research materials			
	Testing and research consumables			
	Electricity, gas and water supply			
	Office supplies			
	Communication charges			
	Repairs of testers, finishing machines and so on			
	Building maintenance (repairs)			
	Computer software maintenance			
	Sales promotion costs			
	Depreciation expense			
	Miscellaneous expenses			
(Total B)				
Ordinary profit	(A-B)			
Extraordinary revenue	(Subsidy and so on)			
Extraordinary loss				
Tax				
After-tax profit and loss	(C)			

Income and expense calculation		1st year	2nd year	3rd year
Income	Amount carried over from the previous term			
	Profit / loss after tax (C)			
	Depreciation expenses			
	(Total D)			
Expenditure	Amount invested in buildings			
	Amount invested in machinery and equipment			
	Amount invested in computer software, etc			
	Other investments in assets account			
	Repayment			
	(Total E)			
Excess / deficiency of funds	(D-C)			
Fund raising	Capital			
	Borrowings			
	(Total E)			
Amount carried over to the next term	(D-E+C)			

5.3.10 Producing region analysis

(1) Producing region analysis for promotion of regional industries (referring to the ball-point pen factories in Bunsuichin)

1) Necessity of activating regional industries.

One of the characteristics of Zhejiang Province is development of the regional industries that can be referred to as a Wenzhou model. In Bunsuichin that we surveyed this time, there are 365 enterprises related to production of ball-point pens. In addition, there are processing factories for clothing buttons, synthetic fibers, tools, leather products, wool sweaters, low voltage electrical components, mushrooms and so on. These factories developed from street sellers at the beginning and became a large group, now forming a wholesale market (the 4347 market). So far, they have been developing on their own without any support by the government. At this point in time, however, some of them are at a turning point. Bunsuichin was prosperous once as a producing region of piece dyed textures for the past twenty years, but they could not withstand the change of the economic environment so that there are only a few sewing enterprises and white curtain texture producing enterprises now. The reasons for their decline are mostly delay in coping with the market, and so new measures (product development, improved production technologies and so on) are required. It is considered that adopting an effective policy for the specific enterprise group intensive in this region and activating the regional industries will greatly contribute to development of the Hangzhou City's economy.

2) Policy for region-intensive small and medium enterprises

① A producing region diagnosis technique is used to comprehensively survey the actual conditions of the producing region economic activities to grasp the characteristics and problems thereof, so that the future direction to be taken by the producing region will be clarified according to the structural change of the economic environment and also the matters required for streamlined management and improvement in technologies of the producing region group enterprises will become clear. Moreover, as for execution of the matters pointed out for improvement by the producing region diagnosis, it is necessary to take measures such as financial support (in Japan, the way for sophistication financing is prepared as financing in the case where there are a public sophistication diagnosis and a prospect of profitable business)

② The diagnosis includes the following possibilities.

- Enhancing efficiency of business activities of the enterprises in the producing region by in-process/horizontal division of labor.
- Promoting sophistication of technologies by exchange among the enterprisers
- In order to guide modernization of management by controlling wasteful investments and sharing the business, effective joint business for the producing region is reviewed among the following various types of joint business, such as joint research for new product development, maintenance of joint examination rooms/examination equipment, gathering and providing information, joint purchase of materials, joint storage of products, joint advertisement/cooperative sales, joint financing, welfare facilities for employees and so on
- It is also effective for the above purposes to organize a co-op and so on. It is also necessary to review a legal system for this purpose (the small and medium enterprise co-op in Japan)

3) Contents of the producing region diagnosis:

- ① The producing region diagnosis can clarify what a producing region should be and demonstrate the characteristics as a producing region by taking measures for implementation thereof. In particular, the producing region can see in a new light the problems that have not become tangible so as to pave the new way for promoting the region. For instance, measures such as division of labor, more intensive geographical location, sharing, use of brand names, and improvement in technical levels are thinkable.
- ② Contents of the producing region diagnosis performance. In the producing region diagnosis, a questionnaire on the enterprises in the producing region, a visiting survey, a manager meeting for exchange of opinions, and inspection of an advanced region are carried out. A door-to-door enterprise visit (individual diagnosis) and overall compilation are carried out by inviting an outside consultant.
- ③ Main operation agency and related agencies: It will be centered on the Hangzhou City Small and Medium Enterprise Assistance Agency and the Industry Assistance Agencies located in the producing region will be requested to cooperate.
- ④ Operation schedule: It requires three months for a preliminary survey such as designing, distributing and collecting the questionnaire. A local diagnosis takes three months by visiting a large number of the local enterprises. It takes three months for dialogs with a group of enterprises during the diagnosis operation period and dialogs with them for compilation of a report. It takes three months for compilation of a final report, and thus the producing region diagnosis is conducted for one year in total.
- ⑤ Cost and economical benefit of the producing region diagnosis: To conduct the producing region diagnosis, at least three persons in charge of management finance, production technology/control, and general management are required, and participation of a specific engineer must be considered each time. Accordingly, the producing region diagnosis requires at least the personnel expenses of 3 (persons) x 12 months = 36 (person-months).

This producing region diagnosis allows the regional and intensive type policy for small and medium enterprises shown in 4) to be established and promoted.

⑥ Points of consideration and problems in operation

- Results of the producing region diagnosis cannot be expected, even if carried out, without cooperation of the local enterprises. Before conducting the producing region diagnosis, the effects thereof should be publicized by conducting several individual diagnoses.
- It is necessary to make it well-known that the producing region diagnosis is not intended to reinforce municipal control over the producing region but to create voluntary challenges for the producing region enterprises.
- (Summarizing the producing region diagnosis, trade diagnosis and grouping diagnosis (these are called group diagnoses) in Japan, it can be said that these diagnoses are often used as opportunities to engage in the joint business and joint facilities installation business recommended by the government in order for the trade to be financed on their responsibility as a group.)

4) Applying the producing region diagnosis to production of ball-point pens in Bunsuichin, Tonglu Prefecture

There is a ball-point pen factory in Bunsuichin included in the enterprises to which the enterprise diagnosis and guidance were given this time, which led to discovery of a group of ball-point pen enterprises. And importance of coping with the group of enterprises as well as streamlining of each enterprise was recognized. For this reason, we conducted the questionnaire survey on several companies other than the subject enterprises and also visited them. In addition, we especially held a seminar in Bunsuichin as requested by the government of the region. The staff members of the Department of Small and Medium Enterprises also joined the seminar. As described above, Bunsuichin is actively trying to modernize the group of the ball-point pen enterprises. Accordingly, it is desirable to conduct the producing region diagnosis of the Bunsuichin ball-point pen enterprise group to clarify their problem and countermeasures so as to take supporting measures as the Hangzhou Municipal Government including fostering of a co-op.

① Status quo of ball-point pen production in Bunsuichin, Tonglu Prefecture

365 companies with 11,000 employees are engaged in ball-point pen production at present, and so Bunsuichin is called "the source of pen production." While some of them expanded management scales, majority of them are small enterprises of domestic industry. As the following table shows, their output has expanded and export quantities are also large.

Table 5.3.7 Business results of Bunsuichin ball-point pen manufacturing plants

	Total output	Export amount thereof	(Taxes of the trade)
1998	265 million yuan	27 million yuan	25 million yuan
1999	352 million yuan	51 million yuan	35.6 million yuan
2000	56 million yuan	100 million yuan	50 million yuan

(Sales in 2000) 680 million yuan, output 2 billion pieces, export ratio 20 percent Source

In the ball-point pen trade, the Tonglu Prefecture Pen Production Society was established in April, 1998 for the purposes of promoting friendship among member enterprises, exchanging information, maintaining order and reinforcing competitiveness in the trade. The society not only raises the management level of the members, but also exchanges information with its upper organization, the China Pen Production Society, Shanghai Pen Production Research Center and Wenzhou City's pen production trade in other regions and so on while improving its own image. (According to our counterpart of the light industry diagnosis team, China currently has neither such system as the small and medium enterprise co-op of Japan nor a basis law). In Bunsuichin, the countermeasures are underway, such as creating an industrial complex, inviting traders of the intermediate or higher classes, improving the level of technical management, creating a sales center and inviting wholesalers to expand the markets. There is also a plan to create a Bunsu Pen Production Technology Development Center in collaboration with the Zhejiang University.

② Problems

2-1) There are the following problems in enterprise business administration. a) Lack of administrative ability is noticeable as to the size of 10 employees or so. b) Technical development ability is low, and consciousness of managers is also low. c) They get in each other's way by imitating new products or improvements. In addition, protection of intellectual properties by the government is not enough.

2-2) There are the following problems pointed out as to the products. a) The ball at the tip of the ball-point pen drops out in use b) Liquid leaks from the connected portion.) The designs are old.

2-3) The managerial environment is as follows according to simple written questionnaires from 13 ball-point pen manufacturing companies of a medium or larger size

a) Of the management challenges that they are currently facing, No. 1 (4 companies) in the aspect of funds/financial affairs is "Although equipment funds and operating funds are necessary, no financing source can be found," which is far more than No. 2 (2 companies) "There is no profit due to low market prices." To be more specific, "financing" is more important than "profitability."

b) On the other hand, as for answers (a plurality of answers are allowed) to "Future objects and plans of your company," the following are mentioned in decreasing order of the number of answers ① Improvement in quality, ② improvement in productivity, ③ new product development, ④ expansion of markets and business ⑤ capital investment, and ⑥ work environment measures To be more specific, the key to activation of the region seems to be the demand for money including operating funds in addition to various equipment funds such as those for reinforced testing and examination equipment and introduction of modern facilities.

③ Comparison between taxes and costs in the case of the ball-point pen manufacturing in Bunsuichin, Tonglu Prefecture

In the case of the ball-point pen manufacturing in Bunsuichin, Tonglu Prefecture, 11,000 employees are engaged in the ball-point pen manufacturing, where the total output reaches 560 million yuan, the export is 100 million yuan, and the tax payment 50 million yuan in 2000 The producing region diagnosis is 3 persons x 12 months = 36 person-months, and so it is 720,000 yuan in the case of employing experts for 20,000 yuan a month, which is 1.5 percent of the current tax payment While this expense will necessitate financing required for capital equipment, the abundant Hangzhou City funds are just seeking sound financing, and thus it will be advantageous to the enterprises having difficulty in financing since it will be a review material for the financing

The producing region diagnosis is not conducted → contents of facilities are unknown/demand for money cannot be measured → system financing (sophistication financing) cannot be budgeted → no financing is allowed → production by the existing facilities continues → the product challenge pointed out in the above 2-2) cannot be solved → the market competitiveness lowers → sales decrease → tax income (increased value tax: 15 percent of sales) decreases.

④ The producing region diagnosis technique

4-1) Diagnosis subjects

Groups in a region where those who are engaged in business belonging to the same type of industry intensively exist (producing region), said group engaged in that business or any business related thereto.

4-2) Diagnosis method

Data of general trends related to the type of industry of the producing region is gathered and analyzed, and a basic survey for conducting overall observation and grasping problems as a producing region group is conducted, and further a basic survey by a field diagnosis is conducted to supplement it and analyze and study it concretely and positively, wherein structure, characteristics of the producing region group and their problems and causes are grasped and reviewed in advance

- a) In order to grasp the existence base and current situation of the producing region, the characteristics of the producing region, the number of enterprises, transition and structural change of production, distribution and so on, labor supply and demand, prospects of demands for products and materials.
- b) As for individual enterprises, the management form, facilities, technical level, material purchase, product sales and distribution, financial situation, cost structure, funds, income and expense situation and personnel management situation.
- c) Furthermore, purchase trends of the producing region's products in the distribution mechanism and sales areas. In a field diagnosis to grasp and review the trends in other producing regions and overseas, as required, change of geographical conditions and the actual management conditions of the producing region's component enterprises are positively analyzed and considered in order to look into the current situation, characteristics, problems and their causes clarified by the basic survey and derive the future direction as a producing region group. The subject enterprises of the field diagnosis are selected by considering the type of industry, business conditions, enterprise size, products, business relations and so on, and when conducting the survey, the position and adaptability and so on as a producing region entity are investigated.

4-3) Analysis and evaluation

The following matters are analyzed and evaluated to provide a necessary recommendation.

- a) History of the producing region, the current situation, characteristics and problems, economic environment conditions and future direction thereof that are nationally and regionally viewed.
- b) Analyzing the industrial structure, production, distribution, labor, the structure and characteristics of the markets and so on of the entire producing region as well as the actual management conditions and the management level of the producing region's component enterprises so as to clarify the development factors, impediment factors and their background as an industrial group.
- c) Setting the matters to be improved and the modernization objects of overall producing region activities comprehensively determined from ① and ②.
- d) The matters to be improved as to modernization of management, improvement in technologies, sophistication of products, facilities and so on of the producing region's component enterprises.