

II.1 Important Points in Industrialization Policy

This section discusses major issues related to industrialization of Colombia, as perceived by the Study Team, before describing the promotion measures for SMEs and MEs which are a major purpose of this report.

II.1.1 Economic Liberalization Policy

Recently, the Colombian Government has decided to promote liberalization of economy, which is designed to induce competition to industries in Colombia, particularly manufacturing industries which are left behind in terms of international competitiveness.

While the liberalization policy is to be introduced soon or later to accomplish the above objective, it needs to be implemented carefully through several stages. In particular, "liberalization of external trade" to reduce items subject to import restriction and to lower tariff rates as a major element of the liberalization policy involves the following risks:

- 1) It may result in export increase only, without modernization of industries.
- 2) Domestic industries not having international competitiveness are adversely affected by imported products.
- 3) Imports grow faster than exports to reduce foreign currency reserves, resulting in high rate of the devaluation of the local currency and inflation.

Although liberalization of external trade makes industrial materials and machinery available more cheaply, the increase in imports of finished products brings about risk 2) above. In particular, SMEs and MEs with growth potential also may be seriously damaged by imports before materializing the growth. If this occurs, modernization of industries will be hindered. Thus it is important to

implement the trade liberalization gradually according to the actual progress of industry modernization. In particular, it is too risky to suddenly remove protection policy for SMEs and MEs that have not built up strong business foundation and to expose them to strict international competition, which would allow import products to dominate domestic markets, leading to destruction of domestic industries.

II.1.2 Subsidized Financing Scheme

The economic liberalization policy envisages the elimination of subsidized loan system for SMEs and MEs under favorable terms (interest rate in particular). However, considering that financial support is an essential element of assistance for SMEs and MEs, the abolishment of the low interest loan program is not advisable for the following reasons:

- (1) SMEs and MEs have relatively a small amount of own capital and thus are more dependent upon external sources than large scale enterprises, so that stable supply of low interest funds is essential.
- (2) SMEs and MEs cannot obtain required loans from commercial banks and other commercial financial institutions because of relatively high lending cost for the financiers.
- (3) Commercial loans for SMEs and MEs are subject to strict terms and conditions, including the interest rate, repayment period, and collateral, compared to those for large scale enterprises.
- (4) Commercial loans for SMEs and MEs are extremely susceptible to fluctuation of money supply, compared to large scale enterprises.
- (5) As a result, SMEs and MEs with weak financial foundation are most damaged by liberalization of economy.

This clearly indicates that effective financial assistance measures need to be established to protect SMEs and MEs from negative impacts of economic liberalization, including lower interest rates than commercial rates.

II.1.3 Foreign Investment Policy

Many enterprises which have partnership with foreign companies or introduce foreign technology have higher management and technological capabilities. Also, various Asian countries which have successfully industrialized or are currently industrializing have been using foreign investment as an impetus for industrialization. Foreign companies transfer modern production and management technologies, in addition to the capital, and many of them try to establish production bases to serve the existing market. Thus foreign investment creates opportunity to develop export markets. On the other hand, Colombia had been maintaining a policy to restrict foreign investment for a long time, which slowed down the industrialization process. Although laws have been amended to gradually remove restrictions on foreign investment, a significant effect is not yet to be realized.

In turn, Colombia is not a very attractive place of investment for foreign industrializing and industrialized countries, because of small domestic market, unstable economic and political situations, and high inflation rates - although lower than other Latin American nations, and relatively high labor cost.

To attract foreign investment to the country, therefore, the following measures need to be taken.

- (1) To induce foreign investment for selected industry groups;
- (2) To create attractive investment environment which contains the following:

- 1) Improvement of infrastructure
- 2) Exemption or reduction of corporate income tax for a specific period
- 3) Warranty to protect foreign investment, including guaranty for not nationalizing the industry
- 4) Liberalization of transfer of profit, and reduction of transfer tax
- 5) Lifting of restriction on payment of royalties to patents and technical knowhow

II.2 Improvement of Public Support for SMEs and MEs

II.2.1 Government Organization

Currently, the National Planning Department (DNP) is responsible for planning of promotion policies for the SMEs and MEs, while the Ministry of Economic Development deals with public administration or implementation of the policies. It appears that the Ministry does not have sufficient capability to perform its duties. As of February, 1990, the Ministry had only 100 staffs which are not sufficient to implement policies including promotion of the SMEs and MEs. At present, a fair portion of public administration is carried out by affiliated corporations. The following are recommended measures to improve public administration related to the SMEs and MEs.

- 1) Sections responsible for promotion of the SMEs and MEs should be established within DNP and the Ministry of Economic Development. This establishment in the ministry is prescribed under Decree No.78 of 1988 and needs to be implemented as early as possible. In particular, the Ministry of Economic Development needs to upgrade the Small and Medium Scale Enterprises Section and the Microenterprises, Handicraft, and Informal Sector Section. As for DNP, it was decided to establish the division on microenterprises and enterprise cooperation (Division de Microempresas y Empresas Asociativas) under Decreto 2410 issued in October 1989, but no activity is started yet.
- 2) Even if the sections are strengthened or newly established, the Ministry will not be able to take strong leadership due to shortage of staff. To compensate for this, it is recommended to create a public organization, so called "Smaller Business Promotion Agency", to carry out programs for the SMEs and MEs. This organization needs to have branch offices in major cities. It is also consid-

erable to create the sections to promote MEs and SMEs in local governments instead of the branch offices.

- 3) At present, different promotion programs for the SMEs and MEs are carried out by government agencies, public organizations, public corporations, financial institutions, and non governmental organizations (NGOs) without well organized coordination. To devise more efficient promotion measures with clear objectives and means, the National Planning Department and the Ministry of Economic Development are expected to take stronger leadership.

11.2.2 Improvement of Legal Environment

No law to promote the SMEs and MEs was available until December 1988 when Law 78 was enacted and a detailed regulation was drafted in 1990 by the Ministry of Economic Development. To ensure coordinated implementation of promotion programs as suggested in 3) above, a comprehensive legislation system should be established on the basis of the law 78. Based on such system, the Ministry of Economic Development shall coordinate or reorganize related organizations.

It should be noted here that there is lack of mutual trust between the government and private industries or industrial associations. When the Study Team asked to private industries and associations as to what would be expected from the government, a majority of responses were "The government has not done much to private industries, thus we do not expect any." Nevertheless, the Study Team believes that the government has been making a certain effort under limited budget and workforce.

One of reasons for such mistrust between the government and private industries, as seen in many countries, appears to lie in that a legislation system to coordinate

the government and private sector is not sufficiently developed nor operated.

Note: APPENDIX attached at the end of this report describes a general outline of legal system developed on the basis of examples in Japan and Asian NIEs which have a comprehensive legal system for promotion of SMEs and MEs. Naturally, the legal system cannot be applied directly to Colombia because of difference in government organization, legal customs and economic policy. Rather it is intended to serve as a guideline to develop a comprehensive and effective legal system.

II.2.3 Promotion Measures Especially for Microenterprises

In Colombia, there are over one million microenterprises, which have 10 or less employees, accounting for 40% of the total working population. Of total number of MEs, 80% are considered to remain in informal sector. Given this magnitude of scale, the fostering and protection of MEs are one of the most important issues in Colombia.

MEs, among other things, are characterized that company management is unseparated from a household account. This generates the following problems:

- 1) Lack of working capital and financing capability, including inadequate bookkeeping, to make it difficult to borrow from commercial banks and other financial institutions;
- 2) Low productivity and poor working environment;
- 3) Lack of ability to collect updated information on market, economy and technological development, thus unable to keep up with economic changes; and
- 4) Lack of access to social welfare service for owners and workers including family members of MEs.

Under this recognition, promotion measures for MEs need to be developed from two perspectives; (1) to treat MEs as business enterprises (economic policy), and (2) to treat MEs as minorities in the economic system to require protection (welfare policy).

Government assistance programs for MEs are generally developed and operated within the framework for SMEs as well as MEs; the legal system, institutional credit service, tax system and other measures mentioned in APPENDIX are equally applied to SMEs and MEs. In practice, however, it is often the case that the assistance programs focus on SMEs, while much less accessible by MEs. For instance, the institutional credit system for SMEs and MEs in Colombia is mainly used by SMEs, practically excluding MEs. This indicates that government assistance programs for SMEs and MEs need to include special considerations to MEs.

In March 1984, the Colombian Government started the National Microenterprise Development Program (PNDM) to provide assistance for MEs. PNDM includes the following services.

- 1) Training on management techniques
- 2) Advice on management
- 3) Expansion and improvement of financing for MEs
- 4) Establishment and upgrading of marketing organization
- 5) Promotion of cooperatives and trade organizations
- 6) Development of legal system for promotion of MEs
- 7) Promotion of technological development

The above services cover the most of measures required to develop MEs.

In consideration to the above points, and from the viewpoint to accomplish PNDM's objectives, the following recommendations are made for promotion of MEs.

(1) Development of statistics about MEs

Although to understand current situation of MEs is most important to prepare or implement promotional measures, there is no statistics available related to MEs. While MEs are not included in industrial statistics, the household study provides only a part of information required. MEs in informal sector are not registered with the chamber of commerce and their data are partially available in related studies which covered major cities only. Thus, it is important to develop national level statistics on MEs, including informal enterprises. In this connection, it may be advisable to introduce the latest statistical techniques by inviting foreign experts.

(2) Promotion of social participation by informal enterprises

When the informal enterprises are defined as those which do not register with the chamber of commerce nor pay any tax, estimated 80% of MEs in Colombia fall under this category. As a result, it is generally perceived that MEs equal informal enterprises. As informal enterprises are not recognized as independent economic units, it is difficult to provide them with assistant programs.

The informal enterprises do not become formal enterprises because of lack of incentive. To have registration with the chamber of commerce requires 13 steps which involve documentation and other complicated work. After registration, the formal enterprises have to bear additional costs, including taxes, contribution to SENA, costs related to preparation of documents to be submitted annually, which are said to reduce the profit by 35% to 40%. Such disincentive clearly discourages informal enterprises to become formal ones.

To improve the situation, the following measures need to be taken:

- 1) To simplify and streamline the registration procedure;
- 2) To simplify annual reporting requirements;
- 3) To grant tax exemption for enterprises reporting income less than a specific level (an actual tax incentive policy will require further study); and
- 4) To provide loans with favorable terms for formalized enterprises.

(3) Institutional finance for MEs

The BID line which serves as a financial source within the framework of PNDM is expected to continue its effort to increase borrowers. The second IDB line is being negotiated between IDB and the Colombian Government, with agreement being expected soon. In addition, the following recommendations are made on financial sources for MEs other than the IDB line:

1) Allocation of finance to MEs

A certain portion of institutional loans e.g. FFI's directed finance and World Bank's SME loan shall be forcibly allocated to MEs. Otherwise, intermediaries for these institutional loans, commercial banks and finance corporations, tend to make loan to larger size of enterprises other than MEs due to high finance cost to MEs.

2) Introduction of small loan system

Loans to MEs will increase through the above requirements for institutional credit service but by no means sufficient to meet demand by MEs. To compensate for this, it is recommended to establish a quasi-government financial institution specialized in small loans.

The institution is designed to provide small loans under a simplified procedure and without collateral and guarantee. The small loans shall be available

only for "formal" enterprises, thus it is expected to serve as an incentive for informal enterprises to become formal ones. Also, the borrowing enterprises are required to receive the same training on management techniques conducted under PNDM. Finally, evaluation of loan application may be replaced with recommendation by a local chamber of commerce.

3) Credit guaranty system

Other than the proposed small loan system, any of institutional credit service and commercial loans require collateral and guarantor. In practice, this prevents MEs from using these services. To redirect the financial sources to MEs, it is important to introduce a program to provide guaranty for lending institutions. The proposed credit guaranty system is designed to allow MEs to secure loan guaranty from a credit guaranty company without collateral and guarantor. In this connection, existing credit guaranty companies including FNG and FOMENTAR need to be upgraded to provide loan guaranty up to a specific amount for enterprises which satisfy certain requirements, through recommendation by the chamber of commerce or other simplified application procedures.

It should be noted that the proposed credit guaranty system is made available to SMEs as well as MEs, with preferential treatment for MEs without collateral and guarantor.

The credit guaranty corporation has to bear a risk of repayment for a borrowing enterprise to a financial institution in case of default. To spread this risk, it is desirable to establish an insurance company which operating cost should be borne by the government; it is considered as a social cost to foster SMEs and MEs.

The following describes relationship between the borrowing enterprise, financial institution, and credit guaranty company in terms of application

process.

- a) A small or medium scale enterprise or a microenterprise intending to receive loan guaranty makes an application to the credit guaranty company.
- b) The company reviews and evaluates the application, and if acceptable, approves the guaranty to the financial institution from which the enterprise intends to have a loan.
- c) The financial institution, upon receiving a notice of approval from the credit guaranty company, executes the loan to the enterprise, which in turn pays a fee to the guarantee company.
- d) If the enterprise fails to repay the loan on or before a due date, the credit guaranty company makes payment in subrogation.
- e) Upon subrogation, the credit guaranty company obtains a claim for the loan from the financial institution. After that, the guaranty company continues efforts to collect unpaid balance from the enterprise on a long term basis by taking into consideration recovery of the enterprise's business.

At the same time, the credit guaranty company purchases an insurance from the credit insurance company to spread the risk of default, as follows:

- a) The credit guaranty company enters an insurance agreement with the insurance company before granting the approval under b) above.
- b) It is desirable that each loan is automatically insured upon approval by the credit guaranty company, regardless of risk involved.
- c) The credit guaranty company pays to the insurance company a prearranged insurance premium.
- d) When the insurance company make payment in subrogation due to default of the enterprise, the insurance company indemnify the credit guaranty company an amount equivalent to 70% to

80% of the amount subrogated.

This system is characterized by quick approval of credit guaranty which is granted so far as a borrowing enterprise satisfies a certain set of requirements, while the insurance is automatically arranged. This way, the number of insurance increases to reduce a risk for the insurance company. In addition, as the insurance company covers 70% to 80% of the amount subrogated by the credit guaranty company, the credit guaranty company suffers loss of remaining 20% to 30%, thus encouraging it to evaluate the loan application carefully.

4) Equipment leasing system

The equipment leasing system is an effective means for SMEs and MEs to modernize equipment, in particular highly beneficial to MEs who do not have access to financial sources. In general, financial institutions lend a part, say 70% of the fund required so that a borrower should finance the balance by himself. However, small enterprises - MEs in particular - do not have own financial sources and cannot use the institutional credit service. Also, MEs are not capable of selecting adequate equipment and require technical assistance.

The equipment leasing system has two advantages; one is to minimize own financing for equipment investment; and the other is to provide technical assistance in equipment selection.

Under the system, machinery and equipment having appropriate technology are designated and listed up for each industrial sub-sector and are leased to SMEs and MEs upon application. The term of lease is determined on the basis of service life of machinery or equipment to be leased. The lessee makes a deposit equivalent to some 10% of the value of equipment leased, and repays the remaining

amount, including the hire charge equivalent to the applicable interest rate, on an installation basis within the term of lease. The deposit is allocated to the final payment, and ownership of the equipment is transferred to the enterprise upon completion of the payment. At present, leasing by private companies requires higher interest rates than commercial loans, thus not accessible to SMEs and MEs. A further study is needed to introduce the less costly leasing system.

(4) Mutual aid scheme

Owners of microenterprises are susceptible to a risk of bankruptcy all the time, while not benefited from the social insurance scheme despite relatively small income. To provide funds for the owners after retirement, death or termination of business, it is recommended to establish a mutual aid scheme.

Owners of MEs participating in the mutual aid scheme pay a monthly premium and is eligible for an allowance when an owner terminates his business, dies, or retires.

(5) Organization of MEs

As pointed by PNDM, it is important to organize MEs into associations. The organizing of MEs has the following advantages:

- 1) To allow various promotion programs to be implemented smoothly;
- 2) To facilitate technical assistance and training;
- 3) To ensure smooth information service and communication;
- 4) To facilitate cooperative activities between enterprises;
- 5) To facilitate effective communication with government agencies for various applications and requests; and
- 6) To encourage mutual aid programs.

Note that, to make the best use of a public assistance program for MEs, the government should take initiative to encourage effective implementation thereof, and the organization of MEs plays a vital role.

In addition, MEs are closely related to their local community. MEs tend to be engaged in business activities which meet local needs, as a result, a certain area contains similar types of enterprises with less relocation to other areas. Thus, organization of MEs is desirable to proceed by starting from a municipal level as a basic unit which will be further organized into a federation for each district, then nationwide.

Although the chamber of commerce is expected to take leadership in organizing MEs on a local basis, it is generally located in urban areas and cannot serve the purpose in rural areas. Thus it is important to organize an association in rural areas under initiative of each municipality and cooperation of NGOs and SENA. Any enterprises engaged in manufacturing industry, commerce and service are to be organized into an association.

On the other hand, the chamber of commerce should be responsible for organizing in urban areas, and it may have to be established where necessary. Both formal and informal enterprises should be entitled to join these associations, so that they can be used as a means of promoting informal enterprises to become formal ones.

II.3 Promotion of Exports of Metalworking Industry Products

Promotion of import substitution is of high importance with regard to products of the metalworking industry, as exports are extremely small and there is a very high level of net imports of products of this industry. Nevertheless, the small scale of the domestic market for such products imposes a limitation to the growth of the industry, unless the export market for its products is developed. Two major policies deserve adoption by the government and related entities, for the promotion of exports, namely:

- 1) Policy that seeks to give international competitiveness to metalworking industry products (e.g., through improvement of production technology), and
- 2) Policy that provides for incentives for promotion of exports

Improvement of international competitiveness through such measures as improvement of production technology can be considered as an extension of import substitution promotion policy, and is not a special measure for imparting competitiveness in export markets. The major aspects whereby competitiveness of industrial goods may be measured are "quality", "price", "delivery performance", and "after-sales service". Of these, "quality" is the most important, as the other criteria can be satisfied through measures such as the rationalization of production.

A simplified way to define the process of producing metalworking goods of high quality would be the purchase of raw materials of high quality, processing of them by use of up-to-date facilities, and maintaining quality control standards. Possible approaches for achieving this have been proposed in the following chapters.

Policies for promotion of exports in Colombia are embodied in the Certificado de Reembolso Tributario (CERT), Plan Vallejo, Zona Franca and PROEXPO's programs. These programs, which are intended to promote under exports of all products, deserve to be continued and augmented even under the open policy of the economy. As additional measures that deserve consideration there are reduction of corporate tax for export industries, reduction of

local taxes for such industries, and approval of accelerated depreciation.

To give special emphasis here to the matter of export promotion, first of all it should be pointed out that need exists to be able to easily obtain raw materials of a grade suitable for export products, at a suitable price, and, second, to create an environment favorable to attraction of foreign companies, which will provide the necessary technology. In the case of the metalworking industry, because the quality of the raw materials is readily translated into the quality of the finished product, if low-quality raw materials are used it is not possible to produce high-quality goods no matter what production technology is improved. Further, it is thought that the best way of promoting the transfer of modern production and management technology to Colombia is through promotion of joint ventures with foreign companies.

Regarding the acquisition of high-grade raw materials (steel, etc.), there should be no problem provided that appropriate action is taken, because a study has been done regarding the reorganization of the steel industry, and importation has been liberalized. Therefore, importance of attraction of foreign companies is described in this section.

As a successful example of attracting foreign companies in Asia, the Thai experience will be explained here instead of general discussions. The Thai government had for some time been in favor of attracting foreign investment, and in more recent years has become more aggressive in attracting investment, especially through the Board of Investment (BOI). As a result, since 1987 there has been a swift increase in the number of foreign companies investing in Thailand (see table below).

Foreign investment in Thailand

	<u>Application</u>	<u>Approvals</u>	<u>US\$ million approved</u>
1987	630	385	2,500
1988	1,271	888	7,820

The composition of approvals by country in 1988, show the four most important sources to be Japan, Taiwan, the EC and the United States, that collectively account for 87%. The rate of increase has accelerated in 1989 and most of the total are in export-oriented manufacturing industry. Factors for selection of Thailand as a production base comprise the low-cost, good-quality labor force, political stability, and favorable geographic location for exportation. From the side of the host country, the advantages that accrue to Thailand are:

- 1) Increased receipt of hard currency, from the increase in exports,
- 2) Acquisition of state-of-the-art technology,
- 3) Increased employment, and
- 4) Increased income.

For Thailand, which had been an agricultural developing country, the rapid progress of industrialization has made it into a newly-industrializing nation, and the economy has been transformed to one that is increasingly benefiting from the exports of manufactured goods.

In addition to the above factors, Thailand has benefited by the appreciation of the value of the Japanese Yen and the Taiwan New Dollar, which has reduced those countries' export competitiveness and encouraged them to transfer production bases to locations outside their own borders. But the BOI adopted the following specific policies which have served to make the aggressive effort to attract foreign industry.

- 1) Implementation of a campaign to attract industry, by using mass media (newspapers, TV, etc.) in countries identified as being high in importance as sources of investment.
- 2) Holding of seminars in the target countries, to explain how and why the environment for investment in Thailand was good.
- 3) A direct mail campaign to companies believed to be potentially interested in investing in Thailand, followed by telephone contacts.

- 4) Organization of group tours to Thailand, with tour members being managers of companies identified as having high interest in investing in Thailand, so they could see local conditions for themselves.
- 5) Development of industrial parks having qualities attractive to foreign companies.
- 6) Improvement of incentives for foreign companies, and especially export-oriented companies.
- 7) Improvement of industrial infrastructure, including roads, telecommunications, power utilities and ports and harbors.

For the first five of these, extensive use was made of foreign consultants.

Efforts to attract foreign companies have not been limited to Thailand; all the newly-industrializing countries of the region (Korea, Taiwan, Singapore, Hongkong) have developed their economies by use of this policy. In the case of Colombia, however, although in recent years the country has become increasingly interested in attracting foreign investment, the past restrictions on foreign capital have caused delay in making efforts toward that end. In order to increase exports of metalworking industry products, from a medium- and long-term viewpoint, it will be a realistic and swift method to attract foreign companies and promote importation of foreign technology.

II.4 Sector Loans for the SMEs and MEs in the Metalworking Sector

II.4.1 Need for Sector Loans

Results of the questionnaire survey and corporate diagnosis indicated that the most serious problem faced by the SMEs and MEs in the metalworking sector is difficulty in securing financial sources. The questionnaire survey shows that more than 70% of MEs and more than 60% of SMEs requested governmental support in the area of finance. Access to formal financial services becomes difficult with decrease in company size. For commercial banks and other financial institutions, it is not preferable to provide loans to the SMEs and MEs involving relatively high cost and risk. This situation is not unique to Colombia but presents a major problem in promotion of the SMEs and MEs in most countries, and for this reason they are developing institutional credit service systems.

The institutional credit service for the industrial sector in Colombia consists of the FFI's loans, which mainly serve the SMEs as well as some of the MEs, and the World Bank's SME loans. The former is funded by the Colombia government. In addition to these services, the IDB's IDB line is available for the MEs. However, these credit services are not well known among the enterprises, and available financial resources are not sufficient to overcome credit supply shortage, that is the largest hindrance for development of the SMEs and MEs.

At the same time, modernization of production facilities and equipment is considered to be an urgent problem for promotion of the metalworking industry, and requires a considerable investment. In this connection, introduction of sector loans for the metalworking industry is necessary to solve this problem. Results of the questionnaire survey indicate that the SMEs and MEs see complicated procedures, lack of collateral, and strict qualification for loans as the most discouraging factors, rather than high interest rates. Thus, the proposed

sector loans should give consideration to these factors.

II.4.2 Outline of the Sector Loans

(1) Eligible sectors

The proposed sector loans will primarily serve the metalworking and machinery industry. Also, industrial sectors which require a significant investment for modernization and receive high priority in national development policies, e.g., the plastic, wood, and food processing industries, may be added. In this case, the program may be called "modernization loans" rather than "sector loans".

(2) Eligible company sizes and purposes of loans

The sector loans will be provided to SMEs and MEs for the purpose of purchasing production machinery and equipment. A list of "modern machinery and equipment suitable for use in Colombia, and up-to-date in nature" should be prepared with specifications and updated annually.

(3) Methods of financing

As the means of providing finance, an ordinary loan may be used, but it is proposed here that leasing or the hire-purchase system be adopted. The hire-purchase system involves the lending of equipment by the implementing agency to the user-company for a specific period of time, after which ownership is transferred to the company. This arrangement has the following advantages in comparison to an ordinary loan.

- 1) Ordinarily, a loan is not provided for the entire amount of funds needed for equipment investment; some portion of the funds must be procured by the company itself, but companies on the scale of MEs or SMEs, lacking collateral and credit, are re-

strained from acquiring money for equipment investment by this method. A lease eliminates this problem.

- 2) Frequently, companies on the scale of MEs or SMEs lack a strong technological base, and cannot make proper decisions on selection of equipment when they are to make an investment. When a lease is used, the implementation body selects the equipment equipped with modern and appropriate technology with the side effect of supplementing the technological capability of the client company.

In addition, replacement of obsolete equipment possessed by MEs and SMEs will be gradually but forcibly attained. It is possible for ordinary loans to be used as sector loans, but in such a case the loan-supplying agency should make the decision on what equipment is to be acquired.

(4) Implementation body

It is not legally permissible for the central bank to provide finance by means of leases or the hire-purchase system. Nevertheless, according to the Law No. 78/1988 which may be considered as the basic law related to MEs, the CFP is empowered to use lease financing. It is therefore suitable for the implementing agency to be the CFP. It is also possible that regional governments may serve as the liaison office but further study is needed to determine if such a method is suitable for use in Colombia.

(5) Loan conditions

Be it the lease or the hire-purchase, it is desirable to set an effective interest rate for industries as low as possible.

The term of lease should be set within service years of machinery and equipment, e.g., 5 to 8 years. The service life of each machinery and equipment should be determined when the equipment list is developed.

(6) Guaranty

The sector loan program should preferably be accompanied by a guaranty service using low credit rates for the SMEs and MEs. This may be provided by FNG or FOMENTAR, or in the form of mutual guaranty by borrowers, who are required to form a group of 10 to 20 companies for loan application and guaranty.

(7) Technical support

In addition to the credit service, the sector loan program should include advice related to appropriate technology for equipment modernization. It would be suitable to obtain the cooperation of technical experts through private and public bodies such as universities and FEDEMETAL. Also it is recommended to use foreign experts for development of the equipment list and the initial stage of implementation.

(8) Financial sources

1) Financial source for the credit line

A realistic approach is to use low-interest loans through international cooperation, in combination with funds raised in the country. Foreign exchange will be required for the sector loans because most of the modern machinery and equipment would be met by imports.

The loan program should be started on an experimental basis and moved to the full-scale operation only after a favorable outlook is verified. At the outset, whether activities are limited to metalworking industry, or also include other industries, the required pool of funds would be on the level of US\$20 million. Of this amount, about 20% should be provided by Colombia as counterpart funds. Also, it is desirable to grant exemption of import duties on the imported equipment and

machinery, which would help minimize the financial burdens of the companies.

2) Financial sources for loan guaranties

Possible method of providing loan guaranties is to be made by international cooperation, or government subsidy. The guaranty cost should be considered as a social cost incurred in the process of industrialization. Also, a part of the spread in the credit line, namely spread between interest rate for borrowing and that for re-lending, may be used for this purpose.

3) Financial sources for technical support

Costs related to technical support may be covered in the form of international cooperation or by the spread in the credit line.

II.5 Upgrading of SENA and Expansion of Services

II.5.1 Need for Upgrading and Service Expansion

SENA is a national training institute, the largest in Colombia, having sound financial resources; it operates 20 branches and 95 facilities throughout the country, employing over 8,200 persons, and obtains operating funds from contributions by public and private industries, 2% of wages and salaries.

According to the questionnaire survey, entrepreneurs and managers who completed SENA's training courses accounted for 31% of the MEs employing 2 to 5 persons, 15% of the MEs with 6 to 10 employees, 14% of the Sml-Es, and 6% of the Med-Es.

SENA is considered to be a very active vocational training institute compared to similar institutions in other developing countries, where vocational training services are directly provided by the labor ministry but are often scaled down or suspended in many countries due to insufficient budget allocation.

On the other hand, SENA's sound financial base and nationwide service network serve as primary factors for supporting the proposed improvement of functioning and reorganization of SENA.

According to interviews with enterprises and trade organizations, SENA has a divided reputation; while some highly praise its activities, others criticize that it emphasizes business management rather than production technology and does not have equipment and ability to teach latest production technology. This proposal is based on the concept retaining services that have earned a high reputation, and improving and upgrading those criticized.

Strengthening and restructuring of SENA have been proposed by various authorities, with notable increase in recent years. For instance, the president office reportedly examines the issue and intends to issue a presiden-

tial decree to upgrade SENA to an organization to promote industrialization in a comprehensive manner in addition to vocational training. Also, SENA carries out a study in the same line. Thus, the following recommendations have presumably been considered by SENA and other related authorities. Nevertheless, the Study Team would like to propose these recommendations from own standpoints, with hope that any of them can be used for helping SENA better contributing to industrialization of the country.

II.5.2 Recommendation for Restructuring SENA

SENA is under the jurisdiction of the Ministry of Labor and Security and as such is limited by law to functioning as a vocational training organization but recently many people have come to think that in view of the high importance of industrial development, SENA should be utilized more fully, by extending its activities beyond training. The following recommendation is made on the basis of the latter viewpoint.

The following four recommendations are presented for the restructuring of SENA, including improvement of its functions.

- 1) To carry out a comprehensive study on SENA's restructuring,
- 2) To make a significant effort to supply testing and inspection services,
- 3) To establish new training centers (for plating and casting), and
- 4) To improve research and development activities.

(1) Comprehensive study on SENA's restructuring

According to SENA's personnel and users, there are opinions that the equipment presently possessed is adequate for fulfilling the key function of SENA, namely to provide basic industrial training, while many argue that much of the equipment is outmoded, meaning that training in the use of new technology cannot be provided. Also it was heard that funds for procurement of new equipment are insufficient for SENA. International cooperation has made it possible for new equipment to be provided to the Centro Nacional Colombo Italiano, which is a part of the Nacional de Tecnicos de Industria, and to the Centro de Desarrollo Tecnologico (CDT ASTIN), but these are oriented toward medium- or larger-scale enterprises, and there have been almost no instances of this new equipment having been utilized on behalf of MEs and SMEs.

The present report proposes that a metalworking industry promotion center (see chapter II.7) be established, but it may be possible to attain this objective by improvement of the equipment at the disposal of SENA. From this viewpoint, it is thought to be necessary to carry out a comprehensive study on the restructuring of SENA. This study should cover the following subjects.

- 1) Clarification of the suitable role for SENA to play in industrialization,
- 2) Review of the suitability of the legal basis for SENA's existence, and its being under the jurisdiction of the ministry as at present,
- 3) Evaluation of the present level of existing facilities, and of its modernization,
- 4) Review of the internal organization of SENA toward the objective of improving service,
- 5) Cooperative relationships, existing and desired, between SENA and other bodies, including private organizations,

- 6) Review of SENA's existing plans for restructuring, and
 - 7) Fund requirements, and schedule for, restructuring of SENA
- (2) Strong need for supply of testing and inspection services

To attain overall development of Colombia's industry, it is necessary precondition that export-oriented products be made not only by attempting to improve the quality of finished goods but by starting with raw materials of quality that meets or surpasses international standards. It is necessary to improve the industrial standards now in use in Colombia, and because it is necessary to check on whether finished products meet internationally-accepted industrial standards, as well as to check on standards while goods are in production, use of testing and inspection services is necessary.

As many MEs and SMEs do not have equipment for inspection and testing, there is a need to operate a technical center providing them with such services. In Section II.7 the recommendation is made to establish a "Metalworking Industry Promotion Center", and it is desirable that SENA participate in the activities of such an organization. While it would be possible to make "a broad contract with outside parties regarding specific programs for training", whereby inspection and testing services of raw materials and products could be offered to businesses, this is not thought to be satisfactory to enable SENA to fully contribute to the industrial development effort.

- (3) Establishment of new training centers (for plating and casting)

It is proposed that a new plating center be provided for SENA, as it does not now have one, and that the

existing casting center, which has antiquated equipment, be complemented by a new center.

In order to fully obtain benefits from SENA training facilities, it is necessary to insure that employers will have an adequate understanding of the center's work so that they make the most of employees who have been trained there. SENA should make efforts toward that end. Moreover, it is permitted by law that products made during the training process can be sold, and efforts should be made by SENA to sell those products in order to gain income thereby.

1) Plating center

a) Reason for establishment

In comparison to the large number of factories in Colombia that do plating for automobile parts and other products, plating technology in the country has not kept up to the times. One reason for that is the absence of a SENA plating training center, and therefore establishment of a new center to engage in that work is hereby proposed. The center would provide guidance in plating process technology, do training of plating workers, and undertake research on new technology. It would be furnished with environmental protection equipment that meets projected future standards to be adopted in Colombia.

b) Facilities

- Pre-plating processing
- Zinc plating
- 3-layer plating line of copper, nickel and chromium
- Chemical analysis laboratory

- Anodizing line
- Rectifier Room
- Ventilation facilities
- Environment protection equipment

c) Number of trainees and training period duration

It is expected that each group of trainees will be from 10 to 20 persons in size. A training period ("Apprenticeship") of two years would be suitable. This center, however, is to be capable of giving shorter training programs.

2) Casting center

a) Reason for establishment

The casting center is to have the major objective of elevating casting technology by providing practice and lecture on the various processes used in the production of castings, and as a secondary objective, to use its training equipment to provide testing and inspection services for MEs and SMEs in the private sector.

b) Equipment

- Melting equipment
- Molding and core making
- Cleaning and fettling
- Heat treatment furnace for castings
- Quality control equipment

- Die casting process

- Precision casting (Lost-wax method)

c) Casting capacity

Iron and ductile iron castings: up to
300 kg/unit

Steel castings : up to
250 kg/unit

Small copper or aluminum alloy castings:
small pieces

Total: 500 to 600 tons a year

d) Number of trainees and duration of training period

The training period is to last two years, and each class is to comprise about 40 trainees, so from a total of 80 trainees would be enrolled. During the first year, lectures would concentrate on basic education for casting shop workers, and the second year would be devoted to actual practice. The second year would include training in work at melting, molding, core making, post-processing, inspection, quality control and other aspects of production work.

(4) Research and development activities

Research and development work can be commissioned to universities and research institutes, but to the maximum extent possible use should be made of the facilities and financial resources of SENA. At CDT-ASTIN in Cali, there are research and development activities which are being carried out with the cooperation of COLCIENCIAS and other public bodies such as universities, but this is not adequate for the needs of a training program. Greater flexibility in interpreting legal mandates could be useful in this regard.

II.6 Development of Industrial Parks Specialized in Metalworking Industry

II.6.1 Need for the Specialized Industrial Parks

The government implemented a program to develop industrial parks under Decree 2143/1979, for the purpose of promoting industrialization of rural cities. However, the program is considered to be unsuccessful, probably because it excluded the major industrial areas of Bogota, Medellin, and Cali, while there is not a sufficient number of industries that find industrial parks in rural cities to be attractive. This situation is by no means unique to Colombia; similar industrial park development projects aiming at regional development in many other countries could not attract much industry. As a result of this problem, more and more policy makers and development experts think that industrial parks should be located in the vicinity of major industrial areas.

This was confirmed by results of a field survey of a small-scale industrial park located in the Bogota area, which successfully attracted a sufficient number of industries. At the same time, the Study Team through the diagnosis survey on metalwork shops in existing urban areas, identified that smaller companies had relatively little space, and a poor working environment, making it difficult for them to expand production facilities. Furthermore, shops often are not built with a structure which has or can accommodate an overhead traveling crane to handle heavy items.

Results of the questionnaire survey indicate the degree of interest in industrial parks by the SMEs and MEs, as follows:

No. of enterprises

	Responded	Showed interest	Percentage
MEs	73	61	83.6%
Sml-Es	96	80	83.3%
Med-Es	32	17	53.1%

The table suggests that one half of the Med-Es and over 80% of the Sml-Es and MEs are willing to move into an industrial park under favorable conditions.

It is proposed that an industrial park be created for metalworking industry.

Given the above background, industrial parks accommodating metalworking industries are thought to have the following advantages:

- 1) Availability of well-developed infrastructure (including roads, communications, and utilities),
- 2) Sharing of common service facilities, e.g., laboratories and other facilities related to product development, inspection, and testing,
- 3) High degree of security and safety measures,
- 4) Availability of large space to allow future expansion, and
- 5) Ease in establishing cooperation among tenant industries which are all engaged in metalworking industry, including collective buying and product marketing.

II.6.2 Outline of the Specialized Industrial Parks

General concepts and design principles of an industrial park specialized in the metalworking industry are pre-

sented below as a basis of detailed planning, although a detailed feasibility study should be carried out regarding its implementation.

(1) Objective

To provide a model case of metalworking industries by siting them in industrial parks with modern facilities and equipment, thereby encouraging the metalworking industry as a whole to initiate modernization.

(2) Eligible industries

The SMEs and MEs which are specialized in metalworking operations and are willing to introduce modern production equipment.

(3) Locations

Bogota, Medellin and Cali areas. An industrial park will be developed in one of these areas on an experimental basis, then other areas if favorable results are obtained. Following successful development in these areas, study would be made for additional estates in Barranquilla and Bucaramanga.

(4) Site area and the number of tenant industries

Approximately 10 to 15 ha of land will be developed to accommodate 20 to 30 enterprises. The site area will include roads and common service facilities.

(5) Common service facilities (CSF)

Including machinery repair shops, product inspection facilities, material testing laboratories, measuring instrument testing facilities, exhibition spaces, education and training facilities, utility services, and security offices.

(6) Incentives

1) Tax incentives

Including exemption or reduction of income taxes on tenant industries, import duties on equipment and materials, and local taxes, as well as introduction of special depreciation methods.

It is preferable to provide incentive equivalent to privileges granted to industries located in boundary areas.

2) Financial incentives

Low-interest-rate hire-purchase, or low-rate leases will be introduced to purchase production equipment. Under the hire-purchase system, an organization responsible for development of the industrial parks will lease the production equipment to tenant industries for a certain period of time (e.g., 10 years), thereby eliminating need for collateral and relaxing conditions required for general loans.

Note: It is assumed that the sector loan proposed in Section II.4 is applied for this industrial estate.

It is expected that international cooperation would be available for creation of this industrial park. The possibility of an investment by IFI in the company which will develop the estate is also worthy of study.

(7) Implementing agency

A public corporation or other public body would be suitable as implementing agency. It is thought necessary to obtain participation from private organizations concerned with technical support services such as FEDEMETAL, and to invite foreign experts to work with Colombian staff.

II.6.3 Development Procedure

The industrial parks should be developed under strong leadership of the project implementation body, including factory design. This will ensure introduction of modern production equipment and technology, which would otherwise not be possible solely at the initiative of tenant industries. The implementation body will be responsible for implementing the development project in accordance with the following sequence. It shall:

- (1) Conduct a feasibility study on the development project by appointed consultants and to identify products to be manufactured in the industrial park;
- (2) Conduct a feasibility study on the manufacture of the identified products, and shall select suitable products;
- (3) Plan and design metalwork shops (20 to 30 shops) to manufacture the selected products, using latest equipment and technology;
- (4) Invite private enterprises to participate in the development project based on results of the feasibility study;
- (5) Build the metalwork shops and purchase machinery and equipment;
- (6) Lease the completed shops to enterprises upon application, while retaining ownership of the shops, and
- (7) Transfer the ownership of the shops to the tenant industries after a certain period of time, e.g., 10 years (hire-purchase system).

This development method has two major advantages; the implementation body designs, builds and owns the shops for a certain period of time, so as to ensure effective modernization; and the tenant industries, mainly the SMEs

and MEs, can operate the modernized shops without raising a large amount of funds.

Note: The estimated project cost given in Table-10 is based on the following conceptual design:

- Site area : 10 ha
- Number of locators : 20 factories
- Common service facility: Fence, sewage, road in sit a machine shop, a heat treatment shop, a laboratory

The project cost include:

- Land acquisition cost and land preparation
- Buildings, equipment and machinery for 20 factories and a common service facility

II.7 Metalworking Industry Promotion Center

II.7.1 Need for the Promotion Center

Modernization of production technology primarily aims to manufacture and supply "high-quality" products at a "reasonable price" and within a required "delivery time". Among these three major requirements, to manufacture high-quality products is considered to be most important. This means, if a manufacturer intends to export products, it will not be able to compete in international markets unless the products attain sufficient quality levels; the price and delivery schedule are questioned only after the quality requirement has been cleared. In Colombia, however, the metalworking industry serves mainly domestic markets and does not face an urgent need for quality improvement.

Customers in Colombia tend to prefer cheap products with relatively poor quality to higher price products with high quality, partly because they do not realize that the high-quality products are economical in the long run, and partly due to shortage of funds.

In other words, most of the customers intend to pay the same price for high-quality products as well as products with similar appearance but poor quality. This discourages suppliers to improve product qualities, thus staying in domestic markets where low-quality products are accepted.

This appears to be one of the major reasons why Colombia's metalworking and machinery industries lag behind those of other countries. Quality improvement measures include education of consumers and suppliers, development and propagation of industrial standards, education of engineers, introduction of modern equipment, and subsidies. This section proposes the establishment or improvement of the metalworking industry promotion center to provide testing services.

In Colombia, there are few testing organizations which can be used by the SMEs and MEs at a local level. On the other hand, a testing facility is too expensive to be owned by relatively small companies. Results of the questionnaire survey and corporate analysis indicate that most of companies surveyed do not conduct sufficient tests and inspection on products and materials.

II.7.2 Outline of the Promotion Center

(1) Major functions

The proposed metalworking industry promotion center will have the following functions.

- 1) Testing services for private companies and issuance of certificates.

Testing services will include the following tests and inspections:

- a) Measuring of mechanical properties of materials and products (including tensile strength, impact strength, breaking strength, bending strength, hardness, and internal stress);
- b) Metallographic tests on materials and products (including macro and micro metallography);
- c) Chemical composition analyses of materials and products (including qualitative and quantitative analyses);
- d) Measuring of accuracy of products and tools (including dimensions, angles, and surface roughness);
- e) Non-destructive tests on products (including magnetic particle, ultrasonic, and X-ray tests);

- f) Surface inspection on products (plating and coating thicknesses), and
 - g) Testing of molding sand (grain size, shape, clay content, combustibles, moisture content, small mills, strength, air-permeability, and packability).
- 2) Technical advice and consultation services for private companies including the following services:
- a) Technical consultation, and
 - b) Extension service for technical advice.
- 3) Technical and market information services for private companies including the following services:
- a) Periodical publication, and
 - b) Sponsoring of technical seminars and workshops.

(2) Organizational positioning of the center

Although several entities are conceivable as the parent body for operation of the center, it is proposed here that the center be operated by a joint venture in which a university(ies), private association(s) such as FEDEMETAL, and SENA participate. The reason for this is as follows:

- 1) Universities have access to the latest technology and information, and have research and development capability;
- 2) Private associations can insure that the center be familiar with actual needs of private companies, and insure that private companies are provided with reasons to make use of the center, and

3) In addition to making use of the organizational capabilities of SENA and its experience in operating a similar center, it would be suitable to propose that SENA provide financial support for this new center.

(3) Locations

It is recommended to establish the promotion centers in five major cities of Bogota, Medellin, Cali, Barranquilla, and Bucaramanga.

Of the alternatives, namely, (a) to set up the five centers at the same time, or (b) to start with one center to check results before establishing other centers, the latter is recommended and Bogota should preferably be selected as the first location.

(4) Required equipment

Since the proposed center will conduct ordinary tests and inspections required for quality control in the metalworking industry, a set of basic testing equipment will be sufficed.

II.8 Data Bank for International Industrial Standards

According to its 1988 annual report, ICONTEC is developed approximately 2,500 Colombian standards. Major areas encouraged for standardization are agriculture, livestock farming, metalworking, electrical products, civil engineering and architecture, safety and sanitation, and chemical processing. These standards are principally based on ISO, with reference to other major standards including SAE, JASO, JIS, DIN, IEC, and BS.

At present the Colombian standards do not cover all necessary industrial areas and do not meet requirements for international markets, probably due to shortage of manpower and budget of ICONTEC. As a result, many of universities and export industries adopt foreign industrial standards. Similarly, foreign importers of Colombia's industrial products often offer specific industrial standards other than non-Colombian standards.

Given the situation, it is recommended to establish data banks for international industrial standards which are easily accessible to private enterprises. The data banks will maintain industrial standards in industrialized countries which are made available to users, together with consultation service. It should be established at least in Bogota, Medellin, Cali, Bucaramanga, and Barranquilla, managed and operated by ICONTEC.

11.9 Project Cost and Implementation Schedule

For the above, a sector loan program and four projects, the required capital and schedule are shown in Table-10. If all programs and projects are implemented as proposed, a total of US\$94.1 million is required (of which the foreign currency portion is US\$56.3, and the local currency portion is equal to US\$37.8 million. Some explanation is made for the specific projects and programs as follows.

(1) MEs and SMEs metalworking industries sector loan

A total of US\$20 million of which 80% is foreign currency and 20% Colombian pesos is assumed. It is provisionally assumed that the average loan size to any one company would US\$200,000, and that 100 companies would receive loans. A schedule for loan disbursement over a three- to five-year initial period would be desirable.

(2) SENA's casting centers

The cost per casting center is US\$9.6 million (foreign currency, US\$5.7 million; local currency, US\$3.9 million). Of the local currency portion, US\$1.5 million would be required for taxes, import duty, special import duty and import value added tax. The construction period needed to build a center is estimated as 24 months.

(3) SENA plating centers

The cost per plating center is US\$3.0 million (foreign currency, US\$1.7 million; local currency, US\$1.3 million). Of the local currency portion, US\$400,000 is for taxes. Center construction would require 17 months.

(4) Metalworking industrial parks

Project cost is US\$56.8 million per park (foreign currency portion, US\$30.1 million; local currency portion, US\$26.7 million). This project cost includes the civil construction work for preparation of the site, and construction of 20 factories including common service facilities. If the site preparation and common facilities costs are excluded, the project cost would be reduced to 35% to 40% of the above figure. The total time required for construction of 20 factories and a common service facility, including identification of the products to be made in the factories, is estimated to be 31 months.

(5) Metalworking promotion centers

The project cost per center is estimated at US\$4.7 million (foreign currency, US\$2.8 million; local currency, US\$1.9 million). Of the local currency portion, about US\$800,000 is estimated to be for taxes. Construction period: estimated as 20 months.

Table-10 SUMMARY OF PROGRAM/PROJECT COST AND SCHEDULE

Program/Project	Project cost (million US\$)			Duration of ^{1/} Construction
	Foreign	Local	Total	
(1) Sector loan for SMEs & MEs in metalworking industry ^{2/}	16.0	4.0	20.0	3- to 5-year disbursement
(2) Foundry center for SENA ^{3/}	5.7	3.9	9.6	24 months
(3) Electroplating center for SENA ^{3/}	1.7	1.3	3.0	17 months
(4) Industrial park for metalworking industry ^{3/}	30.1	26.7	56.8	31 months
(5) Metalworking promotion center ^{3/}	2.8	1.9	4.7	20 months
Total	56.3	37.8	94.1	

(Notes)

- ^{1/} Duration from the award of contract to the commencement of operation
^{2/} A 20% of total loan amount is assumed to be raised as local counter fund.
^{3/} Project Cost is estimated for establishment 'One' center or park.

II.10 National Benefits Expected from Program and Project Implementation

A variety of national benefits would be expected on the Colombian economy by implementing of the proposed programs and projects. Major effects are as follows:

(1) Promotion of industrialization

The share of manufacturing industry in GDP is currently stable at about 21%. The contribution of the metalworking industry to total GDP, however, has been declining to be about 2.4% in 1986. Regarding exports, coffee, oil and coal comprise a 66% share, and if flowers, bananas and sugar are added the share of these is 74% (as of 1987). Because of the high dependence of the economy on primary products, the economy's stability is subject to strong influence from the world market price as experienced in a boom or a slump of coffee price. The development of the metalworking industry would increase manufacturing's contribution to the national economy, and also to stabilization of the economy.

(2) Correction of social disparities; and promotion of regional development

Implementation of the proposed promotion measures for SMEs and MEs will correct the social disparities or disadvantages sustained especially for MEs, by means of equation of income differential and diffusion of social security to MEs. Moreover, since SMEs and MEs are inherently enterprises that are firmly rooted in the local or regional economies, promotion of their growth and development would mean a contribution to the improvement of regional economies.

(3) Effective use of resources

SMEs and MEs in metalworking industry in Colombia presently make use of pre-modern production methods

and is extremely inefficient. Modernization of production would mean an improvement in the effective use of raw materials, energy, utilities and other resources.

(4) Increase in employment

SMEs and MEs are more labor-intensive than bigger business, and hence have greater labor-absorption capacity. Development of the SMEs and MEs thus has a strong impact on employment; as mentioned earlier, SMEs and MEs are closely related to a local community, their growth will significantly contribute to increase in local employment.

(5) Improvement of the balances of trade and of payments

In 1987, machinery accounted for 17.3% of total imports. If electric machinery imports (6.6%) and transport equipment imports (10.7%) are added, the total is 34.6% of total imports. Promotion of the metalworking industry, under those circumstances, by the substitution of imports, will conserve foreign currency. Moreover, if modernization of the metalworking industry is successful, an increase in exports can be achieved.

(6) Repercussion effects in other industries

Capital investments are required if the metalworking industry is to be modernized. Such investments would have secondary or repercussion effects in the construction, transport and other industries. Further, by making it possible to supply improved-quality agricultural equipment and construction equipment in reasonable price to the domestic market, the modernization of agricultural and construction sectors will be improved.

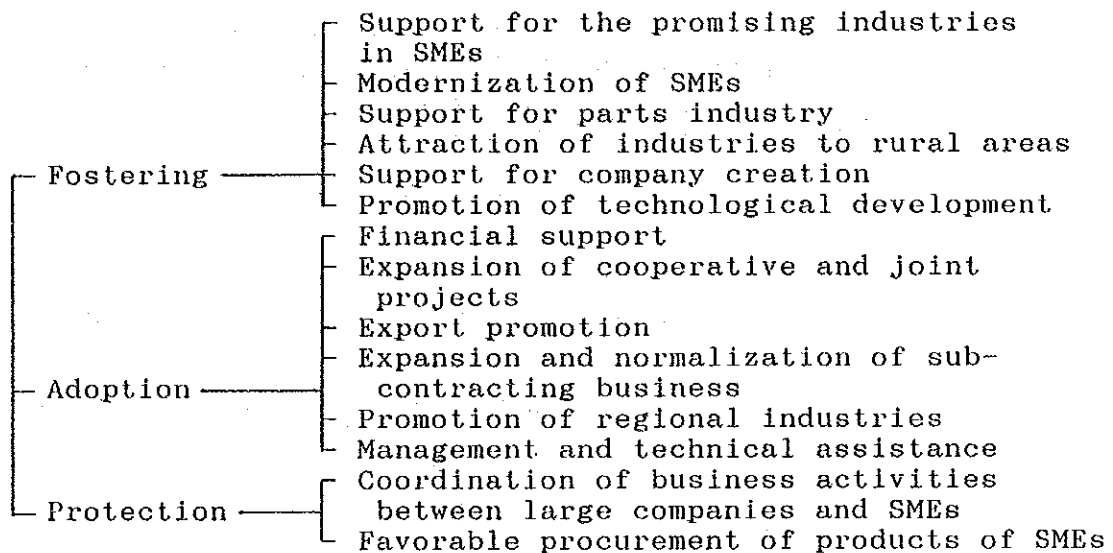
APPENDIX EXAMPLE OF PROMOTIONAL POLICY FOR SMEs

Based on legal systems related to SMEs in Japan and Asian NIEs which are considered to be most developed in the area, a general structure of legislations related to SMEs was shown below.

In Colombia, small and medium scale enterprises (SMEs) and micro-enterprises (MEs) are often treated separately. MEs are considered as the informal sector and are thought to require special assistant programs. On the other hand, many countries classify SMEs and MEs in the same category. For this reason, SMEs referred to in APPENDIX, include MEs, thus it should be noted that the same legal system is applied to SMEs and MEs as well.

For MEs, special considerations are given within the framework of the assistant programs.

General Structure of Policies Related to SMEs



To implement the above policies, the following laws are enacted.

- Basic Law on SMEs
- Law Related to Promotion of SMEs

- Law Related to Coordination of Business Activities for SMEs
- Law Related to Promotion of Sub-contracting Business for SMEs
- Law Related to Promotion to Purchase Products of SMEs
- Law Related to Support for Creation of SMEs
- Law Related to Cooperatives for SMEs
- Law to Establish the Bank for SMEs
- Law to Establish Credit and Guaranty Funds

1) Financial assistance

Through the SMEs Bank that is to be established under the "Law to Establish the Bank for SMEs", funds will be provided for equipment investment and technological development to the SMEs, who do not have access to commercial financial institutions.

In addition, the credit and guaranty fund to be incorporated under the "Law to Establish Credit and Guaranty Funds" will assist the SMEs in securing financial sources.

Finally, the above bank and funds will make equity investment in the SMEs which are mostly family-owned and cannot raise capital from public.

2) Management and technical assistance

The SMEs promotion corporation to be established under the "Law Related to Promotion of SMEs" will provide consultation and assistance (management, technology, and other areas), training, and information services.

3) Promotion of cooperatives

Under the "Law Related to Cooperatives for SMEs", the existing trade organizations will be reorganized to the cooperative of the SMEs for joint projects, including collective procurement and marketing as well as various joint businesses.

4) Expansion and normalization of subcontracting

Expansion and normalization of subcontracting will be promoted under the "Law Related to Promotion of Subcontracting Business for SMEs". To promote subcontracting, upstream companies in large scale will be required to subcontract certain parts or processes which the upstream companies are prohibited to produce or process in their own factories.

Normalization of subcontracting business will be carried out through recommendations and advice for long-term sub-contract and improvement of payment terms to protect SMEs. Also, upstream companies will be advised to expand supports for sub-contractors including loan guaranty.

5) Coordination of business activities between large companies and SMEs

Certain business areas, where many SMEs operate, will be designated under the "Law Related to Coordination of Business Activities for SMEs" to prohibit or restrict entry of large companies into the business areas.

6) Government procurement favoring products of SMEs

The SMEs will have favorable treatment in government procurement under the "Law Related to Promotion to Purchase Products of SMEs". In addition, products designated for negotiated contract by the government will be procured through the SMEs cooperative as far as possible.

7) Support of promising industries in SMEs

The SMEs having growth potential will be identified by financial institutions, the SMEs promotion corporation, and public research institutes, and then will be provided with a comprehensive support program including assistance and advice related to financing, management, and technological development.

8) Modernization of SMEs

For the purpose of modernization of industrial structure or the improvement of international competitiveness, SMEs in the promising industrial sector are designated to provide financial and technical assistance under the "Law Related to Promotion of SMEs".

9) Support for parts industry

This constitutes the nationalization policy to achieve import substitution for parts and components. Parts and components to be locally manufactured will be designated, and financial assistance will be provided to industries manufacturing these components and parts for improvement of production technology. In addition, tax incentives as well as privilege to use public research institutes at minimum charge will be provided.

10) Support for creation of SMEs

Under the "Law Related to Support for Creation of SMEs", simplified procedures for establishment and financial and tax incentives will be provided for new business establishment to potential entrepreneurs who have high capability and strong entrepreneurship.

Part II MAIN REPORT

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Chapter 1 INTRODUCTION

Chapter 1 INTRODUCTION

1.1 Background of the Study

The Social and Economic Development Plan (Plan de Economía Social) announced in August, 1987 by the present administration in Colombia emphasises the crucial importance of the development of the manufacturing industry to increase the value added, employment, savings, investment, and technological innovation, and the Plan introduces policy targets on the following items to promote industrial activities in Colombia.

- 1) Expansion of production capacity
- 2) Improvement of production structure
- 3) Technological innovation
- 4) Fostering of small and medium scale enterprises and microenterprises
- 5) Active involvement of the central government

Colombia is said to have more than one million microenterprises with 10 or less employees which account for some 40% of the total work force. Some 80% of these microenterprises are considered to be so-called informal enterprises which are not registered with the competent authorities and which do not pay corporate or other taxes. The Government of Colombia regards the provision of assistance for these microenterprises to be a national priority and has, therefore, introduced National plan for the Development of the Microenterprises (Plan Nacional para el Desarrollo de la Microempresa - PNDM) to be coordinated by Department of National Planning (Departamento Nacional de Planeación - DNP).

The Colombian trade structure is characterized by exports of primary products such as coffee, mineral products, bananas and flowers and imports of industrial products, including capital goods and intermediate goods. The promotion of the metalworking and assembling industries, together with the consolidation of the subcontracting system, is essential for the import substitution of these industrial products.

Given this background, the Government of Colombia made a request to the Government of Japan in February, 1988 to conduct a wide range of studies with a view to promoting small and medium scale enterprises (SMEs) and microenterprises (MEs) in the Colombian metalworking industry. In response to this request, the Japan International Cooperation Agency (JICA) sent the Preliminary Study Team to Colombia in November, 1988, following which the Scope of Work for the subsequent study was signed. The counterpart for these studies hereinafter referred to as the Study is the DNP. This report was compiled on the basis of the following field surveys made in Colombia.

- 1) First Preparatory Field Survey (March 8, 1989 - March 22, 1989)
- 2) Second Preparatory Field Survey (June 13, 1989 - July 27, 1989)
- 3) Main Field Survey (September 3, 1989 - October 20, 1989)
- 4) Presentation of the Interim Report and the Supplementary Survey (February 19, 1990 - March 20, 1990)
- 5) Presentation of the Draft Final Report (July 9, 1990 - July 23, 1990)

1.2 Objective and Scope of the Study

(1) Objective of the Study

The objective of the Study is to analyze the current conditions of the metalworking industry, find factors obstructing their development, identify the promising sub-sectors, clarify the inputs required for the development, and finally formulate and propose a comprehensive development programme for SMEs and MEs in the Colombian metalworking industry.

(2) Scope and subject items of the Study

The subject items of the Study to achieve the above objective are diverse and include, among other things, financial assistance to facilitate investment which is essential for the development of any enterprise, provision of industrial standards to upgrade production technology and product quality, vocational training, consolidation of management education, expansion and upgrading of QC centers, inspection organizations and industrial laboratories, development of industrial parks, study on raw materials, rationalization of the distribution channels for efficient product marketing, introduction of preferential measures centering on the taxation system and the provision of laws and regulations to promote SMEs and MEs. In addition, strong linkage between the metalworking industry and the assembling industry must be established.

In the Minutes of Meeting prepared by the above Preliminary Study Team, SMEs and MEs in the metal-working industry are regarded as suppliers of parts and services to large enterprises in view of the subcontracting relationship between them. The Minutes also stipulate the subject industries of the Study to be as follows.

SMEs and MEs (7 Industries)

- 1) Casting
- 2) Forging
- 3) Plate Work and Welding
- 4) Plating
- 5) Machining
- 6) Machine Assembly
- 7) Press Work

Large Enterprises (4 Industries)

- 1) General Machine Industry
- 2) Electrical Machine Industry
- 3) Transportation Machine Industry
- 4) Furniture Industry

The originally decided study areas were as follows.

- 1) Bogota
- 2) Medellin
- 3) Cali, including Palmira

During consultations between the Study Team for the First Preparatory Field Work and the DNP in March, 1989, the DNP made a further request for the Study to be also conducted in the following 2 areas.

- 1) Barranquilla
- 2) Bucaramanga

In response to this new request, the Study Team initially agreed to conduct a factory diagnosis for a limited number of enterprises in these 2 areas. During the time of the Main Field Survey which commenced on September 3, 1989, however, the internal disorder in Colombia related drug problems escalated and the Study Team was obliged to leave Colombia earlier than planned. As a result, factory diagnosis was obliged to carry out mainly in Bogota area though the Supplementary Survey from February 19 to March 20 in 1990 could supplement a part of the planned factory diagnosis.

1.3 Methodology of the Field Survey

The Study Team members were largely divided into 2 groups, i.e. Technical Group consisting of 7 members and Policy Group consisting of 4 members. The Technical Group was mainly responsible for the questionnaire survey, factory diagnosis and study of local organizations providing technical assistance while the Policy Group was responsible for the study of the macro-economy, financial system and the promotion policies/measures for SMEs and MEs.

With regard to the questionnaire survey which was undertaken in areas of Bogota, Medellin, questionnaires were first sent to selected enterprises which were then individually visited by members of the local research company hired by the Study Team. The number of distributed and retrieved questionnaires was as follows. The response rate accounted for 48.2% in total.

Number of Questionnaires Distributed and Retrieved

Enterprise Size	Bogota		Medellin		Cali		Total	
	Dist.	Retr.	Dist.	Retr.	Dist.	Retr.	Dist.	Retr.
LEs	33	11	9	6	8	1	50	18
SMEs	120	57	77	29	57	29	254	115
MEs	115	64	76	31	61	40	252	135
Total	268	132	162	66	126	70	556	268

Of those enterprises responding to the questionnaire, the following were selected for the factory diagnosis which was limited to the Bogota area due to the security-related reason.

Number of Enterprises Visited

	LEs	SMEs	MEs	Total
Bogota	17	67	55	139
Medellin	3	3	4	10
Call	1	16	4	21
Bucaramanga	0	6	0	6
Barranquilla	3	3	0	6
Total	24	95	63	182

Other survey items than the questionnaire survey and factory diagnosis were studied by means of data collection and hearing by visiting related organizations. Reports submitted to DNP and minutes agreed upon with DNP are shown below in order of the date.

- 1) March 10, 1989: Inception Report No. 1
(At the beginning of the First Preparatory Field Survey)
- 2) March 17, 1989: Minutes of Discussion
(At the end of the above survey)
- 3) June 19, 1989: Inception Report No.2
(At the beginning of the Second Preparatory Field Survey)
- 4) October 13, 1989: Progress Report
(At the end of the Main Field Survey)
- 5) January 31, 1990: Interim Report (Mailed)
- 6) March 16, 1990: Minutes of Meeting
(At the end of the Supplementary Survey)
- 7) June 15, 1990: Draft Final Report (Mailed)
- 8) July 19, 1990: Minutes of Meeting
(At the end of the Presentation of the Draft Final Report in Colombia)

Chapter 2 MACRO-ECONOMIC CONDITIONS

Chapter 2 MACRO-ECONOMIC CONDITIONS

2.1 Economic Indicators of Colombia

Table 2.1 shows general socioeconomic conditions of Colombia.

The population as of 1990 was approximately 33 million. The life expectancy has been extended to 66 years, but the growth of population declined from 2.62% in the 1965 - 1975 period and 2.28% in the 1975 - 1985 period to 2.05% in the 1985 - 1990 period.

The per capita income was \$1,260 in 1988. As discussed in details in 2.3.1, during the 1970 - 1980 period the GDP grew favorably at an average annual rate of 5.5% but entered a stagnant period in 1981 ending at 2.1% for the 1981 - 1985 period. It subsequently recovered 5.8% in 1986 and 5.3% in 1987. But after that, it is changing at some low level, 3.7% in 1988, 3.1% in 1989 and 3.0% in 1990.

The rate of unemployment was 10.2% in December, 1988, still at relatively a high level, but was a little improved at 8.9% in 1989.

The consumer price index rose 24.02% in 1987, 28.12% in 1988, and 15.16% by June 1989.

Colombia's trade balance turned into a surplus in 1986 due to the increase of exports and decrease of imports, and the foreign exchange reserve amounted to \$3,450 million in 1987, \$3,810 million in 1988, and \$3,870 million in 1989, showing relatively stable trend despite sluggish coffee prices. The external public debt amounted to \$12,520 million in 1987, and the private debt amounted to \$3,130 million.

Thus, Colombia's economy, in terms of economic growth, inflation, and external debts is not in good conditions compared to Asian countries, but is considered to maintain relatively healthy conditions among Latin American countries. Under the recognition that the low GDP growth rate after 1988 was due to excess protection of domestic industries, the government decided to introduce an economic modernization policy.

Table 2.1 SOCIOECONOMIC INDICATORS

Area(km2)		1,141,748
Population(millions)	1990e	33.0
Life expectancy years	1980-5	66
Population growth rate	1965-1975	2.62
	1975-1985	2.28
	1985-1990	2.05
Per capita income(dollars)	1988	1,259
Unemployment rate(percent)	/1989	8.9
GDP Annual growth rate	1970-80	5.5
	1981-85	2.1
	1986	5.8
	1987p	5.3
	1988p	3.7
	1989	3.1
	1990e	3.0
Inflation rate(consumer price index)	1988	28.12
Total FOB export(million US\$)	1987	5,254
	1988	5,340
	1989	5,976
	1990	6,257
Total CIF import(million US\$)	1985	4,131
	1986	3,852
	1987	3,794
	1988	4,515
	1989	4,741
	1990	5,510
Net international Reserves(million US\$)	Dec.87	3,456
	Dec.88	3,810
	Dec.89	3,867
External public debt(million US\$)	Dec.87	12,375
	Dec.88	12,851
External private debt(million US\$)	Dec.87	50.0
	Dec.88	42.0
Total external debt (million US\$)	Dec.87	12,425
	Dec.88	12,893

Notes: p - preliminary
e - estimate

Source: COLOMBIA ESTADISTICA 1989
PROGRAMACION MACRO ECONOMICA 1990

2.2 Geographical Location of Colombia and Regional Cooperation

2.2.1 Geographical Location

Colombia is located between the equator and the latitude 15 degrees N. in the northwestern part of the South American continent, facing the Pacific Ocean as well as the Atlantic Ocean (the Caribbean Sea). (Figure 2.1)

The latitude is comparable to the ASEAN countries in Asia.

The neighboring countries are Venezuela, Brazil, Ecuador, Peru, and Panama.

Colombia is a member of the ANDES Group (constituted by Venezuela, Colombia, Ecuador, Peru, and Bolivia) and is at the same time a member of LAIA (constituted by eleven countries, namely, Mexico, Venezuela, Colombia, Ecuador, Peru, Bolivia, Brazil, Paraguay, Uruguay, Argentine, and Chile).

2.2.2 Geographical Conditions

As shown in Figure 2.2, the Andes runs in a north-south direction through Colombia with the northern tip split into three chains, and there are five zones divided by the altitude. Bogota, the capital, is located in the highlands of an altitude of 2,600 meters with an average temperature of 12 to 17.5 degrees, and Medellin is located at an altitude of 1,480 meters and Cali at an altitude of 1,000 meters. These highlands account for 20% or less of the total area and the major industries, particularly the machinery industry is concentrated in these three municipalities, and many of the exported industrial products are produced mainly in these highlands. The railway system, the highway system and the rivers run along the mountain ranges, hindering the east-west communication and transportation. It is conceivable the such causes the domestic markets to tend to be dispersed.

Table 2.2 shows the trucking costs of metal products.

Although the latitude is close to the ASEAN countries as explained above, there is a major difference in the geography, much more habitable areas available in Colombia, where the cities are concentrated, differing from Korea, Taiwan, Hong Kong as well as other ASEAN countries where the cities developed near the coast and became the centers of industrial activity. This difference is a problem that deserves attention in considering competitiveness of industries for import substitution and export industries.

Comparison of the economic growth, the position of manufacturing in the economy and its future direction, with the Asian situation are seen from time to time in recent literature on Colombia. There will be such comparisons made from time to time in this report too.

In such case, care should be taken to make a comprehensive study in the context of relationship among Colombia/Latin America/U.S. as well as Japan/Far East/ASEAN and their past history in addition to the geographical analysis mentioned above and no hasty answers should be derived without a thorough study.

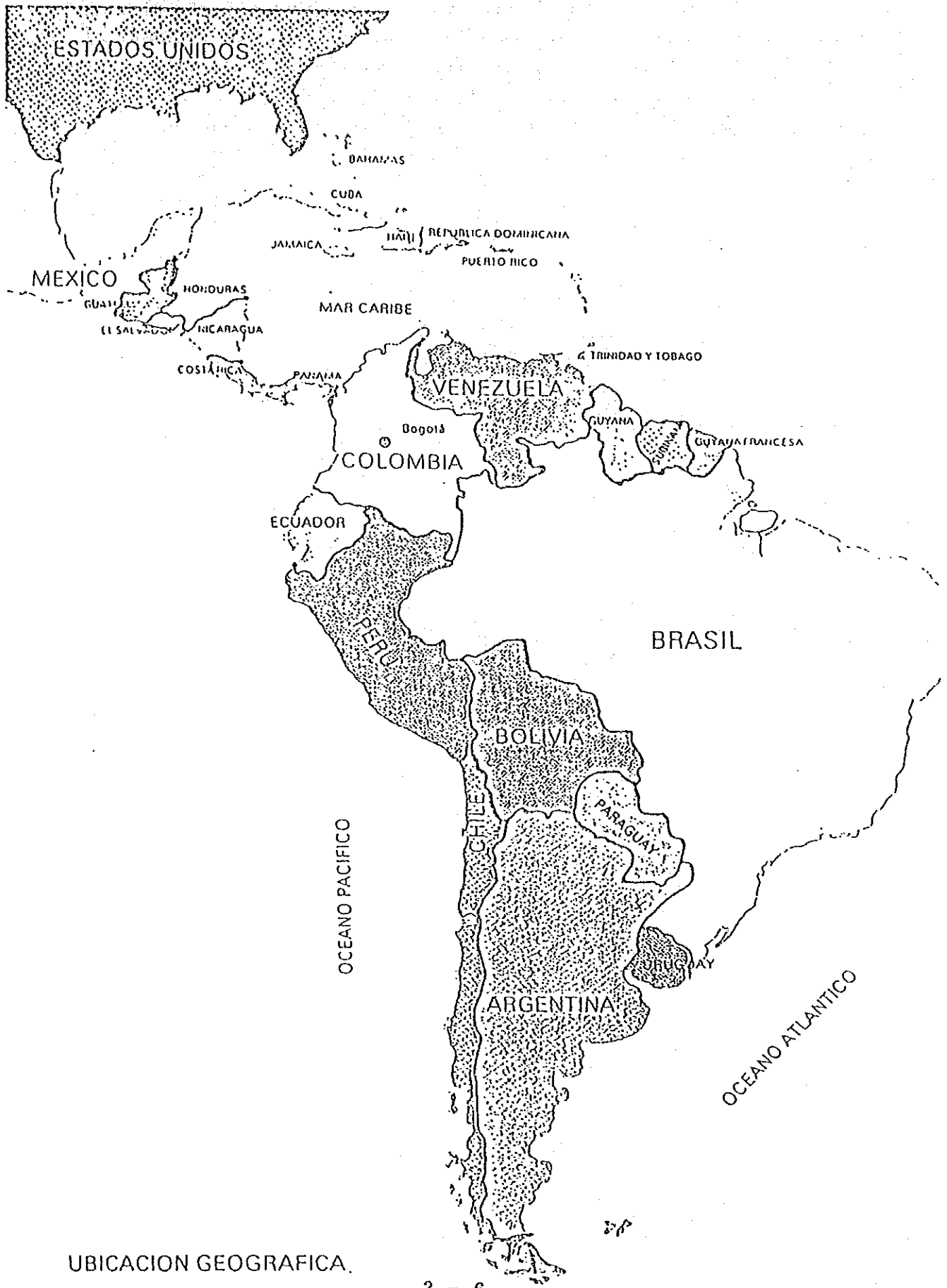
2.2.3 Regional Cooperation

There is ECLAC as the regional economic commission of the United Nations. Forty-four countries including the four associate members participate in this commission, which is headquartered in Santiago with sub-headquarters in Mexico City, having offices in Buenos Aires, Montevideo, Brasilia, Bogota, Port of Spain, and Washington, and three research institutes, namely, ILPES, CLADES, and CELADE. This is an organization said to be operated by about 660 staffs with an annual budget of about 14 billion yen, playing a leading role in the development of economic theories and plans for Latin America.

There is also the Pan-American Development Bank and the Corporacion Andina de Fomento (CAF) which are internation-

al banking institutions of the region fulfilling an active role in economic analyses, development of microenterprises, and other matters centered on the financial aspects of the Latin American countries. Needless to say, organizations of the United Nations such as UNDP and UNIDO, the World Bank, and IMF are also involved.

Figure 2.1 MAP OF CENTRAL AND SOUTH AMERICAN COUNTRIES



UBICACION GEOGRAFICA.
DE COLOMBIA

Figure 2.2 REGIONAL DISTRIBUTION OF TEMPERATURE LEVEL

